Recifer Eurofutures Publication Series
REUPUS

EUROPE
– The Strategic Choices

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EUROPE
- The StrategicChoices

Publication dedicated to the European Parliament to promote brainstorming reflection illuminating the global challenges and the strategic choices emerging in the European intelectual and political landscape of the XXI century

WYŻSZA SZKOŁA BIZNESU
NATIONAL-LOUIS UNIVERSITY

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Series Editors:
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Nowy Sącz 2005

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PREFACE

It is a great pleasure to introduce the second volume of the RECiFER Eurofutures Publication Series. Like the first volume the second volume is dedicated to the European Parliament as a challenging inquiry into the Future of Europe.

The rich and differented content of the volume — "Europe — the strategic choices" — was created by innovative and competent effort of forty Authors representing eminent international organizations and academic institutions.

Let me express deep words of gratitude for this effort and for the valuable contributions to the volume.

Krzysztof Pawłowski
Rector WSB-NLU

INTRODUCTION BY THE EDITORS

The Twin Volumes — primo — ***"Europe — the global challenges"*** and secundo — ***"Europe — the strategic choices"*** should be seen as an holistic inquiry into the Future of Europe.

The Second Volume is supplementing the classical set of well organized papers by a new dimension of short interventions which try to change the volume into a discussion forum incorporating not only intellectual but also emotional involvement into the inquiry of the Future of Europe.

This is one of the ways to promote the pluralistic philosophy of REUPUS.

Antoni Kukliński Krzysztof Pawłowski

Nowy Sącz, March 10, 2005

Part One

Science—Technology—Economy —The Strategic Choices

HENRI DELANGHE
UGUR MULDUR

FROM A VICIOUS TO A VIRTUOUS CYCLE—EUROPE, GROWTH AND THE KNOWLEDGE-BASED ECONOMY*

A spectre is haunting Europe—the spectre of obsoleteness in the next long wave in the development of the world economy because of Europe's inability to break out of a vicious cycle. While historically European economic growth rates have compared rather well to those of other economies and the world average, recently Europe has begun to perform worse than other economies in an almost structural manner. In the past three decades, other major economies certainly have had their lows—Japan for most of the 1990s, the US after the bursting of the new economy bubble, but also their highs, and more so. Europe's performance, on the other hand, has been flat. After 1973, European economic growth has never equalled nor exceeded 3 percent for three years in a row.[1]

An important reason is the low growth rate of productivity, resulting from serious weaknesses in the European innovation system. As research and development constitute the main engines of economic growth, these need to be addressed urgently. Otherwise this threatens to set in motion a vicious cycle as slow growth leads to less investment in research and development, leading to slower growth, etc.

The negative consequences of slow European economic growth are manifold. They can be analysed in terms of the short, medium and longer term. The most immediate negative impact is on the standard of living. Average European standards of living are no longer catching up with and even decreasing compared to American ones (Figure 1). In contrast to the rapid European catch-up of the 1950s and 1960s, no progress has been made since 1970. In that year, euro-zone GDP per capita amounted to 70.1 percent of US GDP per capita, while by 2000 this figure had dropped to 68.5 percent.[2] Methodological quarrels focusing on the calculation of GDP, or the relation between GDP per capita and 'real' living standards, can only soften such conclusions to a small extent.[3] Also within Europe the dramatic effects of sustained periods of growth or lack of growth on standards of living have been witnessed clearly. In the early 1980s, Great Britain

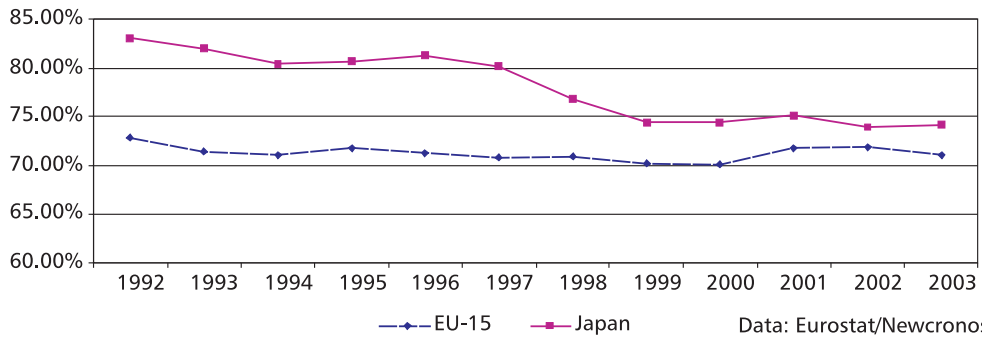
* The views expressed are purely those of the writers and may not in any circumstances be regarded as stating an official position of the European Commission.

1 Maddison, 2001, p. 332.

2 International Monetary Fund, 2004 (1), p. 14.

3 For some recent material see: Opinion. Economics focus. Computing the gains. The economic benefits of the IT revolution are now visible in Europe and Japan, In: *The Economist*, Oct 23rd 2003; Opinion. American productivity. The new "new economy". How real and how durable are America's extraordinary gains in productivity, In: *The Economist*, Sep 11th 2003; Finance & Economics. Measuring America's economy. Grossly Distorted Product. Are official statistics

Figure 1: GDP per capita in PPS (US=100), 1992-2003



was among the poorest countries in the then EEC while now it is the richest big country. On the other hand, German living standards have dropped below the European average in a dramatic reversal of fortunes.[4]

In the medium term, slow growth means that it will be more difficult for Europe to deal in a sustainable manner with at least three challenges it is currently confronting at the same time: ageing, enlargement, and environmental sustainability. European fertility levels are low and life expectancies high. Given current employment patterns and social security systems, this results in high dependency ratios and social security (pension, health) outlays. In addition to changes in employment patterns, social security reform, or a mix of these, absorbing those costs will require achieving higher economic growth through higher productivity. A second challenge relates to European cohesion more generally and European enlargement more specifically. As has been seen in the case of German reunification, bringing Eastern European countries up to level in terms of infrastructure and capabilities will require huge resource transfers. High economic growth will be necessary to generate the resources needed to continue making those transfers. A third important challenge is that of achieving environmental sustainability. Even though it has become clear that economic growth and environmental sustainability do not contradict each other per definition, it is nevertheless the case that sometimes painful trade-offs have to be made. These can be softened when higher productivity and economic growth are achieved.

Perhaps the most dramatic consequence is situated in the longer term. If Europe does not make the necessary investments that generate higher productivity and economic growth then it will quite simply be relegated to a secondary place in what appears to be a new stage in the development of the world economy. More and more evidence is emerging that the world economy is about to enter into a new long cycle, a new so-called Kondratieff wave, the 5^{th} since the beginning of the industrial revolution, based upon new technologies, new ways of organising work, and new international divisions of labour. Europe has to ask itself whether it wants to be part of it.

This paper starts out by putting the European growth problem in historical perspective and identifying the main reasons behind the recent slowdown in European growth. In a next section it explains Europe's faltering productivity growth through weaknesses in Europe's science, technology and innovation system. The final section of this paper focuses on solutions. It will be

exaggerating America's growth?, In: *The Economist*, Apr 7th 2004; Gordon, 2002 (A review of this paper can be found in Opinion. Economics focus. Chasing the leader. Are Europeans really so much worse off than Americans, In: *The Economist*, Feb 6^{th} 2003).

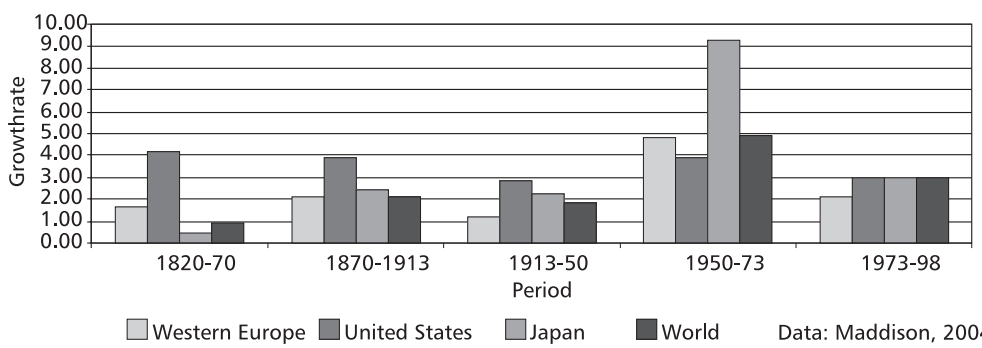
[4] World. Europe. EU Rebate. Too rich for a rebate. The European Commission thinks Britain should pay more, In: *The Economist*, Jul 8th 2004.

argued that, at least in the short to medium term, no new policy agendas need to be developed. The Lisbon agenda remains valid. Its implementation just needs to be taken more seriously and accelerated. While the Commission is doing its bit, the Member States need to take their responsibility. In the longer term, however, more fundamental questions regarding European science, technology and innovation policy need to be addressed. If not, Europe will find itself declining, perhaps not rapidly but no doubt persistently.

1. The European growth problem

Historically, European economic growth rates have compared rather well to those of other economies and the world average.[5] For most of the period since the year 1000, the European economy grew significantly faster than, or at least as fast as, the world economy (Figure 2). In the period 1000–1500, Europe's GDP grew at a rate twice the rate for world GDP. And in the period 1500–1820, the average economic growth rate increased for both the European and the world economies, but the former still grew faster. In the period 1820–70, the average European economic growth rate made a further jump. But while European growth still exceeded world growth by a large margin, the US grew 2.5 times faster than Europe. The average European economic growth rate reached a higher level still in the period 1870–1913. But European growth barely equalled world growth, and was exceeded to a significant extent by both US and Japanese growth. This pattern fundamentally changed after the First World War. The interwar period was not a very good period for Europe, growing as it did much slower than the US, Japan or the world. The first half of the post-war period, however, made Europe forget about the interwar period. It constituted a period of significant catch-up. European growth exceeded US growth and almost equalled world growth, but was exceeded by Japanese growth.

Figure 2: Annual average compound growth rate of GDP, 1820-1998

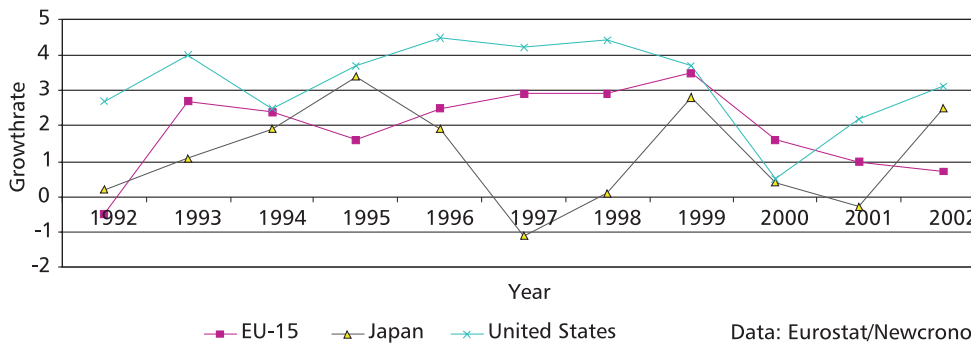


In the second half of the post-war period, European growth slowed significantly—returning to the average growth rate of the period 1870–1913—and was exceeded to a significant extent by growth in the US, Japanese and world economies, where growth also slowed, however (Figure 2). Over the past 10 years, average economic growth rates have been lower for Europe than for the US (Figure 3). Ever since its recent recovery, Japan too has started to outperform Europe once more. And things do not look good for the future either. Even though the EU stated in the Lisbon European Council conclusions that *an average economic growth rate of around 3% should*

[5] Unless mentioned differently this section is based on Maddison, 2001.

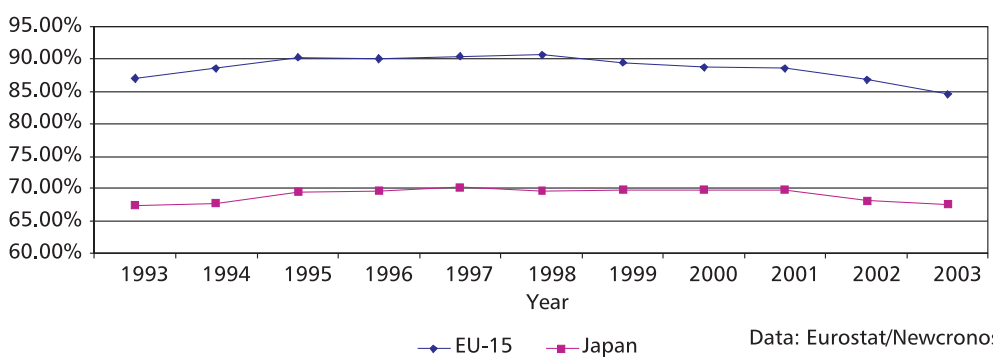
be a realistic prospect for the coming years, the IMF has recently revised downward by about .5 percentage point the euro-zone's potential growth to about 2 percent.[6] Optimists point out that it is mainly the bad German performance that drags down the European average or that because of recent structural reform Europe is well positioned for the future.[7] But the situation is worrying nevertheless.

Figure 3: Real GDP growth rate, 1992-2002



A number of factors have been referred to, to explain Europe's recent weak growth performance. In addition to perceived inappropriately high interest rates, the perceived unsuitably rigid stability and growth pact, and a low labour utilisation rate, reference is usually made to faltering productivity growth.[8] It is often argued that Europe has been catching up with, and in some cases is already outperforming, the US in terms of this measure.[9] But especially in the most recent period labour productivity growth has slowed in Europe as compared to the US. The catch-up in terms of GDP per hour worked has stopped since 1995 and the divergence is increasing again (Figure 4).

Figure 4: Labour productivity per hour worked (US=100), 1993-2003



[6] International Monetary Fund, 2004 (1), p. 10.

[7] Opinion. Germany's economy. Odd European out. Germany is now a relatively poor member of the European club, In: *The Economist*, Feb 19th 2004; Blanchard, 2004.

[8] International Monetary Fund, 2004 (1), p. 14 and 17; International Labour Organisation, 2004; Gordon, 2002; Blanchard, 2004.

[9] Gordon, 2002; Blanchard, 2004.

Recent explanations have linked Europe's hesitating productivity growth to weaknesses in the ICT producing manufacturing and ICT using services industries (as opposed to the 'traditional' industries, where Europe is stronger but vulnerable because competing with newly emerging economies), drops in European non-ICT capital deepening, and insufficient growth in ICT capital deepening and TFP.[10]

2. Weaknesses in the European science, technology and innovation system

The slowdown in European productivity and TFP growth stems from important flaws in European science, technology and innovation. Even though there are pockets of excellence, the overall picture is one of insufficient, fragmented and sometimes misdirected investment, insufficient human resources, a rather low return on investment, and an innovation system that is becoming more integrated but at the same time has not sufficiently opened itself up to the outside world.

Europe does not invest enough in research. The EU-15 and EU-25 spend far less on R&D as a percentage of GDP than either Japan or the US.[11] Since the second half of the 1990s, Europe has been recording levels of approximately 2 percent, compared with around 3 percent for the US and over 3 percent for Japan. That is particularly embarrassing as even China aims to increase its R&D intensity to 2 percent by 2010 and Taiwan to 3 percent by 2006. At the individual Member State level there are some star performers with high R&D intensities, but even those are outperformed at the international level. For example, if one compared individual EU Member States to the top 10 US states in terms of R&D intensity, then its best performer, Sweden, would come only 6^{th}, while its second best, Finland, would not even reach the top 10.[12]

In absolute terms, the EU-15 and EU-25 spend somewhat more on R&D than Japan, but far less than the US.[13] And the US-European R&D expenditure gap is increasing. Between 1991 and 2001, it nearly doubled in real terms to €141 billion. And it is set to grow further as total US federal R&D investment, for instance, will increase to a record $132 billion by 2005, from $91 billion in 2001—equivalent to an overall increase of 44 percent or annual increases of 10 percent.[14]

The isolation and fragmentation of national research efforts and systems compound the already negative effects of Europe's relatively low investment in research. The costs of research and development have risen heavily in recent years. In pharmaceuticals, for instance, it is estimated that it costs around US$800 million in R&D for each new approved drug that makes it to the market. But the European research system is still highly compartmentalised, sources of funding fragmented, and efforts duplicated. The average R&D spending of an EU-25 country is just €7.5 billion.[15] One of the smallest countries, Cyprus, spends just €27.5 million on R&D.[16] The total research expenditure of Europe's biggest R&D performer, Germany, is still less than half that of Japan.[17] And the Ford motor Company spends more on R&D than at least 15 out of 25 EU Member States do individually.[18] Nevertheless, most Member states, whatever their size, have their own separate research actions in, for instance, biotechnology, nanotechnology and ICT.

[10] Van Ark, 2004; International Monetary Fund, 2004 (2), pp. 5–6.
[11] European Commission, 2003 (2), p. 22.
[12] European Commission, 2003 (2), p. 22; National Science Foundation, 2002.
[13] European Commission, 2003 (2), p. 19.
[14] The White House—President George W. Bush, 2004.
[15] Eurostat Newcronos Database.
[16] Eurostat Newcronos Database.
[17] Eurostat Newcronos Database.
[18] Eurostat Newcronos Database; Department of Trade and Industry, 2003.

The case of basic research clearly exhibits the aforementioned problems of low levels of investment and fragmentation. High-quality basic research constitutes an absolutely critical input into the innovation process. It is, as some like to call it, 'the fuel for future technology development'.[19] High-quality basic research, mediated by efficient and effective university-industry linkages, ensures that companies have at their fingertips the input they need to be able to remain at the frontier of new product and process development. The previous, 'linear' conceptual model of innovation, with a one-way and straightforward relation from basic research to technology to innovation, can no longer be accepted. Much more attention is paid these days to the interaction effects between basic research and technology. Basic research remains, however, of fundamental importance, especially as far as radical (as opposed to, for instance, engineering-based incremental) innovation is concerned, and increasingly so. As someone recently noted, "it is hard to imagine apoptosis, antisense, monoclonal antibodies, or other generic biotechnologies being developed through experimentation rather than derived from previous advances in microbiology".[20]

As yet, Europe has failed to grasp the importance of basic research and the increased scientification of technology. It is true that Europe leads the world in terms of the number of scientific publications. In 2001, the EU-15 accounted for 37.2 percent of the world's scientific publications, as compared to 31.0 percent for the US and 10.1 percent for Japan.[21] And if one looks at the number of publications per inhabitant, Europe comes second. In 2002, the number of scientific publications per million population amounted to 673 in the EU-15, as compared to 774 in the US and 550 in Japan.[22] The quality of European research is also good. This is reflected in the fact that as far as highly cited papers as a percentage of the total number of scientific publications are concerned, a substantial number of EU Member States score above the world average.[23] And a large number of co-publications points to the fact that the European Research Area is progressively becoming more of a reality.[24]

But several problems negatively affect and hamper European basic research. These problems need to be solved if Europe is to maintain its leadership in terms of the number of publications and maintain good quality. A first problem is that European levels of investment in actual research, equipment and positions for young researchers are low, specifically compared to the US. Federal funding for basic research there is set to increase from $21.3 billion in 2001 to $26.8 billion in FY2005, an increase with 26 percent overall or 6 percent per year.[25] The amount spent in the US on academic R&D amounted to $32,723 million in 2001, with the leading 20 institutions accounting for $10,176 million, and the most important institution (Johns Hopkins University) for $999 million.[26] Federal funding for the National Science Foundation, an organisation which would serve as a model for the proposed European Research Council, increased by 30 percent to $5.7 billion over the same period.[27] US federally funded nanotechnology and information technology R&D, both of which have the potential to bring about 'radical' innovation, increased to $1 billion and $2 billion respectively.[28] As mentioned earlier, European funding for basic research is also dispersed, and Europe's research systems fragmented. A majority of individual EU-15 Member

[19] The White House—President George W. Bush, 2004.
[20] Tassey, 2004, p. 173.
[21] European Commission, 2003 (1), p. 279.
[22] European Commission, 2003 (2), p. 61.
[23] European Commission, 2002, p. 48.
[24] European Commission, 2003 (1), p. 302.
[25] The White House—President George W. Bush, 2004.
[26] National Science Foundation, 2003.
[27] The White House—President George W. Bush, 2004.
[28] The White House—President George W. Bush, 2004.

States, as well as all new Member States combined, spend less on basic research than Johns Hopkins University alone.[29]

The European business sector is not sufficiently engaged in research. There is discussion on the optimal role of the public and private sectors in the innovation system but it is generally assumed that it is better that the private sector, closer in touch with consumers and demand, take on a larger role. In Europe, the private sector accounts for a much smaller percentage of R&D *financing* than in either Japan or the US, while the reverse is true for government R&D financing.[30] The private sector also accounts for a much smaller percentage of R&D *expenditure*.[31] While small and medium-sized European companies may be spending less on R&D in relative terms than their peers in Japan or the US, this does not appear to be the case for Europe's largest companies.[32] The latter do, however, appear to spend their R&D money disproportionately outside the EU, resulting in net R&D outflows. In 2000, EU companies spent 30 percent more on R&D in the US than US companies spent in Europe. And between the EU and Japan the imbalance was even more dramatic. EU firms spent almost four times more on R&D in Japan than Japanese companies spent in the EU.[33]

To a certain extent, European research is also misdirected. Overall, Europe carries out less research in relative terms in high-tech than in low- or medium-tech industries.[34] Compared to the US, Europe appears to make less effort in sectors such as pharma, biotech, IT hardware, and software and computer services, while performing better in the electronic and electronical sectors, and the automobiles and parts, chemicals, and telecommunication services sectors.[35]

Weaknesses in the field of human resources compound the problems of low, fragmented and misdirected investment. It is an often repeated fallacy that Europe spends more than the US on education. In fact, both in terms of educational expenditure as a percentage of GDP and educational expenditure in € per inhabitant, Europe performs worse than the US.[36] Especially in the case of the very important tertiary education, the expenditure gaps are remarkable.[37] Even so Europe succeeds in producing far more university graduates in absolute terms than either Japan or the US, whether looked at from the perspective of all fields of study or only S&E fields of study.[38] In relative terms, Europe also produces more new PhDs.[39] But even though intra-European mobility has increased, Europe does not succeed in attracting the best foreign students.[40]

Few of the graduates Europe produces end up in the right place, however. Because of low R&D investment, Europe has fewer researchers overall than the US, in absolute as well as relative numbers, and proportionately far more in government and higher education than in business enterprise.[41] Researchers also have few resources to work with. There is far less R&D expenditure per researcher in Europe than in either the US or Japan.[42] This lack of positions for researchers and the little funding they have available have a number of effects. Europeans

[29] Eurostat Newcronos Database; National Science Foundation, 2003.
[30] European Commission, 2003 (2), p. 23.
[31] European Commission, 2003 (2), p. 28.
[32] European Commission, 2003 (2), p. 30–1.
[33] European Commission, 2003 (2), pp. 31–2.
[34] European Commission, 2003 (2), p. 35.
[35] European Commission, 2003 (2), p. 34.
[36] European Commission, 2003 (1), p. 212.
[37] European Commission, 2003 (1), p. 217.
[38] European Commission, 2003 (2), p. 49.
[39] European Commission, 2003 (2), p. 50.
[40] European Commission, 2003 (2), p. 52.
[41] European Commission, 2003 (2), pp. 43–4.
[42] European Commission, 2003 (2), p. 47.

stay in the US after completion of their PhD or proactively leave Europe.[43] And Europe does not succeed in attracting the best foreign employees, even as intra-European mobility has increased.[44]

The aforementioned factors combine with weak framework conditions—such as the limited and misdirected availability of venture capital in Europe as compared to the US, or the high cost of patenting[45]—to create obstacles for the conversion of knowledge into innovation. Europe has the largest share of EPO patents, but is situated in the middle as far as the intensity (per million population) for this measure is concerned.[46] Europe also has the smallest share of and lowest intensity for USPTO patents.[47] And it has the lowest intensity for triadic patents (per million population).[48] Compared to the overall EPO and USPTO situation, Europe's performance is worse in ICT and biotech.[49]

Some of the aforementioned weaknesses are condensed in the recent experiences of so-called key technologies, technologies that have the potential to confer large social and economic benefits. The ICT revolution has been completed, and Europe has largely missed it. The biotechnology industry is undergoing large changes, and Europe is already lagging behind. The transition from the academic to the commercial stage has already been made. Europe, however, while strong in terms of scientific performance, is weak in terms of patenting, or the conversion of scientific knowledge into products with industrial and economic benefits.[50] As yet, the nanotechnology industry has not progressed as far as the biotechnology one. The transition from the academic to the commercial stage has not yet been made. Europe is currently leading the way in terms of scientific performance and performing well in terms of patenting.[51]

Europe's S&T weaknesses are also reflected in the final stage of the 'linear process': high-tech trade. Among the largest economies, Europe has the lowest high-tech export intensity, defined as high-tech exports over total exports.[52] It is situated in the middle as far as high-tech exports world share is concerned.[53] And it runs a high-tech trade deficit, mainly due to its weaknesses in the fields of computers, electronics and telecommunications. Europe is performing well in fields such as pharmaceuticals, but lower trade volumes in this sector have a smaller net effect on the high-tech trade balance.[54]

3. An action plan for Europe

In the above sections, a number of problems affecting Europe's capacity to generate economic growth have been identified. They centre on a low labour utilisation rate and decreasing labour productivity. It has also been agreed that the recently decreasing labour productivity exposes a number of weaknesses of the European innovation system. The main question which arises then is what should be done to address these problems. For sure no new policy agendas need to be formulated. Useful policy agendas to remedy the above problems have already been defined.

[43] European Commission, 2003 (2), p. 46.
[44] European Commission, 2003 (1), pp. 236–42.
[45] European Commission, 2003 (2), pp. 40–1; European Commission, 2003 (1), 354.
[46] European Commission, 2003 (2), pp. 67–8.
[47] European Commission, 2003 (2), pp. 67 and 69.
[48] European Commission, 2003 (2), p. 70.
[49] European Commission, 2003 (2), p. 71.
[50] European Commission, 2003 (1), pp. 380–85.
[51] European Commission, 2003 (1), pp. 392–97.
[52] European Commission, 2003 (2), p. 73.
[53] European Commission, 2003 (2), p. 74.
[54] European Commission, 2003 (1), p. 355–70.

The concern about growth dominated the Lisbon European Council. At Lisbon, the European Union set itself the goal of becoming by the year 2010 the world's most dynamic and competitive knowledge-based economy. In addition to the low labour utilisation rate and the low degree of ICT capital deepening the main concern focused on science, technology and innovation. Given the low labour utilisation rate in Europe, the presidency conclusions called for raising the employment rate to an average of 70% by 2010, and increasing the average female labour force participation rate to more than 60% by the same year. This would be achieved through measures focusing on education, training, tax reform, social security reform and business creation. Given the insufficient degree of ICT capital deepening, the presidency conclusions called for the promotion of electronic commerce, telecoms regulatory reform, greater competition in local access networks, school access to internet and multimedia resources, electronic access to main basic public services, and high-speed state of the art networks.

But the Lisbon European Council's most important and innovative recommendations given Europe's urgently needed transition into the knowledge-based economy were reserved for the field of research, where it called for the creation or establishment of a European Area of Research and Innovation. Planned measures focused on better coordinating national and joint research programmes; supporting policy-making through a better provision of comparable information by mapping European R&D excellence in a variety of fields and benchmarking national R&D policies through the skilful use of indicators; improving the environment for private research investment, R&D partnerships and high technology start-ups, by using tax policies, venture capital and EIB support; facilitating the creation of a very high-speed transeuropean network for electronic scientific communications, with EIB support, linking research institutions and universities, as well as scientific libraries, scientific centres and, progressively, schools; taking steps to remove obstacles to the mobility of researchers in Europe and to attract and retain high-quality research talent in Europe; and ensuring the availability of a Community patent so that Community-wide patent protection in the Union would be as simple and inexpensive to obtain and as comprehensive in its scope as the protection granted by key competitors.

Growth has remained a serious concern for European and national policy-makers after the Lisbon European Council. At least partially this was planned for as at the Lisbon European Council it was agreed that the Spring European Councils would be the occasion for the annual review of achievements and strategy adjustments towards that goal; that the European Council would meet each year in Spring on the economic, social and, since the 15–16 June 2001 Göteborg Council, also environmental situation in Europe.[55] In 2002, at the occasion of the first such review, for instance, the Barcelona European Council, it was agreed that overall spending on R&D and innovation in the union should be increased with the aim of approaching 3% of GDP by 2001. Two-thirds of this new investment should come from the private sector.[56] But in 2003 the so-called Growth Initiative was launched, an initiative in cooperation with the European Investment Bank to support growth and integration by increasing overall investment and private sector involvement in TENs and major R&D projects.[57] And in February 2004, Tony Blair, Jacques Chirac and Gerhard Shröder wrote a letter to the presidents of the European Council and the European Commission calling among other things for the appointment of a vice-president of the commission to focus exclusively on economic reform.

The limited progress made thus far towards the realisation of the Lisbon objectives has to be seen as the main reason behind this recent flurry of new actions. The 2003 Spring European

[55] The 15–16 June 2001 Göteborg European Council agreed on a strategy for sustainable development and added an environmental dimension to the Lisbon process for employment, economic reform and social cohesion (*Presidency Conclusions. Göteborg European Council 15 and 16 June 2001—SN 2001/01/REV 1).*

[56] *Presidency Conclusions. Barcelona European Council 15 and 16 March 2002—SN 100/1/02 REV 1.*

[57] *Presidency Conclusions. Thessaloniki European Council 19 and 20 June 2003.*

Council noted progress made as well as the amount of work still left to be done, called for the Union and the Member States to fulfil their commitments regarding economic reforms by translating words into action, and set 4 priorities: raising employment and social cohesion, giving priority to innovation and entrepreneurship; strengthening the internal market; and environmental protection.[58] The tone of the 2004 Spring European Council was more impatient, focusing directly on how to implement commitments already made.[59]

The Commission has made substantial progress so far. The Commission has kept its end of the bargain and is making substantial progress towards the realisation of the various objectives. The European excellence in various fields of science has been mapped. The benchmarking of S&T inputs and outputs has progressed through the skilful use of indicators. Important progress has been made towards the implementation of a community patent. The Commission is also implementing FP6. More can of course be done, and in a better way. That is why the Commission is preparing for FP7, recognising that there is a need for more funds, less bureaucracy, and attention for impact, and trying to integrate its policies better.

The member states need to do more, however. Far too often still they define the problem wrongly, seeing it as preventing de-industrialisation as opposed to making the transition into the knowledge-based economy. Even if they correctly define the problem then reform is slow, limited, and often progress is reversed. Investment in research is not increasing.

Beyond the implementation of the Lisbon and Barcelona objectives, however, a broader debate on a number of fundamental questions with greater importance for the long-term future of Europe is looming. Beyond optimum levels of investment in research, questions will have to be asked, and answered, about the optimal system of governance for European science, technology and innovation. In other words, even if the 3 percent Barcelona objective is reached, will it be possible to remain within a paradigm that, at the end of the day, is still very much driven by national systems of innovation? Probably the European Research Area needs to become more of a reality. But where will economies of scale and scope be aimed for, and where does competition have to reign?

And what should be the respective roles of the European Commission and the Member States in this European Research Area? What will be the new division of responsibilities in the field of science, technology and innovation? Will more funding be distributed at the EU level to make the most of the European added value of pooling and leveraging resources, fostering excellence in research and development through enhancing capability, quality and competition, and better integrating European R&D? Or will the current situation be maintained, or even a recentralisation of research take place? What will then be done by each actor, where will collaboration take place? And what does all of this mean then for the kinds of policies that need to be implemented? Do European programmes really need to continue to be comprehensive, both horizontally, by focusing on all scientific priorities, and vertically, by focusing on the whole range of basic, applied and collaborative research, as well as human resources and infrastructure? Or is there real scope for more selective policies? These are the kinds of questions that will need to be answered soon if Europe is not to become obsolete in the next long-wave in world economic development.

[58] *Presidency Conclusions. Brussels European Council 20 and 21 March 2003.*
[59] *Presidency Conclusions. Brussels European Council 25 and 26 March 2004.*

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SIMONE ARNALDI

CONVERGING TECHNOLOGIES AND EUROPEAN SOCIETIES IN THE XXI CENTURIES: VALUES AT THE CORE OF OUR FUTURES

1. Introduction

This short paper presents a social and cultural perspective on the so-called Converging Technologies (CTTs). CTTs mean the integration and synergy of four technologies (nano-, bio-, info-, cogno- or NBIC) made possible by engineering at nanoscale. I will try to discuss briefly the importance of this issue as a "strategic choice" for Europe in the first decades of the XXI century and outline some critical remarks to the current public discourse on Converging Technology.

After presenting two different perspectives on CTTs developed in the US and EU, I will discuss some of what seem the main features of the public discourse on technology, which appear characterised by an uncritical technological optimism. Then, an analysis of the concept of risk is proposed to question the ideological view of deterministic technological optimism and the opposite option of technological pessimism. Eventually, from the results of these two different sections of the paper, a proposal for designing a role to futures research in outlining CTTs policy options is examined.

2. What converging technologies are

The first explicit reference to the perspective of converging technologies appeared in the US National Science Foundation Report on "Converging technologies for improving human performance" published in June 2002[1]. The report is the result of a series of workshops and experts contributions on several themes (overall potential of converging technologies, expanding human cognition and communication, improving human health and physical capabilities, enhancing group and societal outcomes, national security, unifying science and education). Converging technologies as described by the NSF Report have tremendous implications both for scientific knowledge or culture in general, as well as for the structure of society. The best description of this basic philosophy of Converging Technologies may be the opening paragraph of the Report:

[1] The report is downloadable at http://wtec.org/ConvergingTechnologies/

> *"We stand at the threshold of a new renaissance in science and technology, based on a comprehensive understanding of the structure and behaviour of matter from the nanoscale up to the most complex system yet discovered, the human brain. Unification of science based on unity in nature and its holistic investigation will lead to technological convergence and a more efficient societal structure for reaching human goals. In the early decades of the 21st century, concentrated effort can bring together nanotechnology, biotechnology, information technology, and new technologies based on cognitive science. With proper attention to ethical issues and societal needs, the result can be a tremendous improvement in human abilities, new industries and products, societal outcomes, and quality of life. Rapid advances in convergent technologies have the potential to enhance both human performance and the nation's productivity" (Roco and Bainbridge 2002:1).*

In 2003, the European Commission established an independent High Level Expert Group on "Foresighting the new technology wave" to question, to specify and to deepen concerns raised by the NSF Report in particular with regard to the potential threats of ideological, military and manipulative applications of Converging Technologies. The discussion process within the Group of Experts lasted about one year and on September 14th 2004, the Final Report on Converging technologies—Shaping the future of European societies was presented[2].

The Report outlined a European specific strategy for Converging technologies which is called "Converging technologies in European knowledge society—CTEKS", which relates CTTs to European environment and policy goals, in particular to the Lisbon strategy.

Though an extensive presentation of the report is far beyond the aim of this article, it seems interesting to focus briefly on the four main characteristics the HLEG Final Report associates to Converging Technologies.

According to the Report[3]:

(1) CTTs are **embedded**: they "form an invisible technical infrastructure for human action[...]. Once all of us are living continuously in the pervasively artificial environment of ambient computing, smart materials and ubiquitous sensing, society will be confronted with far more frequent and deep transformations of people's and groups' self-understanding";

(2) CTTs have an **unlimited reach**: "nanotechnology's dream to control everything molecular follows upon information technology's increasing ability to transform everything into information. As the convergence draws in other technologies and technology-enabling sciences, it would appear that nothing can escape the reach of CTTs and that the mind, social interactions, communication, and emotional states can all be engineered";

(3) CTTs can **engineer the mind and the body**: they can realise the engineering **of** the mind and **of** the body, by electronic implants and physical modifications to enhance current human capacities. The HLEG expert group proposes that CT research should focus on engineering **for** the mind and **for** the body to change to human cognitive environment;

(4) CTTs are **specific**: generally, "the convergence of enabling technologies and technology-enabling sciences can be geared to address very specific tasks". E.g. "research on the interface between nano- and biotechnology allows for the targeted delivery of designer pharmaceuticals that are tailored to an individual's genome in order to affect a cure without side effects".

[2] The Final Report and all the other relevant documentation about the work of the High Level Expert Group is downloadable at http://europa.eu.int/comm/research/conferences/2004/ntw/index_en.html.

[3] Here, quotations are from the Executive Summary of the HLEG Final Report. More detailed accounts of these characteristics are obviously developed along the entire report, in particular pages 24–26 (general characteristics of Converging Technologies and outline of an original CTEKS approach) and page 36 (risks of CTTs).

These features promise that NBIC diffused integration in our social and economic systems can have an enormous transformational potential on our cultural view of subjectivity, agency and the world in general. The following sections try to outline how such a potential is independent to a certain extent from the actual application of converging technologies.

3. Converging technologies and the technological discourse

The HLEG Final Report deals with different aspects of the impact of CTTs on culture. This issue is discussed in terms of acceptance/rejection by the general public of NBIC applications (HLEG Final Report 2004:18), of cultural homogenisation as a consequence of a massive introduction of CTTs in social life (HLEG Final Report 2004:42, Special Interest Group II 2004), and of reversal of current ethical and cultural standards (HLEG Final Report 2004:34) because of the use (and abuse) of CTTs.

Nevertheless, it seems that the convergence of NBIC can exercise a significant influence on the cultural system independently from the actual realisation and application of technologies. In fact, the most far-reaching assumption of CTTs is that "to the extent that CTTs engineering is done from the bottom-up in the nano-, micro- or bio- domains, it is presupposed that the problems can be resolved at their physical basis" (HLEG Final Report 2004:18). In other words, the possibility to manipulate matter at nano-scale paves the way to a materialistic ideology. This ambivalence of the discourse on convergence is well defined by the Special Interest Group II:

> *"The first view refers to a normal feature of disciplinary science. Every now and then, disciplines coalesce for heuristic reasons. In the first view heuristics refer solely to growth of knowledge and new technological perspectives. The second view on convergence is one that does not consider the heuristics solely as an intrinsic and neutral feature of nanosciences. In this view convergence refers to a technological concept of human and nature." (Special interest group report 2 on the ethical, legal and societal aspects of the converging technologies, p. 2).*

In a future-oriented perspective, CTTs seem to pretend to offer an articulated and comprehensive vision of the future. The transformational potential of images and visions of the future and their influence on social development has been widely discussed at the societal (Polak 1978), organisational (e.g. Malaska and Holstius 1999) and individual (e.g. Page 1998) level. Looking at some extreme visionary projects about the application of CTTs to society (e.g. Yonas and Glicken Turnley, Albus, Cauller and Penz in Roco and Bainbridge 2002:158–160, 256–259, 281–293), this transformational potential seems extremely high and it surely challenges many of the present social, cultural and ethical standards of our society. The point of view is shared by the HLEG and the idea itself of a European-specific approach to CTTs means these challenges create concerns among experts, decision-makers and the public.

4. Culture, technological discourse and utopia

Peter Henrici defines culture as the artificial environment of human life. According to Henrici, human identity is built through the cultural differentiation of man and nature and human interaction with nature is always mediated by culture and, in modern and late modern ages, this interaction is based on technology which becomes the key feature of human culture (Henrici 1985).

Thus, on the one hand, **technology** is recognised as the key driver of culture, at least of European culture. From the other, an obvious implication of Henrici's statement is that **technologies** can be studied as cultural objects (Griswold 1997) and they are bearer of meanings.

Therefore, if the "ideal type" of the research process may be considered neutral with respect to values[4], this is not the case for technology which has been defined by the Italian sociologist Luciano Gallino as "the systematic application of scientific knowledge for a transformative goal" (1993:691) and the existence of a "defined goal" precedes the two phases of invention and construction in the technological process (Henrici 1985). The elaboration of a goal (a set of goal) implies the use of inventories of meanings with both a symbolising (symbols) and validating (values) functions[5], whose social organisation can be defined properly as culture (Hannerz 1999).

It is possible to establish a morphological identity between culture and images or visions of the future (Arnaldi 2000) and, more generally, the latter can be considered as a part of the wider cultural system. This position is supported by sociological theory (Elias 1998, 1986), by historical analysis (Polak 1978) and by futures studies (Barbieri Masini 1999). Therefore, what are the cultural meanings (values and symbols) that can be identified in the visions and images of the future proposed by the cultural discourse of converging technologies?

Without aiming at a comprehensive discussion, it seems useful to introduce the comments by Nordmann (2002) on the new paradigm behind nano-research and, by extension, behind converging technologies. Moving from Nordmann's argument, it can be noted how this research seems not theory-driven (either falsifying hypothesis or building paradigms), nor application-focused (like e.g. AI research) or goal-oriented (like e.g. GMOs). According to this Author, nano-people's work blurs the very distinction between science (investigation) and technology (transformation) as far as "[t]echnoscience does not ask whether some statement about nature is true or false, it is not defined by methodological standards of falsificationism, hypothesis testing and the like. Nor does technoscience validate itself by making devices that work. Instead, it is said to involve a wholesale transformation of self and nature. In a sense, these technosciences—they include robotics, artificial intelligence research, genetic engineering, etc.—refashion nature" (Nordmann 2002:5).

Technoscience seems to reverse the general condition of functioning of technology as indicated by Niklas Luhmann. According to this Author, technology implies the delimitation of a finite set of causes within an operative field, the definition of a finite number of steady relations among such factors and the creation of a stable environment (the "normal conditions of functioning") by isolating the operative field from outer environmental factors (Luhmann 1996:101). To a certain extent, technoscience cancels this distinction and the environment is assumed as "this implies that there is no given world that already exists atom by atom but that we think of the world as something plastic, a technological artifact in its own right, a world related to our sensory, conceptual, practical modalities"[6] (Nordmann 2002:5).

This potential "unlimited reach" is translated in cultural discourse. I propose here few considerations about its contents based on the work of Lucien Sfez (2002) on biotechnology[7]. According to Sfez, the cultural discourse on biotechnology has the features of utopian discourse

[4] According to Niklas Luhmann, the social process of scientific research has the only goal of distinguishing between true and not true (1996).

[5] Cognitive and normative perspectives on culture are the two mainstream approaches in contemporary anthropology (e.g. Geertz for a cognitive perspective, while Kluckhohn and Kroeber propose a normative one). The former considers that culture has a mainly symbolising function, the latter a validating one. The Japanese sociologist Raymond Bachika suggests a combination of both approaches (1996).

[6] A comprehensive perspective of this attempt to reduce the world to a set of proceduralised and fully predictable behaviours is well sketched by the "socio-tech" proposed by Glicken and Turnley (2002) as the predictive science of societal behaviour, whose core is based on genomics and cellular biology.

[7] The extension to Converging Technologies of considerations on biotech seems justified for several reasons as bio-technologies are a constituent part of CTTs and they fully belong to technosciences as in Nordmann's article.

and it is based on the idea of „perfect health". What is then the "perfect health paradigm"? It is the utopia of the perfection and of the harmonic unity of the bio-sphere (between man and nature) achieved through the use of bio- and information technologies; it is the desire for individual and species immortality. Sfez examines the communication strategies of four projects: The Genome Project (mapping and sequencing of human genome), cloning, the Biosphere II Project, and the Artificial Life Project[8]. From his analysis, this „perfect health ideology" results as a new bio-ecological „figure", which suggests the idea of a general purification of planet and man. According to the Author, biotechnology rationale has become the basis for the reconstruction of individual and group identity, as a reaction to relativism and to fragmentation in late modern age. It is a strong rationality, materialistic and simplifying, based on what is considered the ultimate and basic principle of life: the gene.

"This new foundation of meaning stands on a material and materialistic basis as extreme as possible: our apparatus delegated to perceive the world and our action on the world, our body, which cannot be separated by the body of the planet. The perfect health is for both bodies, one for the other, one within the other. Perfect health is considered as a means and as an end. Health for life. But, at the same time, life for health. Living to make biotechnologies and eco-technologies live, both of them the "perfect health" could not be possible without" (Sfez 2002:13).

In his extensive account of values in utopian thought and its relations with futures studies, Wendell Bell (1996a) lists four features of utopian discourse, which is "a vision of some other place or time that is: (1) judged as more desirable than existing society; (2) critical of existing society; (3) not currently actually existent; and (4) usually, implicitly or explicitly, a call for some human action to bring a society better than the present one to existence"

(Bell 1996a:8)

Values and consequent action are hence the real and essential features of utopia. The "perfect health" utopia shows the same markers: (1) it expresses a value judgement: the claim for an "improvement" of human individual and societal performance and either implicit or explicit, a criticism of present society; (2) it does not actually exist at its stage of "perfection" and hence it is isolated and separated from the world of the narrator and the one of the listener/reader; (3) it claims for a more harmonic relation between man and nature (a sort of return to origin), but through a deliberate simplification of the world through engineering and with a complete mastery of man on both corruption and death.

However, the most important feature of the utopian discourse is perhaps monologism. The narrator's perspective is the only one in the discourse and manages without the other, and therefore to some degree materialises all reality. Monologue pretends to be the ultimate word and audience is only passive. In a sense, utopian narration communicates only certainty.

[8] The Genome and Cloning projects are well known at the media communication level. Artificial life is a project of the Santa Fé Institute for the Future aimed to the creation of artificial beings through computer simulation. These artificial beings are gendered, they can reproduce and they can have a social life. Furthermore, they need nutrition and they can suffer diseases, they age and they die (Sfez 2002: 68–76). The Biosphere II project tried to recreate a model of the planet biosphere in a hangar in Arizona, with four human volunteers who participated in the project from 1991 to 1993 (Sfez 2002: 55–67).

5. Technical decision-making, trading zones and the "problem of extension"

The critical discussion of the utopian values proposed by the technological discourse on CTTs requires a more general analysis of the interplay of actors (experts, decision-makers and the public) in the field of CTTs and the influence of technological discourse on decision-making.

The first relevant level of observation is that of the community of experts. It seems that this level focused very much of the general attention. This attention is caused by interdisciplinarity in NBIC, which is both a factual observation and a declared goal[9].

The second relevant level is the communication about Converging Technologies to the public. Stephens (2004) presents some preliminary findings of a research about media communication about nano-technology and nano-science in the United States. The Author notes that since 1998 the articles with the words "nano-technology" and "nano-science" published in science journals increased from 1 in 1987 to 497 in 2003. A similar pattern of increase is for articles published in 94 mostly US newspapers and popular periodicals. The range is from 1 in 1998 to 305 in 2003. Therefore, the first point to stress is that the volume of communication has surely increased. Stephens's article does not present any detailed content analysis about articles about "nano-". To develop this second level of analysis, we rely on Berube's work again on nanotechnology.

The Author presents some general considerations about communication of technology, he applies them partially to nano-science and he adds some specific remarks on communication of nano-technology. Barube notes that studies in communication of technology focused mainly on the two issues of crisis and risk communication (Berube 2003). In both cases, the Author notes that institutional communication is aimed to augment public's confidence and feeling of safety through both oversimplification of language and even purposeful semantic "obfuscation" of communication potentially threatening contents. This seek of simplification seems to be based on the patterns of risk perception in the public. In fact, according to a NSF survey cited by Barube, perceived risk increases with the augmented perceived complexity of issues. Generally speaking, communication of technology seems not to be able to clearly explain nano-science and technology to the general public and hence a wide degree of informed public discussion does not appear to be achieved.

Berube's conclusions are based on a series of case studies (corporations, scientists, think tanks). However, his text does not attempt to develop a comprehensive model describing the patterns of communication between the scientists and the general public. Collins and Evans (2002) succeeded in presenting a model based on the differential level of expertise.

In their model of the interactional dynamics of the community of experts in a certain scientific domain or in a certain scientific controversy (called the core-set of scientists) and other groups of outsiders, these Authors note that the latter learn of the core of the science only indirectly through digested sources, which are basically condensed and simplified[10]. The differential in expertise defines the degree outsiders are unable (or unwilling) to contribute to the knowledge of the field[11].

The Authors call "the problem of extension" the decision about how far participation should extend in technical decision making. Different degrees of participation imply a higher or lower

[9] For a formal analysis of multi- and inter-disciplinarity in nanoscience, see Schummer (2003).

[10] Though this description is well fitted with broadcast media as one can find also in the cited works of Berube and Stephens, Collins and Evans note how also training of scientists by the educational system reflects this kind of simplification.

[11] Three levels of expertise can be distinguished: (1) no expertise; (2) interactional expertise: enough to interact interestingly with the core-set of scientists; (3) contributory expertise: enough to contribute to the science of the field being analysed.

level of expertise to be legitimated to contribute to technical decision-making, which is defined as "decision-making at those points where sciences and technology intersect with the political domain because the issues are of visible relevance to the public" (Collins and Evans 2002:236). As in the cited article, the HLEG Final Reports deals with the problem of extension basically in terms of interdisciplinarity, i.e. it privileges a level that is internal to the scientific community.

Michael Gorman, maintains this emphasis in his comment to Collins and Evans's article. He suggests a relationship between the differential of expertise and the different forms of institutionalisation of the scientific community and different trading zones (Gorman 2002a), which describe interaction and sharing of expertise among different cultures at disciplinary boundaries (Gorman 2002b).

According to this Author, when outsiders are considered not to have any relevant expertise, there really is no trade: those "not in the élite either obey, or they are ignored". Communication is one-way and it is near to monologism we discussed in section on the utopian discourse. When outsiders are considered to have interactive expertise, then disciplinary experts "create creoles around boundary objects representing technological possibilities". When disciplinary experts share a "common understanding of a goal and collaborate closely" to build a continually evolving representation of the techno-social system they are involved in, they share a contributory expertise. In the same article, Gorman discusses the different possible levels of sharing in Converging Technology and in the other essay considered, he calls for the incorporation of practical ethics in CTTS research and education and he suggests the creation of new engineering research centre with a strong interdisciplinary characterisation (Gorman 2002b).

Beyond disciplinarity, which is not the focus of this article, this perspective may be worth of using in interpreting the relation between the scientific community of the CTTs and the general public. If we limit the ground of discussion only to expertise, the public is likely not to be able even to interact and misconception about research and technology application are to spread among the non-scientific observers. The consequences may be a structural misperception of risk, according to the simplicity/complexity opposition noted by Berube. Then, what about a different level of interaction?

With regard to this, two points are worth of developing. First of all, social actors' knowledge of science and technology is built not only on expertise, but also (often I would say mostly) on their social knowledge. In Collins and Evans's cited article, this social knowledge refers either to the knowledge of the position of the author of a scientific view within social networks, or his previous experience. In sum, it refers to scientist's credibility. In my opinion, it is worth of extending this concept of social knowledge. In fact, validity of a scientific claim can be challenged by different assumptions based on the different cultural inventories that are distributed in the social structure. These assumptions are cultural assumptions. If this social knowledge is cultural, then it includes also values.

The relevance of this perspective is significant as far as we consider the discussion on the utopian features of a substantial part of technological discourse presented above. The discussion shows how the communication from the core-sets of scientists to outsiders is not value free. Technoscience paradigm itself is not value free, as far as its aim is not the perpetuation of the falsification process that Luhmann assumes as the goal of science (1996). Therefore, it seems useful to extend the model of trading zones from expertise to values which orient decision-making, select the goals of technology and contribute to enrich and change cultural inventories.

6. Epistemic implication model, negotiation of values and images of the future

Is it possible to imagine trading zones not only for expertise but also for values? Is it possible to extend the zones beyond the research community towards the general audience? This tentative proposal relies heavily on the work of the American sociologist and futurist Wendell Bell, whom I gratefully acknowledge. Bell's argument is developed in his attempt to shift from cultural relativism to critical evaluation of the normative discourse in futures studies. In my opinion, the efforts by Wendel Bell to build such a critical theory of values on a future-oriented basis, appears to be a relevant contribution to the change of focus in future research I suggested in the previous sections.

The first model of evaluating specific moral propositions or value judgement Bell considers, it is the "commitment-deducibility model":

> *"This model imitates the logical hierarchical structure of science as conceived by the positivists, except that the propositions involved are value judgements, not statements of fact. Logical relationships exist among the propositions. [...] Thus there is deducibility through logical consistency. But [...] ultimately the highest-order assertion, and thus the entire system of justification itself, rests on an act of faith or will" (Bell 1996b: 82–83).*

With regard to action,

> *"the commitment-deducibility model emphasises whether a given act, event, process, etc. is an instance of or consistent with the value to which a commitment has been made" (Bell 1996b:83).*

The second model is called "means-ends" model. This model emphasises causal knowledge and empirical facts.

> *"The goal or end itself in the means-ends model remains unjustifiable within the model, the goal being a matter of preferences, desires, or values of some individual or collective agents. [Therefore,] the coherence of the selection of means to an end necessarily contains an explanation, at least an implicit cause-and-effect proposition" (Bell 1996b:84–85).*

The two models are different but they have a common essential feature: they fail to create an explicit framework of discussion of value judgements whose justification remains out of the model.

What is relevant to our discussion is the third model proposed by Wendell Bell that is an extension of the epistemic implication model by Keekok Lee. As described by Bell, the latter implies that descriptive elements of value assertions can be subjected to a series of criteria and, by implication, a tentative judgement about their validity can be reached. Lee's criteria as listed by Bell are the following:

(1) serious evidence: any assertion must have some external features of the situation referred to in the assertion. Thus, the "serious evidence criterion" includes "only assertions that can be denied or confirmed by independent observers, by some kind of objective or intersubjective process"
(Bell 1996b:87);

(2) referentially relevant evidence: the assertion and the reasons for it must share the subject term;

(3) causally relevant evidence: the evidence cited to test a moral assertion must bear on the assertion in some causal way;
(4) causal independence of evidence and conclusion: the evidence is not acceptable if it is produced by the conclusion itself;
(5) empirical test: "finally there is the requirement to put the evidence to an empirical test, to assess whether it is true or false. If the evidence meets the above four criteria, then the evidence, if true, would serve to support the assertion, while if false, would serve to refute it" (Lee in Bell 1996b:91).

The epistemic implication model cannot be applied to assertions about the future without being modified. In fact, propositions about the future cannot be empirically tested and falsified[12]. Therefore, assertions about the future cannot satisfy the fifth criterion of Keekok Lee's model. Wendell Bell's extension of such a model considers this limitation and it includes predictions as a basis for applying it to future knowledge:

> *"Assertions about the future, when they are warranted by specific grounds, constitutes evidence to support or negate value premises, the same as do facts about the past and present" (Bell 1996b:101).*

Like evidences, these "predictive grounds" can be true or false, but only on a presumptive basis, because "we must rely on present indicators that may only indirectly bear on the future" (Bell 1996b:101).

With respect of our discussion on technological discourse, the "extended epistemic implication model" suggested by Wendell Bell offers several advantages:
(1) it emphasises the communicative and deliberative aspect of value judgements, thus encouraging a collective and intersubjective perspective on evaluation;
(2) it shifts the source of possible disagreement from value conflict to disagreement about predictions;
(3) it encourages interdisciplinarity because of the wide range of predictive grounds that can be taken into account to support or refuse a value judgement;
(4) it provides a common ground of discussion about both normative and cognitive statements;
(5) it creates a common framework of negotiation about contents of the technological discourse (both means and ends, expertise and values) for experts, decision-makers and the public.
(6) it provides a critical tool for decoding technical imagery and visionary pictures concerning CTTS and technologies in general.

7. Conclusion

This short comment tried to point out that the relational dimensions of CTTs and culture may not be framed either only from an engineering perspective or from and individual point of view.

With regard to these two issues, sociology and futures studies may give a contribution not only in terms of social and technology foresight or technological assessment. I suggest rather that foresight and sociology may serve as interpretive and critical tools for decoding and demystifying the discourse of technical decision-making about NBIC and the visions of the future it relies on.

From this point of view, the "extended epistemic implication model" proposed by Wendell Bell is of outmost importance for providing such a critical framework. In line with this perspective,

[12] About the epistemic conditions of the knowledge about the future, see Kuusi (2000) and Bell himself (1996a). For a discussion about the epistemic conditions of sociological analysis of the future, see Barbieri Masini (2001, 1999) and Arnaldi (forthcoming).

institutional choice to integrate such a futures thinking perspective in the social processes of decision-making should be taken to extend the range of stakeholders that can contribute to a critical cultural discourse of converging technologies.

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ROMAN GALAR

ADAPTIVE VERSUS MANAGERIAL APPROACH TO S&T POLICY

This contribution presents some comments on the "*Third European Report on Science & Technology Indicators*"[1], mostly reactions to its core ideology. According to Kukliński's proposition[2], it might be classified as an attempt in the domain of *deeply critical evaluations transgressing the limits of political correctness and conventional wisdom*. Naturally, it is not comprehensive enough to aspire to such a status. At best, it rises some question that might deserve discussion. My position is based on my understanding of the precepts of evolutionary development[3].

It has to be stressed that the Report is a very complex composition. In some cases, I might be arguing with ideas, which are also argued with in some other places of the Report. In such short contribution I was not able to capture the whole picture, so I can only apologize if this lead to misunderstandings.

Some common sense qualms

The Report presents a wealth of statistical analysis and makes a very interesting reading. Data are abundant. Concepts are clearly explained. Technical problems are well identified. A number of simplistic convictions is challenged. An effort to grasp the complexity of R&D outputs is obvious. Some results of the earlier implemented policies are critically analyzed. But there is also an excess of the politically correct clichés, a number of not really obvious juxtapositions and an unshakeable conviction that an effective S&T policy might be implemented by the stiff regulatory measures. For example:

- The blissful vision of the knowledge economy seems to be masking the real tradeoffs: *most employment in skilled well-paid jobs in knowledge based sectors*[4] (is that really true about the most of jobs in this sector?), *majority of production is high-tech* (for how long some tech stays high-tech?), *growth is sustainable and based on clean technologies* (innovations are often disruptive and clean technologies might be uncompetitive), *protecting inventions is cheaper and easier than anywhere else* (will this improve or hamper the spread of innovations?).

[1] European Commission, *Third European Report on Sciences and Technology Indicators—2003, Towards a knowledge-based economy*, Brussels 2003

[2] A. Kukliński, *Europe—the strategic choices of the XXI century, Seven methodological reflections.*

[3] R. Galar, *Knowledge Economy and Evolutionary Traps*, (in:) Kukliński A., W. M. Orłowski (eds), The knowledge based economy, The global challenges of the 21st century, Rewasz, Warsaw, 2000

[4] Phrases in italics are taken from the text of the Report.

- If it is so obvious that research is so very profitable for economy, how to explain that governments are reducing their investments? Between 2000 and 2010 the government financing of R&D in relation to GDP is expected to drop about 40%. The same concerns the private sector in Europe, which has to be called to rise *private R&D to 2/3 of the total R&D spending by 2010*. Why this need to call, if *enterprises appreciate the growing importance of research and new technologies for their competitiveness*? Why should private sector stray from the profitable investments? Why actions profitable in US are unprofitable in EU? What are the real casual loops? Explaining this would be more useful then all the pleas for action.
- Research policy is to be *a central pillar of Europe's strategy toward the knowledge based economy.*—It is arguable that the US advantage in this domain is an effect of some governmental strategy. *It is only by the modernisation and integration of its structural policies that the EU can be the most competitive and dynamic knowledge-based economy in the world.*—The present leader has got to his eminence by the more market oriented approach.
- Why *highly qualified scientist* should be given *more opportunities especially in the business sector*—is there any evidence that this group is particularly good in producing, exploiting or commercializing innovations?
- *Europe remains a world class scientific power. (...) However, its most important challenge remains the exploitation and commercialisation of science in order to boost growth and employment and improve social conditions.*—The linkage between exploitation and commercialisation of science and growth, employment and social conditions is not as obvious as suggested. With the research priorities assumed the results might be opposite; e.g. the expected progress in biotechnology will extend human lives and aggravate the dependency problems.
- There are component indicators concerning *highly skilled human capital (total number of researchers per capita and number of new S&T PhDs per capita), investment and participation in education (educational spending per capita and share of adult population participating in life-long learning)*.—It should be noted that S&T personnel from China and India and also ECE countries, is quite competitive in US and EU environment, while the cost of its formation was fractional.
- *Citizens are becoming more and more aware of the impact of science and technology on their daily lives.*—It doesn't necessarily mean neither great recent progress nor positive assessment...

The overall managerial paradigm

The Report emanates conviction that science and technology should be dealt with as any other profitable domain of programmed growth. In terms of the 7^{th} of Kukliński's dichotomies[5] it obviously opts for "dirigistic" instead of "leseferic" Europe. It calls confidently for clearly defined priorities, extensive co-ordination and precise benchmarking. Yet, the reasons for such confidence are neither theoretically explained nor practically corroborated, what opens space for serious reservations:

- The wish *to target financing on these key areas that will be vital for our future, such as nanotechnology and biotechnology* is understandable, but is it justifiable? It seems striking, how fast expectations based on ICT become downgraded. Only few years ago ICT was the

[5] Kukliński, A., *Europe—the strategic choices of the XXI century*, op. cit.

official standard bearer of progress for the next decades. Now some consider ICT as merely an utility.[6] The more or less similar position is expressed in the Report—*an information society for all*. The analysis of the reasons of this sudden reevaluation should be very helpful in avoiding future blunders.

- The science creation is treated as any other productive activity. The problem is reduced to matching well equipped research system with supply of highly educated research scientists. This attitude is not new, so it might be asked where has it worked up to expectations? Some point out that miniaturization of electronic equipment belong to this category. Yet, the invention of transistor itself was clearly an individual obsession propelled trial and error process[7]. Other attempts to set aims and means and expect results fared less well. What about clean energy, artificial intelligence, cancer and AIDS cure, new generation of pharmaceuticals and so on? The efforts are still continued, but it has already taken much longer and cost much more then anticipated, irrespective of significantly downgraded expectations.
- The Report proclaims introduction of *a new open method of co-ordination*, namely: guidelines, timetables, indicators and benchmarking against the best in the world as means of comparing best practices. It might be interesting to consider how such policy implemented 25 years ago would foster the progress of ICT? In 1970s the idea of PC was considered ludicrous by the computer establishment and the best practices pointed in the very different direction[8]. Why assumption that all surprises of this kind are already over?
- The concepts inspired by the business ideas, such as error free production, just in time delivery, benchmarking etc., should not be transferred uncritically to S&T policy. These concepts work fine in the world of the repetitive. Significant innovations emerge in the world of unique. Practical experiences should be taken into account even if they negate the seemingly rational expectations. When the cost and length of the project phase of the International Space Station greatly exceeds the estimated cost and length of realization of the station itself, it seems a good reason to give up this kind of estimates.
- Will nanotechnology and biotechnology actually rise to expectations? They are around for about quarter of century generating great promises and recently showing some results. It might be true that there is nothing better around to bet on, still it might be risky to put all the eggs in just two baskets. The problem is deeper than *the lack of common definitions concerning 'what is biotechnology' and 'what are biotechnology firms'*. History of technological progress has systematically demonstrated that the future belongs to the unexpected. The policy of accumulating financing on selected targets works to the exclusion of such unexpected developments. It might be that the evident deficit of breakthrough innovations in the last decades[9] is the result of such policies.

It helps little that this inventive crisis of our times is conveniently reinterpreted in terms of the new era of development: *many authors now consider innovation capability less in terms of the ability to discover new technological principles, than the ability to exploit systematically the effects produced by new combinations within the existing stock of knowledge.* The number of combinations is limited, so this is tantamount to the opinion that the age of progress is ending.

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[6] N.G. Carr, *It doesn't matter*, Harvard Business Review, May 2003

[7] William B. Shockley explained: *A basic truth that the history of the creation of the transistor reveals is that the foundations of transistor electronics were created by making errors and following hunches that failed to give what was expected.* W. Saxon, *Obituary: William B. Shockley, 79, Creator of Transistor and Theory on Race*, The New York Times, August 14, 1989

[8] "There is no reason anyone would want a computer in their home". Ken Olson, president, chairman and founder of Digital Equipment Corp., 1977, http://www.cs.virginia.edu/ robins/quotes.html

[9] R. J. Gordon , *Does the "New Economy" Measure up to the Great Inventions of the Past?* Journal of Economic Perspectives, vol. 4, no 14, 2000

To me, it seems the "fox and sour grapes" approach[10]. Real intelligence, biotechnology and nanotechnology, they all operate in living bodies so it should be possible to replicate them technologically. The first problem is that we might still need to discover some new "technological principles" to make it happen. The second problem is that these discoveries might not be approachable from the current paradigms[11]. This was the case with the alchemic research program. To succeed in their transmutation-quest alchemists needed new principles but, as we know for some time, these were not to be found in the domain of their quasi-chemical experiments. The way to the solution led, between others, through investigation of obscure electric phenomena, whose practical significance Faraday was unable to explain to appropriate commissions. Most fortunately for the emergence of postindustrial society, his "grant" was not revoked.

The telling absence of social capital

The term "human capital" appears in the Report 46 times while "social capital" comes out only once and this is in the title of the book referred to. This concentration on human capital to the exclusion of social capital is not accidental—it seems to be a direct consequence of the managerial paradigm. The first capital is an individual's asset which might be transferred wherever the individual moves. The second is a context dependent emanation of constructive human interactions and it cannot be easily transferred out of this context. As it is usually emphasized social capital is based on mutual trust between concrete people belonging to an actually interacting group.

The concept of social capital is not very tangible, still there is nothing better to explain why in some places things go well, while in the others, under the very similar external conditions, nothing really happens. It would be tempting to use this concept to explain the "European Paradox"—*strength of European educational and science base and its inability to convert this advantage into strong technological and economic performance*. Unfortunately, this way seems closed as it collides with the basic ideological precepts of the European S&T policy. Introduction of social capital into considerations would challenge aims such as mobility, excellence and lifelong learning:

- The initiative of European Research Area and its core message: *to overcome the traditional fragmentation and compartmentalisation of research efforts in EU through better coordination and cooperation* is based on conviction that research teams might be easily regrouped and mustered to perform whatever is the task of the day. Does experience always point this way? Was there anything wrong with innovativeness of fragmented ancient Greece and medieval Italy? What about overcoming the traditional fragmentation and compartmentalisation of research efforts in Silicon Valley? What about regional innovation systems? It is very important that people can meet and exchange ideas but it is decisive that these ideas must be formed first. This hatching of ideas demands a degree of seclusion and more intimate cooperation.[12]
- The idea of the European Network of Centres of Excellence emphasizes the common conviction that science and research should be excellent and the more so, the better. This is very similar to the erroneous notion that evolution produces and improves perfection. Excellence is an

[10] "Everything that can be invented has been invented." Charles H. Duell, Commissioner, U.S. Office of Patents, 1899, http://www.cs.virginia.edu/ robins/quotes.html

[11] "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." Albert Einstein (1879–1955), http://www.cs.virginia.edu/ robins/quotes.html

[12] R. Galar (1998), *Europe as a Continent of Regional Systems of Innovations Regarded from the Evolutionary Viewpoint*. W: A. Kukliński, K. Pawłowska (eds) Innowacja—Edukacja—Rozwój Regionalny, Nowy Sącz, 1998

emergent property of the process but can be harmful for the process itself. The strive for excessive excellence embodied in multilevel critical evaluations tends to hamper emergence of creative ideas. The well organized trial and error process are still at the base of significant innovations—as they say in Silicon Valley: *The successful people have a lot more failures than the failures do.*[13]

- The idea of lifelong education might be the best idea of our times, if taken as cultural proposition aimed at internal human development. Taken as a practical postulate of reprogramming people at will, as the need arises, is not very practical. First, people are biological beings and their learning abilities tend to diminish with age. Second, even if the human capital gets enriched, the social capital is lost when the person with new qualifications moves to another occupation. This might be of little consequence when repetitive work is involved, but it is all important when creative abilities are at stake.

Perfection over freedom

The philosophy of catching up with the US, expressed both by strategic goals of European S&T policy and the choice of its benchmarking indices, might be self-defeating. The goals and the way are clear for the followers only. The pioneers have to put their trail in unknown, they go as the terrain permits. What counts is their competence, persistence and adaptive abilities.

The word "adaptation" is never used in the Report. The word "adapt" occurs 16 times and only once refers to the adaptive research policy. It appears in the box concerning *Changes in basic research in large firms brought about by the new 'Industrial Ecology' approach* in the sentence stating that: *The strategy making process itself has had to adapt to new circumstances, introducing far greater speed and flexibility with a view to coping with radical compression of time-scales.* This might be a very promising opening, but the main thrust of European S&T policy goes the other way:

- European Research Area *has "the ambition of re-inventing the research landscape, in redefining the roles of each of the players and reconfiguring the process and policies that underpin the processes and politics that underpin the research effort in Europe"*. Is it not a bit risky to engage in tinkering with the base of European civilization without some lesser scale experiments and unifying theory of why should it work?
- The need is stressed for integration and co-ordination on all research levels, what is tantamount to the rejection of the evolutionary paradigm of development based on independent, parallel and largely random trials. In the US the best research is surprisingly little coordinated...
- One can negate the adaptive, evolutionary, largely random selection-modification mechanism and imagine that some extremely complex chain-link model is working that organizes *interactions and diffusions of knowledge flows (continuous interaction and feedback, linkages between upstream and downstream research, external feedback between science, technology and processes of development)*. It would be reasonable however to build an appropriate model first and to test it in the limited and controlled setting before some irreparable damage is done to our cultural environment.

The main competitive asset of Europe used to be freedom, not perfection. At present perfection receives more and more attention, while freedom is being pushed to the preserves of procedural democracy and unconventional lifestyles. The progressing degradation of the once

[13] *Knowledge Management in the Learning Society. Educations and Skills*, Centre for Educational Research and Innovation, OECD 2000.

paramount innovative prominence of Europe might be a direct consequence of this shift. Perfection is tempting as it allows to squeeze most from the existing opportunities. Freedom is necessary as to explore opportunities not yet identified, what is the essence of adaptation. It is needed to open the doors into the world of trial and error, spontaneity and soft selection, where subsequent waves of priorities and high-techs emerge rather than are decreed. The specific predicament of the present European might be that its S&T sector and economy are both: not free enough to compete with the US in opening new innovative horizons, and not perfect enough to compete with the East Asian cultures in exploitation of new technologies[14].

Organic vs. organizational

A strong performance in science and technology is not an end in itself, but rather represents an important and necessary precondition for generating improvements in economic growth and social welfare. This observation seems obvious, yet it should not imply that relationships are as simple as to justify the present policies. The confusion might follow from the choice of metaphors. Let us note that the precondition for efficient production of artifacts is capital, workforce, materials and technologies. To make things happen all these factors must be connected by appropriate procedures—well planed and well controlled. The precondition for organic growth is sun, water, fertilizers and seeds. It is neither possible nor necessary to program organic process, it is enough to create favorable conditions and seeds will take care about themselves. It is not even necessary to control these processes too extensively—digging out carrot everyday to inspect how it grows is not a good idea. It can be argued that development of innovations, except the trivial ones, in its most critical phase is of organic nature.

- Organizations tend to eliminate the unexpected and order innovations on the base of the estimated market demand or urgent needs. Yet, also today, the real bright innovative ideas are mostly conceived as results of happy circumstances[15]—serendipity being the key world. The anecdotic evidence of breakthrough innovations usually emphasize their chaotic input. The history of the planned breakthroughs, if written, would be mostly the history of failures.
- Organization culture demands that expected benefits of projects are assessed a priori, assuming that the most promising one is developed, while the others are aborted. It is not a good idea in case of innovative projects. It is practically impossible to grasp the potential of the freshly born idea[16] (except of evident pathologies). The system of preemptive assessments acts as a filter which passes only the more obvious i.e. more trivial projects. It would be interesting to make a backward test of present S&T policies and to find which of the great inventions, innovations and subsequent high-techs would have emerged, if their realization was dependent on the modern grant systems utilizing the best competence of the period.[17]
- Organizations try hard to implement uniform standards and procedures that would streamline the development of innovative ideas into marketable products. People are rearing their

[14] A. Kukliński, in: Kukliński A., Skuza B. (eds): Europe in the perspective of global change, Polish Association for the Club of Rome, Rewasz, Warszawa 2003

[15] The recent survey suggests that the worst "idea factors" for innovating are trend following and mental inventions, which produced 3 times more failures than successes. The clear winner was "taking advantage of random events" (), which generated 13 times more successes than failures. The Economist, *Expect the unexpected*, Sep. 6–17, 2003

[16] The famous Faraday adage: when asked about relevance of his investigation into the nature of electricity, Faraday have said: *what use is a newborn baby?* Another version: Mr Faraday replied that he did not know, but he was sure governments would one day tax it.

[17] "We don't like their sound, and guitar music is on the way out." Decca Recording Co. rejecting the Beatles, 1962, http://www.cs.virginia.edu/ robins/quotes.html

(brain)children individually, trying to improve abilities and compensate disadvantages. The parental, distributed system is never perfect, but, due to its diversity, it is a self-learning and adaptive which allows for diffusion of good practices and correction of errors. When an uniform systems goes wrong, it might go wholly wrong and provide no feedback on what should be done to correct the situation.

Corruptible indices

Indicators are paramount to inform policy makers whether they are on track and to what extent they are (not). This seems a rational assertion but the vision of the competent order it creates might be misleading. There are data concerning measurable financial, material and human inputs and there are data reporting the measurable outputs: publications, patents, etc. Yet there is no verified model connecting these inputs and outputs and, more important still, there is no proven model that would connect the measurable outputs with effects that really matter, i.e. innovative outputs with capacity to improve economy. Therefore being on track does not necessarily mean that the right things are done. *For policy makers and indeed for most citizens it is the bottom line; they are not interested in the generation and diffusion of knowledge per se, but rather its impact on the economy and society*.

The logic behind the choice of European S&T indices is quite simple:

- As far as inputs are concerned, there is a determination to mimic the chosen aspects of innovation systems that fare better than the European system (e.g. the relative business financing inputs in US).
- What concerns outputs, the idea is to exploit past correlations between form and content as casual links (eg: profitable innovations were patented, so more patenting should mean more profitable innovations).

It has to be applauded that the Report is often critical with regard to the effects of simplistic policies, intending, for example, to increase the numbers of publications and patents:

- *It is one thing to publish one or two additional publications per year. However, the demand for constant increases is likely to become counterproductive in terms of quality of the research and of the publications.*
- *Since 1980 patenting by US public universities dramatically—with some unintended results: their quality measured by scientific citations in the patents has decreased. Second, the increase of university patents might have an impact on the decreasing publication numbers.*

  It should be added that also new pathological kinds of patents emerged, the ones that not so much document the achievements made as impede the of research in some promising domains.

These observations fit to the more general pattern emerging with attempts to manage the essentially cultural activities by tying incentives with objective indices of performance. What really matters in such activities is practically immeasurable. These are the intrinsic values, such as depth of thought, quality of education, innovative potential, good governance, etc. In effect only appearances, i.e. formal aspects, might be indexed. Initially such attempts work as intended; i.e. everything goes as usual, only better. Latter on the scheme backfires, as the new feedbacks modify all activities, in order to maximize the indexed outputs at the expense of everything else, also ethical standards. Even if indices are perfectly chosen at first, they soon become corrupt—people are too intelligent to be manipulated that simply. This is why social capital is indispensable. Objective estimates become possible only after generation or two.

The Report presents the idea of benchmarking of R&D policies of member states e.g. through innovation scoreboards. It would be useful to extend this proposition to benchmark explicitly the effects of effects of the EU S&T policies.

The chaotic component of adaptations

There exist two huge, elaborate and well defined systems: research system and economy. The Report confirm the general impression that the problem is in interface between them, which is elusive and not responding to the control inputs as expected. It was commonly assumed that this interface should efficiently convert scientific results into marketable products. It does not work and it is not quite evident why. *Despite the wealth of academic work focusing on technology transfers from research organizations or universities to the incumbent industry little is known about creating new ventures as a way of commercializing research and technology.* Two relatively short chapters of the Report are very illuminating in this respect.

DOSSIER II on Research Based Spin-offs as a Vehicle to Commercialise Technology starts with opinion that: *The creation of spin-offs in Europe has long been a marginal phenomenon emerging despite the indifference or active opposition of European Universities.* This is *followed* by few definitions, a diagram segregating spin-offs into four categories (high/low degree of technological/commercial uncertainty), three block diagrams visualizing concept of spin-off (funnel, financing, nurturing in 3 phases called invention, transition and innovation). There are some phenomenological observations and absolutely no data. The Dossiers concludes rightly that: *an effective policy will have to bring very different networks into contact with each other: the network of government officials* (...) *to the one of the financial investors* (...). *One problem is that both networks seldom overlap, they do not know each other. The network of university professors and researchers has to be related to the network of the business managers. Again, both are complementary, but seldom overlap. Finally, the different networks grouping the financial resources has to be brought into contact with the network knowledge resources. There are only a few examples in the world where this mixture of networks is accomplished of which Silicon Valley is probably the most well-known.* The spontaneity of Silicon Valley culture is not mentioned.

DOSSIER VI on Science and Technology Linkage approaches the problem of science-technology interaction analyzing references to scientific publications in the "prior art" description of a patented invention. The presented data support opinion that *S&T interaction seems to be far more reciprocal than the linear model suggests. In this light, citations in patents tend to indicate the degree of closeness between S&T rather than a direct and causal scientific contribution to technological development.* This seems rather obvious to the believers in knowledge management[18]. Yet, even them might find information that the average number of citations to scientific articles in European and US patents (all countries and technology fields) has grown recently to about one and half. The same seems true about the practical absence of references to mathematics in the high-tech patents.

Yet, it is in the domain of mathematical models were the explanation of the European Paradox should be sought for. The essence of innovation is creativity and the essence of creativity is in finding of new, better kinds of solutions. This might be represented as transitions toward not yet explored adaptive equilibria (paradigm shifts). These transition are stepwise, but they can not be executed as series of improvement, because they have a nature of saddle crossings. In saddle crossing it is necessary to go down from the top (representing the present paradigm) before going

[18] *Knowledge Management in the Learning Society. Educations and Skills*, op.cit.

up toward the next top. (It is also necessary to find the direction!) There is a growing evidence (chaos theory, complexity theory, evolutionary algorithms) that to perform such transitions systems must be chaotic enough. This puts limits on expectations that it is possible to organize procedural systems able to produce innovations (unless this system is greatly imperfect). This explains why social capital, which is based on a degree of mutual tolerance, which produces the background of diversity, is indispensable.

Even if *comparable data and indicators as a basis for an evaluation of a number of concrete measures that might be contemplated* could be provided, a caution should be advised. Such policy could be momentarily efficient, but it would destroy diversity, which is the precondition of the innovative culture.

As far as innovative development is concerned, important thing happens in the largely chaotic margins of education, science and research systems. These margins are sometimes called the cutting edges. Policies aimed at the increase of average levels (e.g. more publications, patents) are dysfunctional in a sense that in effort to promote the best practices they tend to "suck" the margins in. This also stops further development of the best practices.

Policies aimed at the concentration of efforts on the cutting edges (eg. setting priorities) are dysfunctional because of time factor. The time windows in which high-techs provide economical advantages tend to be short. Latecomers should not expect more than average returns from investment; less, if there was an overinvestment (production of processors). Worse still, they suck resources from other margins, decreasing chances that some new "cutting edge" will emerge.

Some meaningful questions

S&T policy would be easy, if future developments could be divined. Unfortunately this is rarely the case. As the second best option, S&T policy tends to bet on extrapolating of recognized successes, sending support their way. This seems unnecessary, as recognized successes can get all the support they need from the market. This is also unreasonable, as experience shows that future almost always belonged to the not yet existing. Yet, it is an old and persistent human error to assume that past experiences are meaningless as "our" situation is completely new...

What if research and innovation policy can not be treated as any other policy? What if innovating is a trial and error learning process, and innovations must be breed rather than produced? What if elusive social capital plays the decisive role? Then indicators used by S&T policy should become more sophisticated. It will be necessary to face problems of defining and measuring, among others:

- indispensable level of trust,
- appropriate structure and density of team interactions,
- necessary degree of impulsiveness
- proper deliberation-communication ratio,
- optimal failure tolerance index,
- suitable tuning of selective pressures,
- proper extent of research parallelization,
- correct compartmentalization of research,
- early symptoms of innovative sprouts,
- minimal levels of risk expected from research projects,
- abilities of education to form social capital,
- allowable procedural workload of researchers,
- prohibitive thresholds of procedural expenses,

Naturally, an adequate systematization of innovative efforts will be necessary to define the proper indexing and the right S&T policy for each class. If this will turn to be impossibly difficult, the attention should turn toward recreating appropriate cultural conditions for more spontaneous development of innovations. This might be also extremely difficult, but is there any other choice? Was it not recognized in economy that, with all the necessary regulatory framework, the free market interplay of demand and supply is the best engine of growth?

JORMA ROUTTI

RESEARCH AND INNOVATION IN FINLAND—TRANSFORMATION INTO A KNOWLEDGE ECONOMY

1. Finland—an Advanced Northern European Country

1.1. From domestic player to top-ranked international competitor

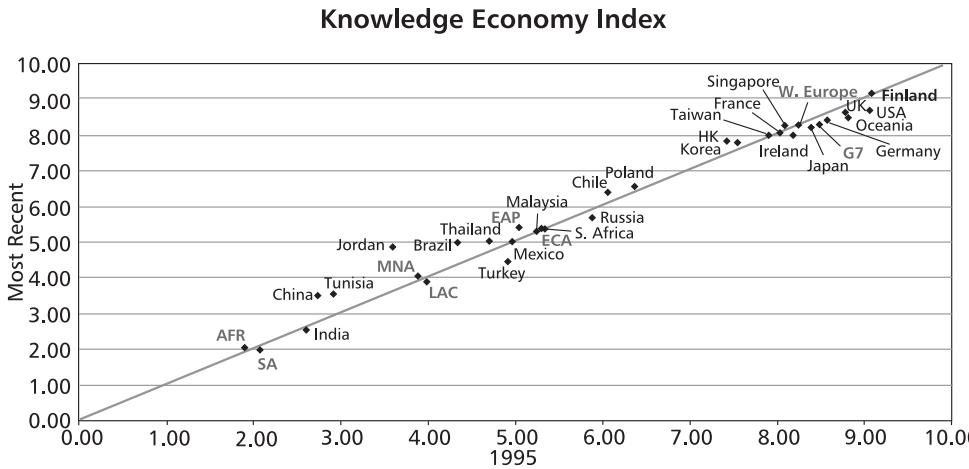
Finland is an advanced Northern European Country that has successfully transformed its economy from a structure dominated by domestic industries and service sectors and forest industry based exports towards much more open and competitive international structures with significant contributions by high technology and knowledge industries.

Finland is a relatively large country by size, about the area of United Kingdom or Italy, extending between latitudes 60's and 70's North extending beyond the Arctic Circle. Finland is a small country by population of five million people and the Finnish language spoken only by Finns is an asset for a strong national culture but provides no automatic access to international communications.

Finland is a European country with cultural and political links to Western Europe. For centuries it was part of greater Sweden, then for more than hundred years associated as an autonomous grand duchy with the tsarist Russia. It gained its independence in 1917 and became a constitutional democracy with a Parliament of 200 members elected every four years and the President of the Republic elected every six years. The government is typically a coalition of several parties with quite stable structures in recent years. Since 1995 Finland has been a member of the European Union.

Finland has enjoyed long periods of sustained economic growth after the Second World War and has reached a position amongst the most prosperous nations in the world. This success is closely linked to the developments of technology, research and development and functioning of the whole innovation system including education and financing sectors. Finland has greatly improved its standing and has been ranked amongst the world's most competitive economies in the latest reviews by the World Economic Forum and the International Institute of Management Development. In particular, in the areas related to development of knowledge economies Finland has been very highly ranked.

Finland has always had a competitive spirit. Great achievements in the Olympic long distance running and field and track events characterized this spirit for many decades. Today the best performing sportsmen are often formula one and rally car drivers or ski jumpers, maybe also

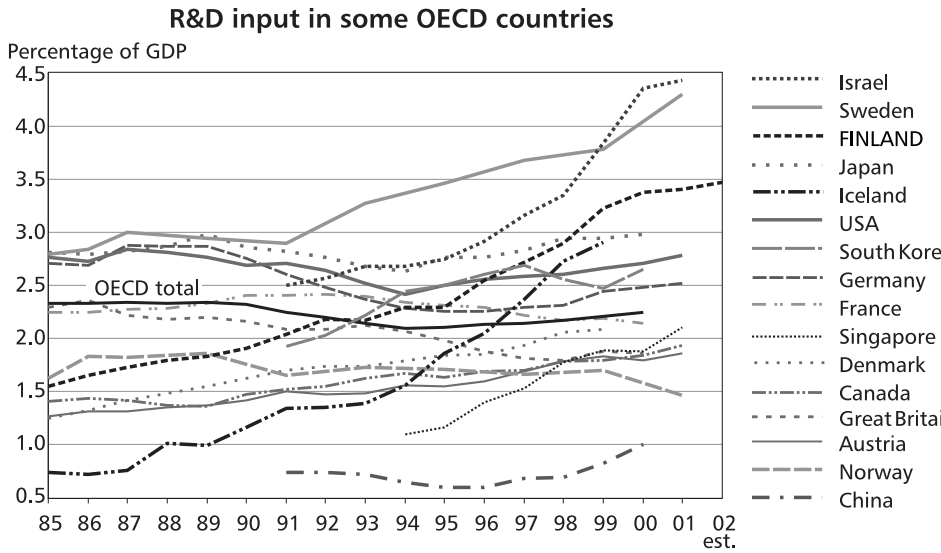


characterizing the willingness and ability for controlled risk taking, that is also necessary in the global economic competition, especially in the new knowledge industries.

1.2. Finnish innovation policies

The Finnish innovation system attracts today a lot of international interest since it is widely considered as one of the most successful anywhere. The commitments towards the knowledge economy are vividly illustrated by the rapidly increased R&D investments.

The R&D investments have risen at a record rate from 1.5% level of gross domestic product (GDP) in 1985, and from less than 1% level earlier, to the current investments amounting to 3.6% of the GDP. In comparison, the OECD average is slightly over 2% and the EU average below 2% while Eastern European countries invest between 0.5 and 1.5% and the developing countries even less.



Sources: OECD, Main Science and Technology Indicators database,
Statistics Finland (Finland 2002) and Statistiska centralbyrån (Sweden 2001, estimate).

What is the impact of such R&D investments and how to measure them? Classical methods include publication and citation records, advanced degrees and international rewards, patenting activities and creation of new industries. But one would like to see the impact on the national level measured in terms indicating the structural change of the whole economy.

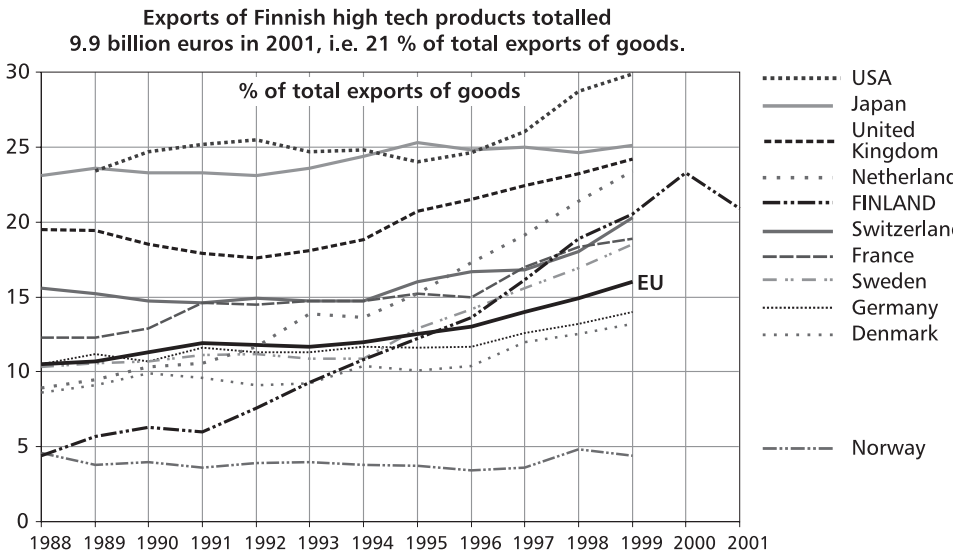
Such a change is clearly illustrated by the rapidly increasing share of high technology part of the exports. The share expressed on percentage scale up to 30% would typically be larger for a large country when comparing countries of similar technological developments. For instance the United States has a more closed economy where foreign trade represents a smaller share than in a small country that needs to trade also basic materials, such as food, textiles and construction materials. The US exports are to a larger extent high technology products, such as computers and software, pharmaceuticals and aircraft leading to a high percentage.

The high technology exports accounted for about 5% in Finland fifteen years ago. The exports were largely dominated by forest industries, which still play a major role in the economy, and today at the global level. However, dependence on the cyclical forest industry was vulnerable and required frequent devaluations of the currency. Today this is not possible due to common Euro currency regime, nor desirable because of foreign debt accumulated.

The increase of high technology share of exports to the levels of over 20% has diversified the exports as a whole and reduced the dependence on a single industrial sector. It has also brought a significant positive balance to the high technology trade where exports are about double compared to imports. This achievement of major structural change is of world record magnitude, largely based on telecommunications industries, new high tech companies and knowledge industries, and has been very beneficial to Finland.

How has such a growth been achieved and maintained when at the same time many older industrialized countries have decreased their R&D investments? How to convince policy makers of such investments that typically bring fruit at a much later time, if even then? And how to measure the results and effectiveness of such investments to guide them in the optimal direction? These are questions closely related to the development of knowledge economies.

The share of high tech exports in some OECD countries 1988–2001



Source: Statistics Finland, according to the OECD product catalogue defined in 1995

The economic and social development in the world today are driven increasingly by globalization, digital revolution, innovation systems and knowledge based economies. Economic policy needs a vision and a strategy for future and a sufficient degree of political consensus for its implementation. In Finland careful planning, necessity of action, and some degree of good luck have reached them.

Necessity of action relates to the economic difficulties of the early 1990's. As a results of an overheated economy, further fueled by deregulated financial market, going into a recession, collapse of about 15% of trade with the rumbling Soviet Union, unemployment levels exceeding 15%, significant foreign borrowing and accumulating public debt rising in a few years to 60% level of GNP, the corrective actions were mandatory. A courageous decision was made both by public and private sectors to invest more into research and technological development and introduce tax laws and other incentives to encourage both domestic and international investments in new industrial sectors.

An important consensus instruments enhancing the political commitments has been also a series of economic policy and national strategy programs organized by Sitra, the Finnish National Fund for R&D. The participants have included most new members of the Parliament and hence also ministers and political leaders, industrial, labor market, university and media leaders having an active role in the economic policy formulation. The programs have covered fiscal policy related to budget planning and monetary policy, and structural topics related to globalization and integration, industrial sectors and agriculture, education and research policies, energy and environmental topics, etc. However, the most important part has been an exercise taking form of economic policy formulation at the national level. This illustrates the conflicting goals of economic growth and employment on one hand and the balance and low inflation targets on the other hand and the use and impact of different economic policy instruments. These courses have also supported effective innovation policies and increasing R&D investments for improved competitiveness and new knowledge industries.

It is also important that the innovation policy questions are placed high enough in the agenda of public and corporate decisions. In Finland the highest policy organization is the Science and Technology Council chaired by the Prime Minister and including Ministers of Education and Trade and Industries, and also the Minister of Finance. Research funding agencies the Academy of Finland and Tekes, the National Technology Agency are independent of ministries and the Sitra Foundation responsible directly to the Parliament.

2. Knowledge Economy

2.1. Economic theories

The world economy is going through a fundamental change driven by globalization, deregulated capital markets, technological development and the digital revolution. These developments, combined with digitalization, Internet and mobility affect all sectors of the society and speed up transformation towards knowledge economies. New and efficient methods of work, production and marketing displace large numbers of workers in traditional industries, that are going through consolidation resulting in increased productivity and better profitability, but almost always in reduced employment. The medium and high technology industrial sectors have shown employment growth, which is of great economic and political importance.

Economic theories of knowledge industries are not well understood. They are characterized great volatilities, the difficulty of accounting for intangible assets, and by nonlinear and turbulent phenomena and hence difficult predictability. This provides opportunities for rapid growth but also risks of sudden losses, as has been seen in the evolution of knowledge industries.

Traditional industries are often modeled by equilibrium theories dating back to the axiom of diminishing returns by David Ricardo in the early 1800's. The learning curves of typical

manufacturing industries quickly level off and costs of products are dictated by raw materials, energy, labor and capital costs.

Knowledge industries are very different. Often the manufacturing costs are next to nothing, like in software and some biotechnology areas. On the other hand there are very significant development and marketing efforts needed. Successful products can have growing rather diminishing returns, or even profit avalanches, and companies can grow into world dominance in a number of years rather than in decades.

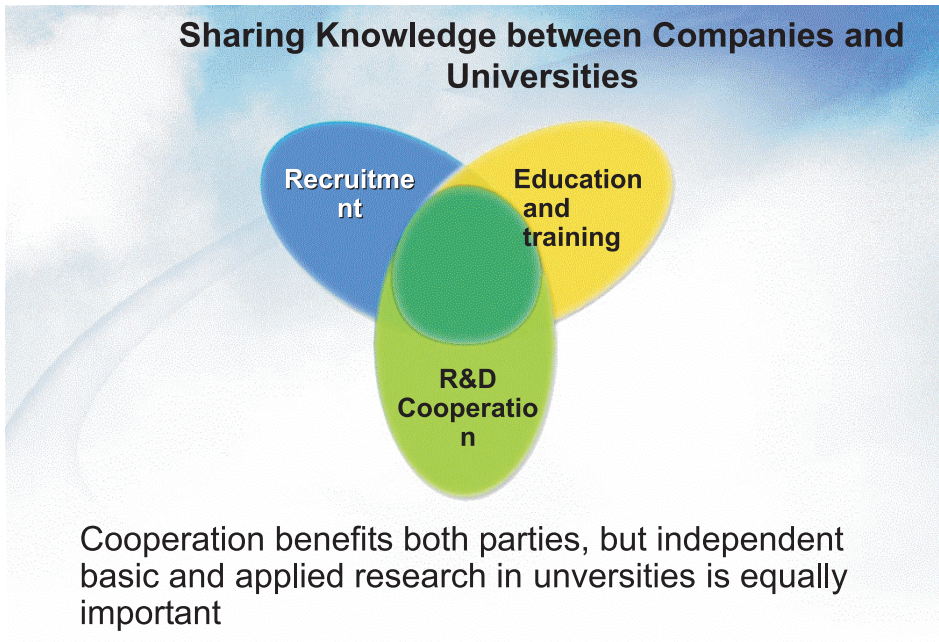
Knowledge industries are also quite volatile. Quick gains can be quickly lost, and the predictability is limited. The developments have positive feedbacks and nonlinear and stochastic features. On the other hand, these very turbulent characteristics offer good possibilities for new players, much more so than in traditional and capital-intensive areas, where market penetration is more difficult.

It is also typical that high tech industries have narrow time windows and immediately international or global markets emphasizing rapid development and large capital investments.

2.2. Technology transfer

Knowledge industries require access to the sources of knowledge, in particular to universities and research institutes. Earlier it was often thought that economic interests contaminate pure science and that capitalization of publicly funded research is unfair. Today everybody understands that the creation and growth of new knowledge industries requires access to knowledge and is in the best interest of the whole society.

Technology transfer takes in practice many forms Graduates moving from universities to companies bring new knowledge, university-company collaborations have grown to the record levels, publishing and patenting are important while sometimes conflicting, and new start up companies are launched with venture capital.



It can be estimated that on an average every million Euros invested in public research produces one idea worth evaluating to the level of business plan. In Finland some two billion Euros invested in research generate some 2000 such ideas. On the European level the some 100 billion Euros invested in public research generate about 100 000 ideas worth looking at.

Such quantities cannot be handled at the European level in Brussels or at the national level in the capitals. Rather, this has to be done close to the source of knowledge at the universities and research establishments. This is also necessary to secure the patent rights that can be lost in Europe by publishing the results before filing patents.

Finland has about twenty universities, a rather large number for the small population but also a powerful instrument for regional development. Specialized technology transfer companies have been established within universities. These companies typically have a few million Euros as working capital, which is enough to do the screening of potential ideas, patenting their principal results, but not enough for making full-fledged investments.

At universities the intellectual property rights (IPR) still typically belong to the individual researchers, while research institutes own the IPR. The trend is now to redefine the IPR ownership, which especially with rapidly grown research investments needs to have most efficient and fair means for the commercialization of the results.

2.3. Publishing and patenting

The classical indexes of science policy relate to the output measured in publications, citations, higher degrees and impact and weighting factors. When measured with these indexes the European research is at par with the United States and exceeds the results of the Japanese scientific output.

The links between scientific and technological research to the industrial competitiveness can be measured with patent indexes. Here the European performance lags behind the US and Japanese results. Hence the European ability to convert knowledge into industrial competitiveness and to knowledge based industries lags behind the US performance. This is often called the European paradox.

Knowledge and importance of patent systems are important not only to industrial researchers but also to academic people. Good results have been obtained in Finland in patenting activities to secure rights for commercialization and negotiations with new partners.

2.4. Venture Capital

Venture capital plays an important role in launching new knowledge-based companies. In Finland this industry was established in mid 1980's first with a strong support and investments by the public sector, primarily Sitra. Thus an early start was obtained, maybe 5–10 earlier than the commercial interests were strong enough. The basic idea of Sitra was capitalization of publicly funded research, which has resulted in very good economic and structural developments.

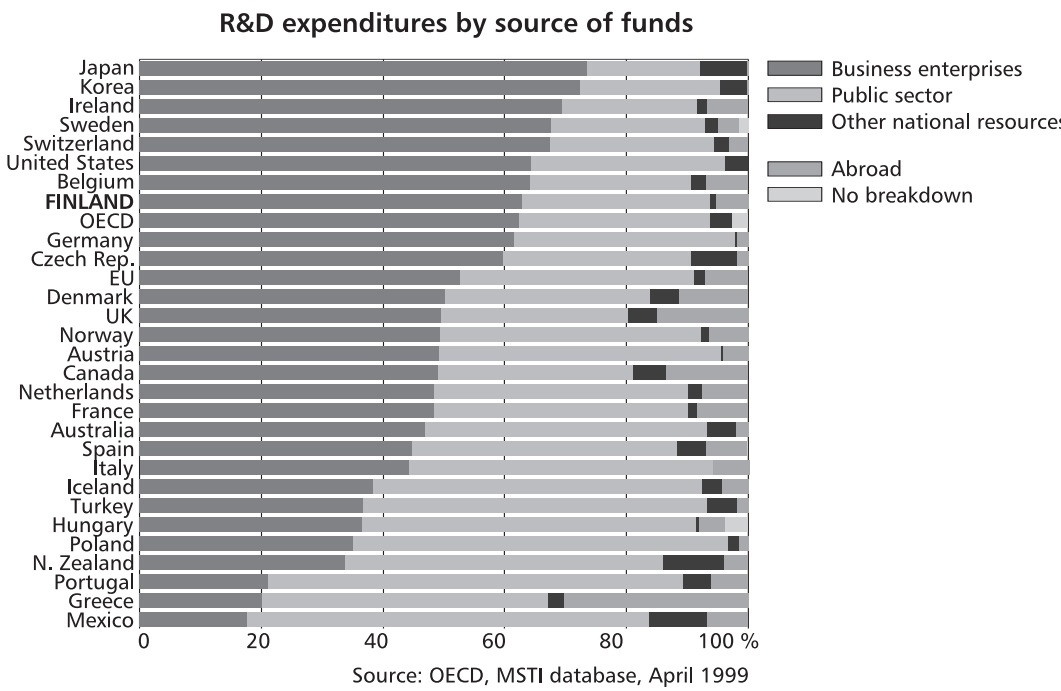
Today the venture capital industry is quite significant. Total funds under management amount to over billion Euro. Private capital makes up 90% of investments and the government related sectors about 10%. More than 400 investments and 200 exits were done in 2003 with an average amount of about one million Euro.

3. Observations and Lessons Learned

3.1. Role of private and public sectors

The role of the public sector is traditionally to fund the generation of new knowledge by basic research. It would then be up to the private sector to pick up the results and turn them into economic activity. Today this linear model does not function well especially in knowledge industries. The line between the academic and commercial research is often a line drawn on water and one needs overlapping funding systems to secure good results.

In technologically successful countries typically 60% of R&D investments come from private sources and the rest from government. Large variations still occur between different countries in terms of funding source and the execution of research activities.

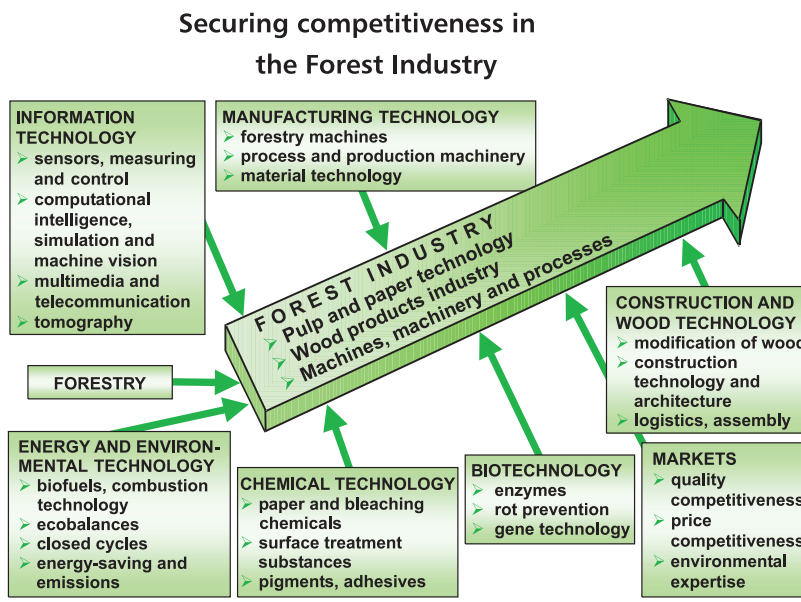


Indirect measures of research support have also been employed. Tax benefits or investment incentives can play an important role to define macroeconomic conditions favorable to creation and growth of new knowledge industries.

3.2. Traditional versus high tech industries

The division of industries in low and high technology categories can be very misleading. Today all industries need to employ high technology contributions to maintain their competitiveness.

For instance pulp and paper industries are today very high tech industries. The paper machines run at speeds of 120 km/h in manufacturing multicoated papers, sometimes with electronic components imbedded. However, they are not characterized as high tech industries, since they do not invest more than 4% in R&D. This they could not invest because the margins are often smaller than that. Much of the development work for forest industries have been done



in other industrial sectors and the results have then been injected into the forest industry sector. Thus the forest industries have maintained their competitiveness and profitability, and have grown into the world dominance.

Situation is very similar in other traditional industries and also in agriculture. The erosion of employment cannot be compensated by creation of new industries if the traditional sectors are left in decline.

It is also very important to secure the competitiveness of small and medium size companies. More and more they also need to have export capabilities and face global competition. They need to have access to the best technology but typically can not afford to have there own research personnel and facilities. Hence they need access and collaboration with research capacities of universities and research centers. Such links are particularly strong for small and medium size companies in Finland.

3.3. National and international approach

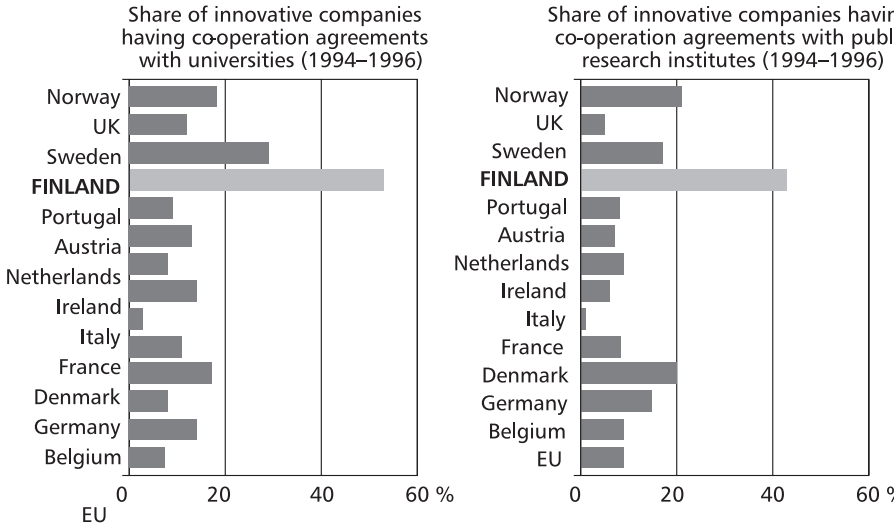
International collaboration plays an ever more important role in research and knowledge industries. Especially for high tech companies in small countries the markets are immediately international.

At the European level the share of European collaborative research is about 15% of the total. Much of this is invested in large facilities, such as accelerators for particle physics, astronomy and space studies, whose costs exceed the capabilities of even larger countries. Many such activities today require into global collaborations.

The benefits of international collaboration are many. Often the links created outlive the research phase and form permanent networks. The leverage of collaboration is large, for instance Finland pays about 1.5% of the EU research programs but is part of about 10% of research projects. Thus some six times more knowledge is obtained than by working alone.

Very important benefit is the strategic advantage. Many questions today, such as climatic change, mapping human genomes, control and cure of viral diseases, and telecommunication standards cannot be addresses alone but require wide international collaboration. The very

Co-operation between companies and universities and research institutes



Source: Eurostat, Enterprise DG, 2nd Community Innovation Survey

success of the European and especially Finnish telecommunication industry is based on wide-open standards, where even competitors get together to define the best alternatives.

3.4. Telecommunication and network economies

In the future we will see the convergence of different platforms and channels into wideband systems. Telecommunication has the potential of eliminating the disadvantages of peripheral locations and becoming a great equalizer of opportunities.

Access through Internet and mobile communications helps to establish presence and collaborations on the global scale. In Finland this has been complemented by a free access to most powerful computers by the university sector. This has accelerated the adoption of new design and operational tools for all industries as well for service sectors, including banking and financial services.

Knowledge economies are evolving towards network systems where small research studios can be in collaboration with or serve as embryos for large international corporations. They resemble biological systems with multiple interactions and specialized tasks for different subsystems. The evolution towards network economies is accelerated by modern telecommunications linking scientists, industrialists and policy makers all around the world.

3.5. Content industries

The explosion of the number of new communication channels has created a great demand for new content, for instance in the mobile information society. Creative content industries represent the next wave of evolution after technologies. The very paradigm of value chains is changing rapidly. The monopoly of distribution companies is disappearing and the focus of investments is changing from distribution to content production. Entrepreneurial companies seeking channel-independent distribution will do increasingly content production.

cim Creative Industries Management Ltd

FOCUS IN THE VALUE CHAIN

CONTENT CREATORS	CONTENT PRODUCERS	CONTENT DISTRIBUTORS	CONSUMER
CREATES IDEA HOLDS IPRs	DEVELOPS COPYRIGHTS PACKAGES IPRs	DISTRIBUTES COPYRIGHTS MARKETS / BRANDS IPRs	TICKETS MAGAZINES BOOKS, CD, VIDEO, DVD, RADIO, TV
TECHNOLOGY DRIVEN IDEAS	PROGRAMMING CONTENT	DISTRIBUTION PLATFORMS	NET, WAP/3G

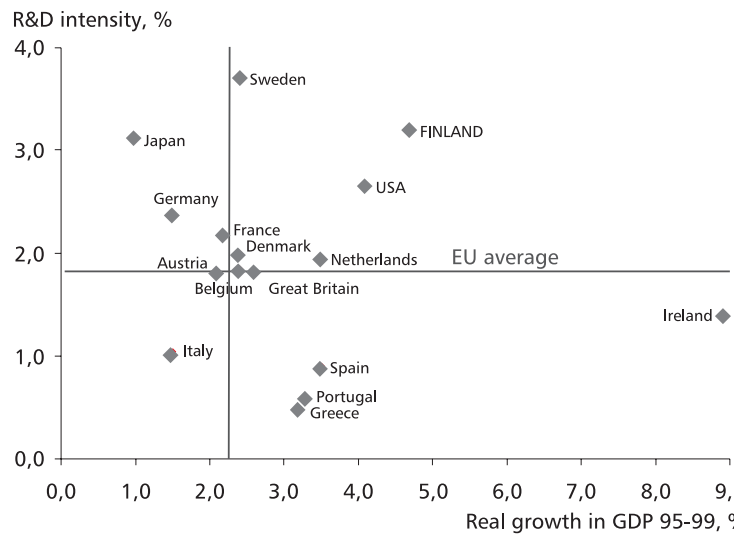
In the new technology driven part of the value chain huge investments of more than 100 billion Euros have been made in Europe in the license fees of the third generation of mobile phones. Another 100 billion Euros will be needed for the wideband networks before the services can begin. In comparison the investments in content production have been quite small.

The content industries require local presence and global access. Not every country can have global information and communication giants, but they all need to be active in content creation based on local needs, languages and cultures.

3.6. Success Factors

The performance and the efficiency of the innovation systems remain difficult to measure. Comparison of investments and results can provide guidance to best practices. Such studies have been conducted to measure R&D intensity and GDP growth. The results show clear correlations but also indicate complex relationships between the variables.

R&D intensity and GDP growth in some countries



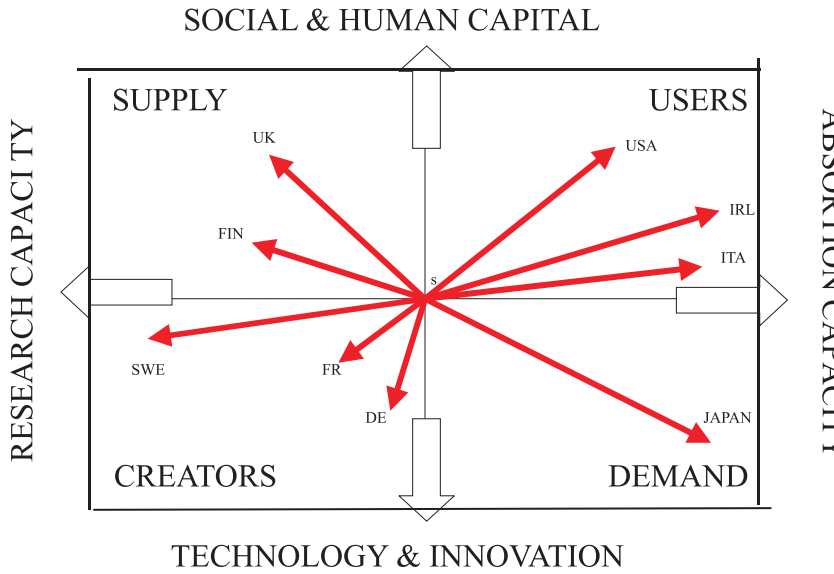
Source: Statistics Finland

The success of creating new knowledge and converting it into economic and social benefit depends on several factors. These factors are rather similar to those used when evaluating the competitiveness of different countries or economic areas or when assessing the transition towards knowledge economies.

Studies conducted at Merit Institute group these factors in four major areas including research capacity, social and human capital, absorption capacity and technology and innovation. Good overall success would be assured by strengths in all these areas. However, success can be obtained, at least temporarily by different bias of the elements. Combination of two of these four major elements could be characterized by supply, users, demand and creators.

Different countries depend on different combination of these elements. Finland belongs to the group of technology suppliers, while Sweden in more in the knowledge creator group. Japan is biased towards demand while Ireland high strong human capital and absorption capacity is a successful technology user, as also illustrated by their economic growth despite of relatively modest R&D investments.

During their economic development countries can and often need to develop new strengths change their bias in response to changing global competition and domestic situation. Finland for instance has managed to transform its earlier raw-material based economy towards more diversified knowledge economy.



3.7. Competitive Clusters

The chance of individual companies succeeding alone in the rapidly globalizing world is quickly disappearing. Even largest companies today for alliances and networks all over the world, often also with their competitors. We have seen this in the battle of telecom and software standards. Competitive clusters are emerging as a model for success. They can be located in the common areas like many high technology clusters in the world, but they can be also be localized in different regions.

In the European Union for instance aircraft manufacturing has been completely restructured around multinational Airbus Industries. Because of the huge development costs smaller companies or small countries would have no role to play in the still rapidly growing industry. In Finland we can no more build even small airplanes but we can build advanced components for large aircraft.

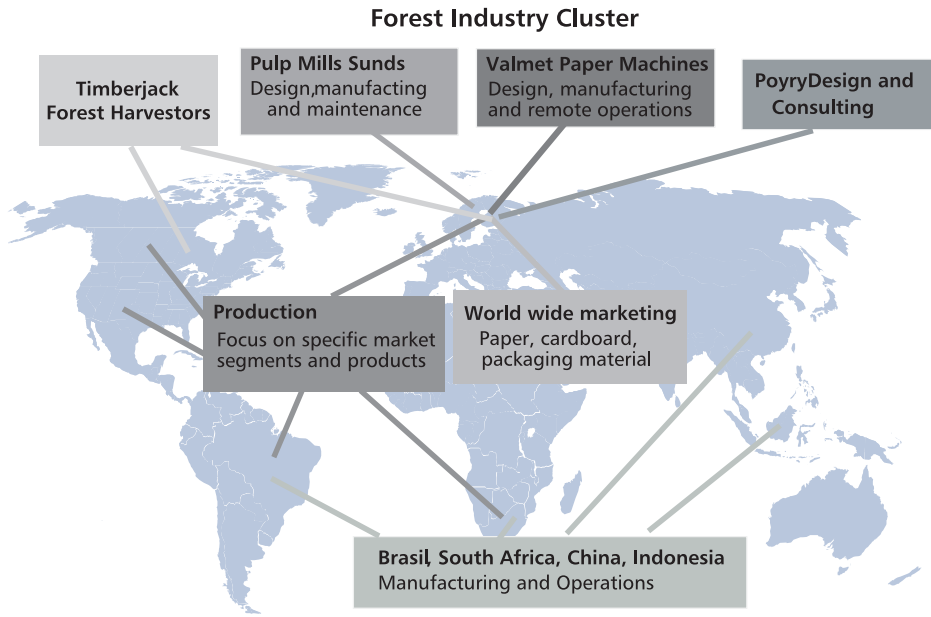
The cluster dynamics also applies to more traditional industries combining the strengths of different players. Clusters are emerging also as a results of externalizing many activities when aiming at better efficiencies and more flexibility.

The forest industry cluster in Finland but extending to many other countries is a good example of competitive clusters in traditional industries. The partners benefit from the knowledge base of the others and have gained dominant market share in the world in their respective areas.

Studies by Michael Porter and his associates indicated the importance of competitive clusters also to their region. Studies of the United States divided into several hundred smaller economic areas makes it feasible to draw conclusions also for smaller countries.

Clusters can be divided in local clusters operating in areas such as education, health care, construction, and on the other hand to trading clusters with links and exports outside their own areas. The trading clusters typically have higher productivity, much larger patent portfolios and capacity to pay higher wages.

Trading clusters are also economic locomotives for their regions. In areas where their share is high compared to the average the overall economic performance as indicated for instance by the wage levels is much improved. For smaller countries this means that you must have strong



Composition of Regional Economies
United States, 2001

	Traded Clusters	Local Clusters	Natural Resource-Driven Industries
Share of Employment	31.6%	67.6%	0.8%
Employment Growth, 1990 to 2001	1.7%	2.8%	-1.0%
Average Wage	$44,956	$28,288	$33,245
Relative Wage	133.8	84.2	99.0
Wage Growth	4.5%	3.7%	2.0%
Relative Productivity	144.1	79.3	140.1
Patents per 10,000 Employees	21.7	1.3	7.2
Number of SIC Industries	590	241	48

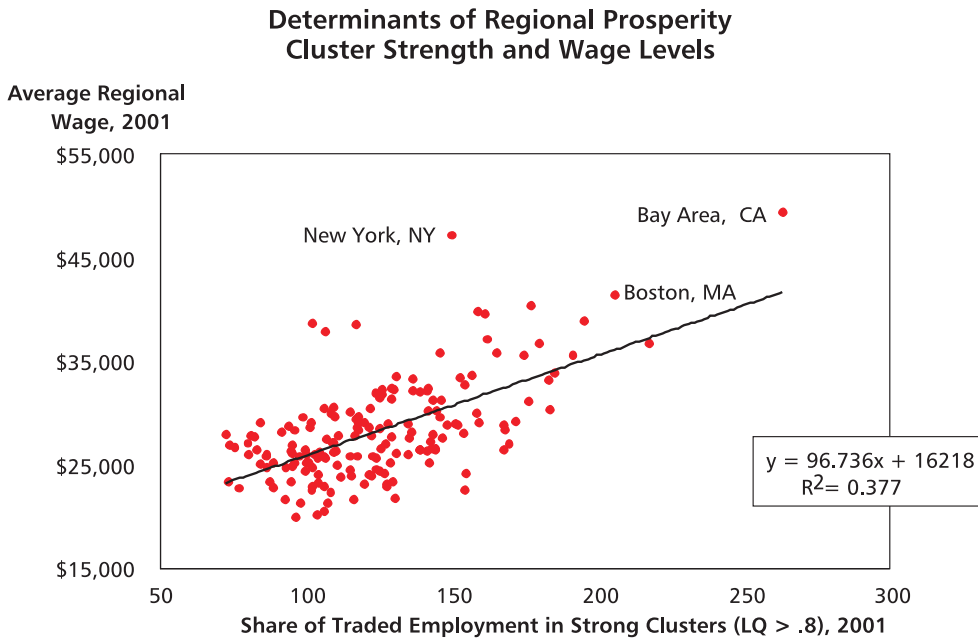
Note: 2001 data, except relative productivity which is 1997 data.

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

export industries and external balance or surplus to be able to get all the tools needed for higher productivity also in the local clusters.

3.8. Innovation systems

Good functioning of innovation systems requires a good integration and interaction of its subsystems. Basic research at the universities needs to be coupled by technology transfer to industrial companies and to the finance world for creation of new knowledge companies. Most suitable partners are no more found in local towns but often have to be searched all around



Source: County Business Patterns; Michael E. Porter, The Economic Performance of Regions", *Regional Studies*, Vol. 37, 2003

the world. Especially in the small countries, like Finland, the smooth co-operation between different partners and stakeholders needs to be well established. Basic science discoveries need to be protected and industry brought in early enough in the projects. For new knowledge based companies the interaction between research and financial world is as important as that with industries in traditional sectors.

It remains very much the function of national innovation policies to define the national goals and the best strategies, maintaining and improving the competitiveness of traditional industries and creation of new knowledge economies. Integrated innovations systems assuring generation of new knowledge through research and development and ability to convert these results to economic and social benefits are amongst the best methods available. Linking the economic and social goals of the country to the new opportunities of knowledge economies and international collaboration helps to catch and ride the knowledge wave.

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http://www.merit.unimaas.nl

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Tekes, National Technology Agency of Finland
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http://www.worldbank.org

World Economic Forum
http://www.weforum.org

JAN G. LAMBOOY

THE FUTURE OF AN INNOVATIVE EUROPE: THE CASE OF THE NETHERLANDS

1. Introduction

One of the principal attributes of Europe has been and still is the heterogeneity of its populations, resources and cultures. Europe has long attempted to tackle this diversity through war and peace, through competition and cooperation, as well as through political, military, cultural and economic strategies.

Europe is now entering a new phase in its development—one based on 'cooperative competition' among countries and regions, for which it must accept the heterogeneity, cooperation and economic competition between the various parts of this 'new continent'. Europe is also confronted with new and old challenges, such as the competition from East-Asia (based on the low costs of labour for mass-production), the 'Americanisation of the mass-media', the communication revolution with ICT as a venue for world-wide networks, the processes of individualisation and ad-hoc networks, and the world-wide transport connections for mass-tourism and container transport. In the future, the low birth-rates and the increasingly aging populations of most western countries and Japan can give rise to tensions, because of the affordability issues involved in the growing needs for health care, social security, and old-age pensions. In addition, the demographic structure of Europe is changing by immigration from Asia and Africa. Immigration is measurable not only in the demographical structure but also in the religious composition.

The future of Europe can be approached from various perspectives: economic, sociological, demographic, political and institutional (including cultural and ethical issues). This chapter discusses the possibility to develop knowledge as an important 'driver' for the solution of problems and as an integrative force for the heterogeneity of perspectives. This statement rests on two assumptions. The first one is that the development of knowledge helps us find new ways to realise '*cooperative competition*'. The second assumption is that innovation is more than just the introduction of new technologies, products and processes. It is not only '*creative destruction*' (as Schumpeter called the impact of innovation on markets and incumbent businesses) of an economic nature, but it is also '*creative construction*' in the institutional sense. If institutions are modernised to fit present-day society, they can have a positive impact on social and economic potentials. Innovation can be connected with technological, organisational, spatial and social issues. An example of this interrelatedness is that, during the rise of capitalism in the 19^{th} century, the increasing dominance of manufacturing industry led to a strong urbanisation, the rise of labour unions, the rise of new political ideologies (such as liberalism, socialism and conservatism), the end of monarchies, and the

extension of world markets and colonies. Incomes have increased dramatically and consumption has become an important part of life-styles. Cultural attitudes, art and educational systems have also changed, although in a slower pace.

The post-World War II period displayed even more dramatic changes, interrelated with the rise of new technologies (such as the automobile, the jet, TV and the computer), various new chemical products, the enormous increase of medical knowledge, the impact of the independence movements in the Third World, and the fall of the USSR. Other important developments were the increased participation of people in education, the decline in the birth rates and the increase in the share of elderly people and migrants from everywhere.

Changes in the economic and social structures are general and pervasive. They are an inherent attribute of modern economic systems. Marx already considered change to be the most important attribute of capitalism (Baumol, 2002, p.1). How do we cope with it? How do institutions and enterprises, and how do workers and consumers react and adjust to all these new changes in the contexts of their lives? How do politicians and political systems adjust? This process of change can only partly be influenced by politicians, more in the sense of regulating the direction than of really determining the outcome. Essentially, change is a *self-organising evolutionary process* with undetermined outcomes.

This chapter will address some of these problems, using the Netherlands as a case study. In the late 1990s, this country of about 16 million inhabitants showed a high growth performance, whereas currently it is facing a period of low economic growth and many social, demographic and spatial problems. Innovation and the fostering of the 'knowledge economy' are generally perceived as the solution to the problem of keeping up in the 'world game of competition'. However, following the sociologist Amitai Etzioni (1988; 2004), some emphasise the need to develop new values, in order to create more 'community' and less 'competition'. This movement has relations with a very heterogeneous group of supporters, among which various church organisations and '*anti-globalists*' as well as some more conservative organisations.

First, the issue of economic growth will be discussed. Subsequently, we will deal with institutional and political reforms.

2. Economic growth, technology and institutions

Economic theory explains economic growth as the result of the combined inputs of the 'production factors' *capital* (including natural resources and land), *labour* and *technology*. In this view, economic growth concerns the increase of capital (investments in 'capital goods' such as machines, mines, buildings and infrastructure), the growing labour force (the increases in both number and/or quality) and the progress of technology.

According to many econometric studies, technology's contribution to economic growth equals at least 50%. This strong contribution can be related to the importance of *knowledge and innovation*. We can reformulate the explanation by using knowledge and technological progress as the principal sources of economic growth. Both the effect of growing investments in capital goods and the increase in labour quality depend primarily on knowledge and innovation. Knowledge is not a separate 'production factor'; it is linked to people ('knowledge workers') and capital goods (trucks, cranes, computers, mobile phones). Through the 'intermediary factor', the rise in the *productivity of labour and capital*, this leads to increasing wealth. Economic growth can then be defined as productivity growth, resulting in higher per capita incomes and higher profits. Technology also can be redefined as the combined knowledge of workers and management to make and use advanced capital goods, in combination with their competences to organise the

process of using inputs to create outputs. The organisational forms used to realise these goals are firms and inter-firm networks.

The process of growth requires the continuous improvement of knowledge and organisation. However, new knowledge causes continuous changes in the process of invention, design, development, production, transport and application of products. The economic effects are based on innovation, which is the introduction of ideas, products and processes on markets. Organisations like firms, hospitals, governments and universities need continuously to adjust to the altered contexts. Innovation cannot be studied only by looking at products; it is also necessary to look at the integrated process, from the invention to the final demand, as well as at the contexts of markets, institutions and locations. Knowledge and innovation are part of the core of the explanation of economic growth, even more so than just investments and the addition of labour. But, investments can foster the development and dissemination of technological knowledge and innovations, as was emphasised by the New Growth Economics (Romer 1986).

The traditional approach to explaining growth was based on the production factors capital and labour. Technology was added in a later stage, and currently *institutions* are increasingly considered to be another important factor in the explanation of growth. Nelson (1996) is one of the economists who emphasise the importance of this factor. Nelson tried to find the most important sources of economic growth, defined as productivity growth. He observes that 'technical advance is the main driver of economic growth' (1996, p.1). But he also states (1996, p.1): 'The theory sketched here differs from the neoclassical growth theories in its attempt to encompass what I believe are the central elements of the historical accounts of technical advance and related activities and institutions'. And he emphasises that the growth process is a *complex dynamic system*, with strong interactions among variables. Economic growth, technology and institutions develop as an *evolutionary process*: 'It involves the generation and testing of a variety of new alternatives in competition with one another and with prevailing practice, with ex post selection determining the winners and losers'. But he also underlines the importance of institutions for the economic process: 'in which technical advance and economic growth are seen as proceeding through the operation of a complex set of institutions: some for profit, some private but not-for-profit, and some governmental'; and 'the prevailing set of institutions are seen as having evolved through a complex set of processes that involve both individual and collective action' (1996, pp.2–4).

Hayek (1973) also emphasised the importance of institutions as instrumental 'sets of rules' to enable economic subjects to act within acceptable limits of uncertainty. Economic institutions, like property rights and a smoothly working financial system, create trust and reduce uncertainty in markets. Only then can markets function properly. The government can create some of the necessary institutions, but it must guard against over-regulation in order to prevent high transaction costs. According to Hayek, the best institutions are the result of the coordinative powers of the market participants themselves.

Hayek's second condition for a smoothly functioning economic system is that economic subjects are provided with the right information, via the markets and other informational channels. However, the decision-making by individual citizens (consumers and producers) is a *self-organising process* that cannot be determined by governments.

Douglas North, winner of the Nobel prize, has stressed that institutions determine the 'incentive structure' of people, for instance, the attitudes of people towards enterprises (North, 1990). It can be stated that markets and institutions can function differently in different national contexts. Institutions also relate directly with economic values. People in different countries regard entrepreneurs differently. In the USA, entrepreneurs are in high esteem, whereas in some European countries entrepreneurs are not valued highly in social rankings. Sometimes even there are strong interregional differences in attitude within one country.

3. Institutional and structural reforms in Europe

The institutional structure can be considered as important factor for economic growth. But, what exactly are institutions? Nelson (1996) seems to be a bit unclear on this issue, because he mixes up organisations and institutions. However, it is necessary to distinguish between *institutions* and *organisations*.

Firms, universities, hospitals, churches and governments are organisations, whereas an institution can be seen as (1) *a set of rules*; and (2) *values and norms*. A '*value*' is a basic and generally shared belief about what 'ought to be', whereas a '*norm*' is a derived rule on how to apply values in daily life. In most countries, a value is hardly ever shared by all of the citizens. Different political and religious organisations emphasise different values. These are the results of social and political experiences and of the knowledge accumulated over hundreds of years. The results are, however, also 'context-dependent', as is shown by the variations existing within Europe. Europe has developed a heterogeneous mosaic of value systems in a structure of 'living apart together'. In the not too distant history this has led to military clashes and religious and ethnic cleansing. The establishment of the European Union is a major endeavour on the road to come to accept that various value systems can cooperate and compete, without military clashes. This has to be safeguarded through laws and contracts ('sets of rules' and cross-border private arrangements).

Certain kinds of organisations, like firms, basically work for profit, but dependent on and constrained by institutions (e.g. acting in accordance with the law, and treating workers like human beings). Other kinds of organisations, like political parties and churches, can emphasise their particular values and norms. A state is an organisation based on a territory and a population, but also on institutions like democratic values and human rights. The market is sometimes considered as an institution, but it is not. It is just a mechanism that can have different results in different institutional contexts. The 'free market' in its theoretical form does not exist. It always functions within the constraints set by institutional forces and other contextual conditions. The free market functions differently in the USA and in Europe, because of the different contexts of culture, politics, laws and values. That is not to say that there are no common attributes to the functioning of markets. In general, consumers anywhere will buy more when prices decline. And producers anywhere will compete through prices and innovative behaviour to acquire a profitable market share. But the political and institutional contexts differ.

One of the main institutional issues concerns the relationship between *state and market*. A considerable variety of strategies exist. Many countries are currently engaged in debates on how to find a country-specific solution, without becoming isolated in the world markets. The debate relates to questions on privatisation, liberalisation and, more general, the governance of society and economic development. Various theories on economic growth, on the knowledge-based economy and innovation, and on the process of individualisation and 'community' values are used in this debate. In general, the issue remains whether economic growth in 'internationalised economies' has to change in another direction.

There are various options as to the direction of the choices that can be made by governments, firms and citizens. For example:

1) The neo-liberal way of loosening the institutional ties, especially in 'micro-reforms' of the labour market.
2) To stick to the ways developed under socialism, i.e., extreme state control and an emphasis on re-distribution. This is opposite to the first-mentioned option.
3) To use the 'green road', i.e., to acquire a 'sustainable' economy with emphasis on the environment.

4) To put emphasis on 'social values and ethics', focusing on 'communitarian thinking', although the issue of which economic structure belongs to this perspective is not clear. This option emphasises abstaining from international competition, but stresses the goals of cooperation and the sharing of international values (Etzioni, 2004).
5) To emphasise and improve the knowledge-based economy, yet maintain the market as an important instrument, combined with centralised 'guidance' by the separate states and by the European Union.

Of course, certain combinations of these views, but with differing accents, are possible.

Many people have accepted the alternative of the knowledge-based economy as a strategy to becoming 'competitive in the world market', possibly combined with moving towards a society that takes care of the 'weak', and with a sustainable environment, but not in the way in which this was approached by the 'old welfare states' and the socialist states. Countries such as Denmark, Finland and Sweden seem to be right on that way, combining this approach of innovative restructuring with a strong growth record.

In Europe, the debate has received a strong impetus from the so-called 'Lisbon-programme' formulated in 2000, in which the European countries have set as their goal to foster a competitive knowledge-based economy. Stimulating universities and research, and reforming institutions were two of the main goals. In the European countries, especially the institutional reform has raised many questions and has given rise to many conflicts. This debate often starts with the wrong assumption, namely that the 'modern economy' no longer needs the goods-producing and goods-handling sectors, because of the assumption that these are not 'knowledge based'. In fact, the existence of goods-production, goods-transportation and goods-consumption is not in contradiction with the existence of a knowledge-based economy. In most modern economies, well over 50% of the workforce and an even larger part of GNP is still connected with the production, transportation and selling of goods. Even large parts of the services industry are based on goods, e.g. maintenance and repair, wholesale, retail and transportation. But an even bigger misunderstanding would be to think that the production, transportation and selling of goods is not knowledge-related. In fact, knowledge is embedded in people as well as in (capital and consumer) goods. Research and development largely take place in the laboratories of the manufacturing industry and in the goods-producing agricultural sectors.

Transport, wholesale and retail firms belong to the sectors with the highest productivity rates. Schumpeter already emphasised the growing importance of the large corporation as the basis for a large part of R&D. Even now, in this period of innovative small entrepreneurs, many new innovative firms are strongly connected with large corporations. Many entrepreneurs and managers start their productive life at universities or in large enterprises. Inventions and innovations are increasingly a result of relations in networks of scientists and entrepreneurs in various sectors. The knowledge-based economy is based on goods and services. But even services need computers, roads and rail, buildings and glass-fibre networks. This causes a need for space in and around expanding cities. This is an important issue, more in particular in densely populated regions. It has to be planned in a careful way, but it is not possible to build a knowledge-based economy just on virtual chatting clubs on the Internet.

More fundamental is the debate on the provision of (former) public services. In many countries, the state has retreated and the market has taken over. Schools, universities, hospitals, airports, public transport, environmental planning and the intermediation of unemployed have become entirely or partly 'privatised'. This process means a fundamental change in the relationship between the state and the market. The argumentation for this kind of policy is that the state has to focus only on those functions which can be called 'really public goods' or 'really collective goods', like defence, the decisions on the choice of laws and their enforcement, and the care for

nature. In other cases, only a 'market-failure' to provide certain services can be taken as a ground for deciding that the government has to do the job, possibly only temporarily.

In addition to economical and political dimensions, this issue also has ethical and philosophical aspects. The concept of the 'Welfare State' was based on the view that the people with 'the strongest shoulders' should take care of those with 'weak shoulders', the socially and economically deprived. The current view is that this structure of redistribution has developed too far: it is considered to have a heavy 'overload' of regulations, and the costs for society as a whole have risen to levels that hurt both economic growth and individual responsibility. In more positive wordings this means that 'people have to be *empowered*, in order to decide for themselves what kinds of choices have to be made'.

The debate on the dangers and advantages of the 'strong State' is not new. In the 17th Century, Thomas Hobbes and John Locke emphasised the difficult choice between the need to have the largest possible freedom of choice for the citizens on the one hand, and the strong State (or the King) on the other hand, to secure the 'common good' by redressing the potentially dangerous effects of individualism (Heugens, van Oosterhout and Vromen, 2003). It is interesting to observe that economists tend to formulate this problem in a 'digital' way: there are only two options, the state or the individuals on the market. In institutional economics and in some Christian traditions, an emphasis is placed on '*intermediate structures*', like cooperative farmers' organisations, labour unions, churches, associations of universities, environmental organisations and many other structures that stand midway between the state and the individual, be it for a limited set of goals.

Although intermediate structures and interest groups have some elements in common, it is good to emphasise the different traditions in Europe and the USA. In Europe, these structures are primarily based on principles of responsibility and cooperation, whereas in the USA it is mostly the lobby-groups emphasising their various interests. Governments sometimes use these 'intermediate structures' to solidify their basis in society by consulting them regularly. In many European countries of the 'welfare state' type, a number of institutional arrangements have been set up to create a platform for discussions and for the preparation for final political choices.

Another type of 'intermediate structure' is the '*agency*', a decentralised organisation to perform government-related functions. This kind of organisation is, in principle, completely determined by government policies, although in practice they can develop a certain range of own goals and means.

Europe-wide, the choice of a strategy to develop society and the economy is currently based on the view as expressed in the 'Lisbon-programme', that *dynamism and innovation* have to be acquired by reforming the entire building of the 'State-Market structure'. This means that many old structures, of both the welfare states and the intermediate structures, are either 'reformed' or abandoned. Most economists point to the examples set by Great-Britain, Australia, Sweden and Denmark, where severe changes in the welfare state were followed by a period of new entrepreneurial strength and strong economic growth. This view is also sustained by a majority of political parties in Europe, even by the Social Democrats in Germany, Sweden, the Netherlands, and Great-Britain. This majority also emphasises the positive civic effects of this change-oriented policy, leading to the economic and institutional innovations that are necessary to foster the 'knowledge-based economy'.

4. The Netherlands: structure, problems and strategies

The country of the Netherlands shares many problems with its European neighbours. The demographic changes with their concomitant future threat to the affordability of health care, pensions and social security, in combination with the need to alter institutions and the economy in order to be innovative and dynamic in an increasingly competitive world economy, are currently basic issues for political decisions. Also, this densely populated and strongly urbanised country with 16 million inhabitants needs a careful environmental, spatial and infrastructure policy. The increasing share of (Islamic) newcomers in the cities has caused social and political unrest, as it did in many other European countries. In the two largest cities Amsterdam and Rotterdam, this share has increased to about 35%.

In this section we will focus on the economic structure and we will address the question of how to approach governance in cooperation with certain intermediate structures.

The economic structure of the Netherlands is based on some strong clusters, such as the *agribusiness cluster* (e.g. flowers, vegetables and dairy products, with e.g. Unilever as an important corporation), the *logistical-telecom cluster* (telecommunication, ports, airports, wholesale, transport and warehousing, with the Rotterdam seaport and the Amsterdam airport as important elements), the *business-services cluster* (consultants, engineering firms, banks, insurance and other financial services). We should remember that already in the 16^{th} and 17^{th} centuries (the 'Golden Age') the Dutch were the first with a 'bourse' and an internationally recognised banking system.

The business services sector is still very important in the Netherlands. Apart from the financial sector (with banks like ING and ABN-AMRO and the insurance company AEGON), it also encompasses various smaller clusters, like those related with *marine activities* (the construction of oil platforms, yacht-building), the *design cluster* (related with industrial design, entertainment-related activities, e.g. radio-and TV-programmes; and the *oil-chemical-pharmaceuticals cluster* (with large firms like Shell, DSM and Akzo). Other, in earlier stages isolated, manufacturing industries (like Philips) and other electronics firms (like ASML) function in growing and deepening clusters.

In general, it can be observed that the Netherlands has never been a real manufacturing country. Most manufacturing activities have always been related with or dependent on other clusters. An example is the formerly important wood products sector, based on the construction of ships. Activities in the oil and petrochemical sectors were basically dependent on the large seaports and on the past history of the Netherlands as a colonial empire. In the 'Golden Age', the 17^{th} Century, when the Netherlands had become independent (in 1648) after the 80-year war with Spain, this country and specifically its western part, consisting of the provinces of Holland and Zeeland, was probably the richest country in Europe, mainly due to its marine cluster and its international trade. Dutch painters have expressed this wealth in many pictures (Schama, 1990).

The economic structure of the Netherlands today still reflects its past. Economic structures do not change quickly; they are *path-dependent* and related with the *knowledge base*. In other countries with a strong manufacturing tradition, like Germany and Sweden, this path-dependency has resulted in a strong emphasis on technical education and a strong R&D-base. The Netherlands has some strong knowledge bases, like in the agribusiness, the logistical-telecom cluster and the financial services clusters. Even now, trade and transport, the agribusiness and the financial activities are important pillars of the Dutch economy. The economic structure has to develop further. The question is 'in what direction'? This question is urgent because currently there is a growing feeling that productivity and growth could suffer from globalisation, more in particular by the competition by countries like China and India. The current economic problems are low economic growth and high labour costs. However, when viewed over a longer term, the

Dutch economy showed good results in the period of 1990–2000, with one of the best growth results of the EU. The recession of 2002–2003, and the weak recovery since have caused a vigorous debate on what to do, what strategy to choose.

There are two mainstreams, each with its own views on the future. One is that the present problems have been caused by the over-optimistic (what Greenspan in the USA called 'exuberant') years of 1997–2001, when wages, and the costs of social security and labour costs both rose very rapidly, creating a structural overcapacity for the present period with low demand. The country now needs a period of stability and policies to redress the results of that optimistic period. Nothing has to be changed fundamentally. The labour unions and the 'progressive' parties sustain this conservative view, although they accept the view that a more innovative economy is needed.

Others, however, including various parties like the Liberals and the Christian Democrats, the employers' unions and the federation of SMEs (Small and Medium-sized Enterprises), state that the picture does not look so good, even if the country does succeed in redressing the financial instabilities. This is because of the increased pressure from international competition, where many international corporations are actively 'outsourcing' their production to countries like China and India. These groups also stress the difficulties in finding ways to maintain the affordability of old-age pensions, social security, and health care.

Although the unemployment rate in the Netherlands is relatively low (about 6–7%), the real situation is better pictured by pointing towards the high share of this country's non-active population. A large part of jobs in Holland are part-time jobs, and a large share of the potential workforce does not work due to 'illness' or early retirement. In relation to this low participation rate, the average number of work hours per potentially active member of the labour force per year in the Netherlands is even lower than in Germany. The productivity rate of those who do actually work, however, is one of the highest in Europe. This is why the per-capita income in the Netherlands still belongs to the top-five in the EU, after Luxemburg, Ireland, Denmark and Sweden.

A broad platform of debaters in journals and on TV discusses the issue of how to find the correct strategy to resolve the structural problems and to take up the new challenges. These all share the view that innovation and a new dynamism have to be created, in order to safeguard the wealth for future generations. But, the policies developed by the various groups are different. Some look at the 'neo-liberal' strategy, where governments need to refrain from strong regulation as to firms and individuals, whereas others tend to emphasise the need for 'community-building' and maintaining the more re-distributive measures, and abstaining from being 'supporters of the multinationals'. The Netherlands has a strong tradition of the government consulting the 'intermediate structures'. Very important in this regard is the 'Socio-Economic Council', a formal platform where the government consults with the labour unions, the employers' federations and representatives of 'the Crown', mostly economics professors. Wage-rises, social-security laws, and even policy documents on spatial planning are discussed in this Council. This perspective of the 'Neo-corporatist State' (often called the 'Polder model') has created a political equilibrium, but at the same time an *institutional lock-in*, with resulting difficulties when changes in the socio-economic structure were necessary. The current Government has attempted to diminish the power of the intermediate structures in political decision-making, in order to be able to change many structures faster and more fundamentally than before.

A widely accepted strategy is the development of a more innovative economy and the fostering of the knowledge-based economy. Innovation is connected with creativity, but also with values of motivated search and with risk-taking economic activities. Governments cannot really influence this '*value-attitude complex*' directly, but education and the promotion of entrepreneurship can create positive social and political values. What governments can do is to systematically promote

education and research, by providing funds and by creating incentives through taxes and through diminishing inhibiting regulations. The debate is on how to execute this widely shared strategy. The financial situation of the government is not so strong that it will be easy to extend the funds to be allocated to the research institutes of universities and to enterprises.

Baumol (2002) emphasises the role of the market as a 'self-organising system'. In his view, state-subsidies are not really necessary. The market will show us where the most important opportunities are. In our opinion, however, governments have more opportunities, because governments are already important decision-makers in the political-economic field. The government is still one of the strong players in economics, due to the role of taxes and expenditures. For instance, the government still spends the larger part of the investments in infrastructure.

The Netherlands has problems that are similar to those of many other countries in the EU. However, because of its specific economic non-manufacturing structure it cannot just simply emulate others.

5. Conclusion

Europe faces various challenges that can be harmful if it does not approach them seriously. One of the main challenges is how to cope with a future with a diminishing and ageing population, in combination with increasing competition from Asian economies. There is a need for enhancing an attitude of 'cooperative competition' with other European countries in an endeavour of 'creative construction'. At the same time there is a pressing problem of how to cope with the increasing difficulty to afford the social security system and pension-systems of the welfare state established in times of a relative closure of countries. The response lies in a combination of techno-economic and institutional innovations, in order to enhance the competitive cooperation between European countries. This requires a Europe-wide support for new approaches to construct the knowledge-based economy that was set as a goal in the Lisbon-programme.

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ANDRZEJ H. JASIŃSKI

POLAND IN THE EUROPEAN RESEARCH AND INNOVATION AREA: Strategic Challenges for our Science and Technology

A model of the innovation scene

For more adequate analyses of processes of innovation and technology transfer, a model of **the innovation scene** may be useful. The general inspiration here has been an idea of a Triple Helix (Etzkowitz and Leydesdorff, 1995). The model assumes that there are three **main actors** on the scene: **(1) Industry** (companies), **(2) Science** (the R&D sector) and **(3) Government** (the state). Each one has here an important role to play and none can be absent.

So, if we treat the innovation scene like a theatre stage, then we shall be able to distinguish the actors who are in the foreground and those in the background. Having three main actors mentioned above, we must not forget whom they play for. In this case, let's assume that the spectator is a buyer/user of an innovation mainly in a form of a new product or process. He/she may be a consumer or producer, other than the innovator.

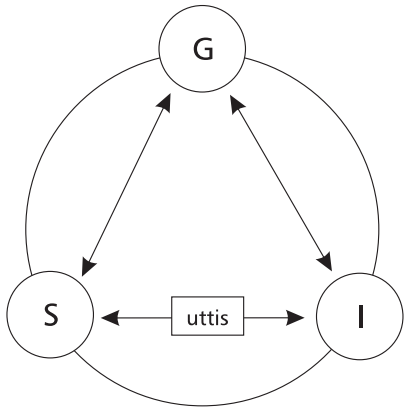
Thus, **the concept of a triangle inscribed into a circle** may be constructed as in Figure 1. This theoretical model is very simplified and needs to be further refined. It is treated here as **a method of analysis** and does not contradict the concept of the national system of innovation (Lundvall, ed, 1992; Nelson and Rosenberg, 1993; Tidd, Bessant, Pavitt, 1997); see further.

The idea behind this triangle is, in short, that there are mutual relationships between the three actors, like: negotiations, pressures and other interactions of various kinds. So, there exist here unilateral influences and multilateral interactions (feedbacks); there are direct and indirect influences. For example, as indirect relationships may be included co-operation between science and industry via uttis.

Each of the main actors has a double role to play:

(1) **industry** submits demands for new scientific-technological solutions and offers supply of innovations, both to consumers and to producers;
(2) **science** sells the results of the R&D work on its own initiative and replies to orders from industry, so science offers a supply of new scientific and technical achievements;
(3) **government** mainly fulfills a regulation function in the national economy but sometimes also plays a real role as a market participant (e.g. via public procurement).

Figure 1. The innovation scene as a triangle inscribed into a circle



Where:

G — government

S — science

I — industry

uttis — units making up technology-transfer infrastructure

Source: Jasinski (1999)

And what about the **user**? He/she usually submits demands for innovations towards industry. But to ensure an efficient functioning of the innovation scene, it should look like a modern, interactive theatre stage where the spectator acts as an active partner. In this case, a future user should play both inspiring and verifying roles in the innovation process.

To complete this picture, it must be added that, like in a real theatre, important roles are sometimes played by actors in the background. Here we refer to **uttis**. They facilitate both **S**cience-**I**ndustry linkages, i.e. vertical technology transfer from the R&D sector to companies, as well as horizontal TT between firms within **I**ndustry.

In most highly developed countries, uttis exist mainly in three forms:

(a) science parks and technology/innovation centres,
(b) bridging institutions and
(c) spin-off firms.

Their potentially major roles result from that that an innovation 'stands on two legs': one leg still lies in R&D while a second already lies in Production. Thus, a permeable transfer between the two spheres is here so important. In advanced market economies, good (i.e. wide and intensive) co-operation between the R&D sector and industry creates favourable conditions for technology transfer from science to the business sector and for TT among industrial enterprises, too.

The main relationships in the model may be shown in a simplified form as on figure on next page:

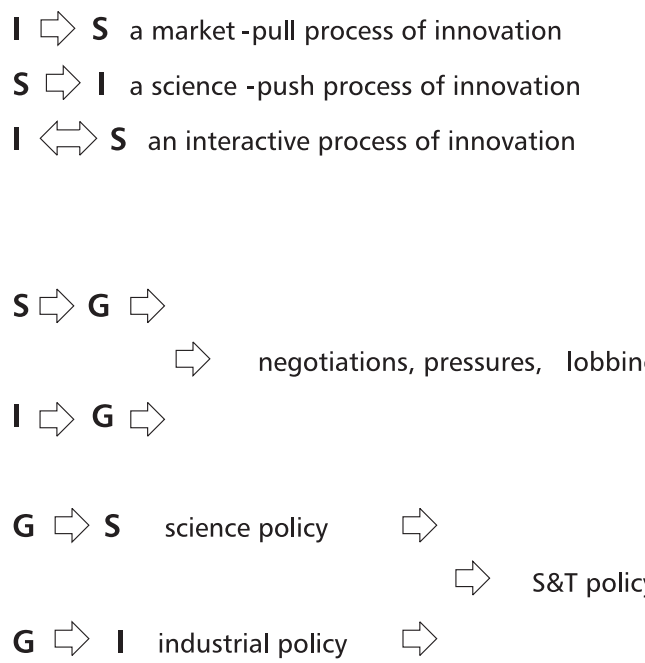
This paper refers mainly to the government and its policy.

The national innovation system: Quasi-SWOT

In comparison with highly developed countries, the national system of innovation in Poland, as a legacy after the previous system, still has several structural weaknesses but also some strengths.

The main **shortcomings** are as follows:

- a very weak R&D potential within industrial enterprises (in-house R&D); this is perhaps **the greatest weakness**,
- obsolete technologies and old equipment in many sectors, like electronics, telecommunications, heave industry etc,



- an insufficient number of technology-transfer brokers (bridging institutions) between the R&D sector and industry,
- a very small role played by small and medium-sized enterprises (SMEs) in the development of technology,
- a lack of sufficient marketing experience among research institutions.

The main **trump-cards** of the Polish system of innovation are:

- a big potential of R&D workers (the R&D potential is not too big, as some might argue, but it is situated in the wrong places: far from the market),
- a well-educated and skilled technical staff in the enterprises: relatively many engineers work in the Polish industry,
- lower—in comparison with the West—cost of labour-force in general and including wages of R&D workers,
- modern technical equipment in some sectors, like shipping industry, manufacturing of coal-mining machines.

However, we should be aware of several potential threats but also of some opportunities for the national system of innovation, and especially for research institutions. The background here is the European Union.

The main possible **threats**, which can appear, are:

- a very strong competition from the side of research institutions both from old and new member countries,
- a sharp competition from the side of experienced Western European institutions in the field of certification in the Polish market
- a loss of some part of research contracts in the country which can be over-taken by Western research institutes,
- a wider penetration of the Polish R&D potential by international competitors,
- an easier emigration (brain drain) of Polish researchers to Western countries,
- a smaller range of public financing for R&D (according the Union's regulations),

- collapse of some R&D units which will not be able to stand the stronger competition and limited financing.

The main potential **opportunities** are as follows:

- a gaining of a bigger number of research contracts from abroad due to smaller costs of research projects which might be accomplished in Poland,
- a possibility to gain the European experience in the field of marketing of R&D and innovation,
- a broader access to the Union's research programmes, projects and funds,
- improvement in research effectiveness via the involvement into European networks and data bases,
- a lessening of the technological distance/niche to Europe.

Taking it into consideration, public innovation policy in Poland should be based on two assumptions:

1) to eliminate the weaknesses of the national system of innovation and
2) to strengthen the system's strengths.

The policy should, of course, try to use the opportunities and be prepared for the threats.

New strategic challenges

Poland's integration into the structures of the European Union has created **a new strategic challenge** which is significantly increasing the competitiveness of the national economy. It will be impossible to cope with this challenge without a considerable increase in the economy's level of innovation. At the same time, **a second strategic challenge** has appeared, which is meeting the so-called Barcelona target, resulting from the Lisbon Strategy (i.e., up to 3% of GDP on GERD in 2010).

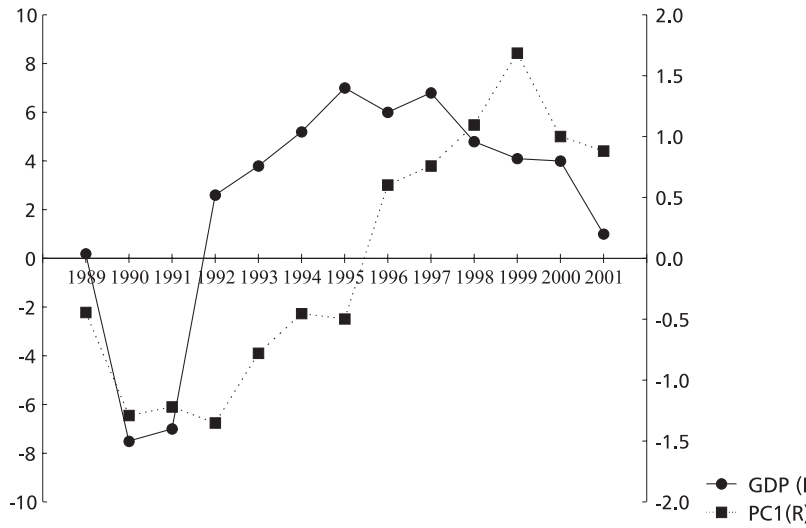
In Poland, unfortunately, the present state of affairs in these two areas is highly unsatisfactory. In the period of transition:

— the level of the economy's innovativeness did not show a desirable improvement: innovation performance showed some progress between 1993 and 1999 but started to decline again in 2000 (see Figure 2), and
— due to the fact that GERD (in constant prices) in 2002 remained on the same level as noted in 1989, R&D performance also remained flat; both total and government expenditures on R&D declined in relation to GDP (see Figure 3). In 2002, the GERD/GDP ratio was only 0.59% (GUS, 2004).

In order to make progress and meet the above challenges, an active approach and close cooperation are urgently needed among the three main actors (science, industry and government) on the innovation scene.

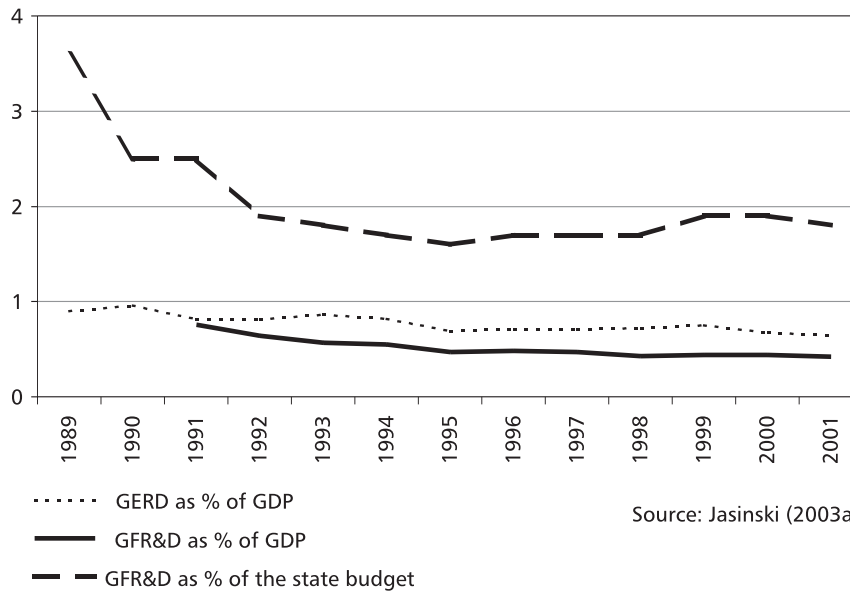
According to Rothewell and Zegveld (1985), **public innovation policy** is a fusion of science policy and industrial policy with the overall strategic goal of achieving and maintaining a high level of international competitiveness for a nation's goods. There are slight differences between the terms 'innovation policy' and 'science and technology (S&T) policy.' Simply stated, the former is focused more on innovation/technology while the latter focuses more on science. Nevertheless, numerous authors use these concepts, in principle, as synonyms (e.g., Rothwell and Zegveld, 1985; Stoneman, 1978; Gibbons et al, 1994). In this paper, both terms will be used interchangeably.

Figure 2. Innovation performance and GDP growth



Source: Jasinski (2003a)

Figure 3. R&D expenditure ratios, 1989-2001



Source: Jasinski (2003a)

GFR&D: government funded research and development (budget appropriations)

Science and technology policy in brief

At least **three arguments** can be identified for an adequate public science and technology policy in Poland in the period of transition:

- **First**, since technological innovation is a phenomenon which, nowadays, receives public support (in various forms) in numerous advanced market economies, innovation should also receive such support in Poland;
- **Second**, the vast majority of Polish research institutions and research facilities of large companies remain state-owned;
- **Third**, without the government's positive and active attitude towards science and technology, both market transformation of the Polish economy and its integration with the European Union would proceed more slowly. Market forces in the country are still too weak and too slow.

Poland has acquired some experience with innovation policy in the period of transition. After analyzing all relevant government documents concerning science and technology in the past decade (Jasinski, 2004a), in Polish practice, **four periods** can be distinguished within the context of this policy:

Period up to 1989

Numerous financial incentives existed as policy regulations addressed mainly to companies, especially small firms, to stimulate research and innovation activities.

1990–1994 Period

When fundamental, political and economic, reforms began in Poland at the beginning of the 1990s, almost all of the previous instruments were liquidated.

1995–1999 Period

Beginning in 1995, some of the 'old' incentives for R&D and innovation were restored; the list of fiscal preferences was even quite long.

2000–present Period

Since the beginning of 2000, some tools have again been cancelled and no new instruments have been introduced.

As can be seen, a kind of **wavering in current innovation policy** occurred. This was a short-term oriented policy. The reason for this may have been **the lack of a long-term strategy** for science and technology in Poland, especially for the transition period.

In summary, **several major features of Poland's public S&T policy** in the period of transition can be identified:

- the lack of a national long-term strategy for science and technology,
- wavering in current policy,
- poor coordination between government agencies,
- the relative decrease in budgetary R&D expenditures; now only 0.34% of GDP (MNiI, 2004),
- the highly centralized character of the policy, particularly in regard to finances for R&D, as well as the lack of a regional approach,
- inadequate support for applied research within funding decisions,
- overemphasis placed on support for science instead of innovation *per se,* and
- the lack of a technology transfer/innovation diffusion policy.

However, **it is difficult to observe clear correlations between innovation activity and innovation policy**. Therefore, the situation in the field of technical change in Poland has been two-dimensional:

On the one hand, market forces are still too weak and market mechanisms are not yet fully efficient: the relatively large share of the state sector, the weak SME sector, the shaky equilibrium on some markets, the high level of monopolization, etc.

On the other hand, there is the government, which is still learning how to conduct S&T policy in the transition from a centrally planned economy to a free market economy, but the consistency of the policy is insufficient. However, the government's approach has **evolved in a positive direction**: from the belief in the role of the invisible hand of the market in the process of technological change, to an appreciation of the role played by science and technology policy in the development of a modern economy.

Therefore, science and technology policy in Poland should be much more oriented towards the creation and diffusion of innovation. Such an approach will favor increasing the competitiveness of Polish enterprises. Moreover, in the case of Poland, attention should be given to an additional policy aim based on the second challenge mentioned above.

Against this background, we assume the following **starting thesis** for further considerations: both public and private expenditures on R&D should now begin to grow more rapidly, whereas business sector spending should grow much more quickly. This is *de facto* **another strategic challenge.** Such an approach will also lead to improving:

(1) proportions between the state and the business sectors in GERD. To date, the share of budget appropriations has been too large (61.1% in 2002) and the share of industry, in the broad meaning, has been much too small (22.7%; GUS, 2004),
(2) the relationship between expenditures on basic and applied research. In the last couple of years the share of basic science (38.8% in 2002) has been much too high in comparison with applied science (25.7%; GUS, 2004).

This means that no improvement has occurred in either of the above during the transition period.

The Lisbon Strategy in Poland

In April 2004, the government published a new document: *Strategy for Increasing Expenditures on R&D to Meet Lisbon Strategy Assumptions* (MNiI, 2004). This strategy contains three variants concerning the growth of expenditures on R&D (GERD) as a percentage of GDP until 2010, which are presented below (see Tables 1, 2 and 3).

Variant I assumes that, by 2010, budget appropriations should increase three times and non-budget expenditures almost seven times in comparison with 2004. I believe this option to be the most desirable, as it allows the Lisbon Strategy assumptions to be met. However, in light of Polish realities, this variant seems highly unlikely.

Variant II assumes that, in 2010, Poland will achieve the average GERD/GDP ratio currently noted in the European Union (2.20%). I consider this option satisfactory but insufficient to cope with both challenges set out at the beginning of this paper.

Variant III assumes that the declining trend in R&D expenditures will be halted and finally these expenditures will begin to grow. According to this variant, in 2010, Poland would reach the GERD to GDP ratio noted in 1990. In my opinion, this option is undesirable, even harmful, and would be worse than the present situation (Jasinski, 2004b).

The *Strategy* emphasizes the necessity to considerably increase the country's R&D expenditures but provides no guarantees that this will be achieved. The document contains many interesting, reasonable and useful proposals, although some of them lack details such as specific methods, tools and sources for a desirable, significant growth in both budgetary and non-budgetary

Table 1

The share of R&D expenditures in GDP—Variant I

Year	GERD	Budget appropriations	Non-budget expenditures
2004	0.64	0.34	0.30
2005	1.25	0.55	0.70
2006	1.50	0.60	0.90
2007	1.80	0.65	1.15
2008	2.20	0.75	1.45
2009	2.60	0.85	1.75
2010	3.00	1.00	2.00

Source: MNiI, 2004

Table 2

The share of R&D expenditures in GDP—Variant II

Year	GERD	Budget appropriations	Non-budget expenditures
2004	0.64	0.34	0.30
2005	0.90	0.55	0.35
2006	1.05	0.60	0.45
2007	1.30	0.65	0.65
2008	1.65	0.75	0.90
2009	1.90	0.85	1.05
2010	2.20	0.80	1.40

Source: MNiI, 2004

R&D expenditures. (Selected proposals are included, e.g., in Jasinski, 2003b). The document raises many questions but provides few answers.

Back to the innovation scene

Results of deep empirical research (Jasinski, ed, 2002) allow us to formulate conclusions relating to three main actors on the innovation scene in transition.

(1) The R&D sector as a source of technical change:

- insufficient structural changes,
- inertia of the previous system prevailng 45 years,
- an active attitude to defend the state of possession,

Table 3

The share of R&D expenditures in GDP—Variant III

Year	GERD	Budget appropriations	Non-budget expenditures
2004	0.64	0.34	0.30
2005	0.66	0.34	0.32
2006	0.68	0.34	0.34
2007	0.85	0.34	0.51
2008	0.85	0.34	0.51
2009	1.00	0.36	0.64
2010	1.00	0.36	0.64

Source: MNiI, 2004

- too slow and long-lasting the process of transition.

Firms as a place where most innovations are implemented:

- too small the demand for R&D and innovation,
- an underestimated role of technological change for the long-term development,
- a lack of free capital for investment in R&D and innovation,
- too small a market compulsion to innovate.

Government as a potential catalyst of changes:

a) Policy towards science:
- stability, i.e. no significant turns in science policy,
- a will to maintain and protect the R&D sphere,
- limitations in budget R&D expenditures,

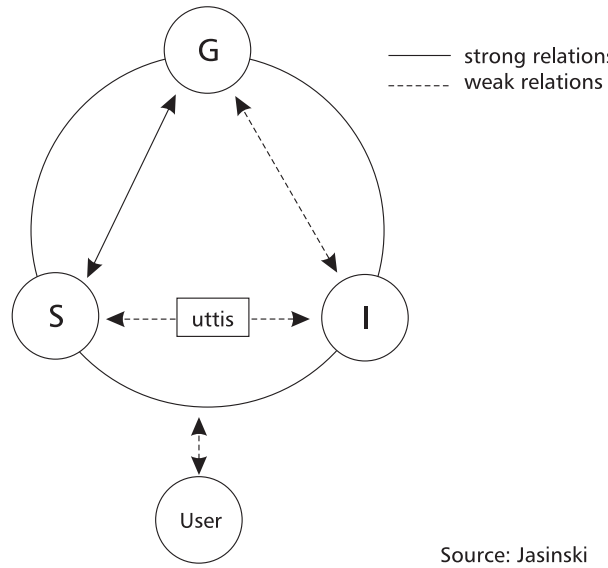
b) Policy towards industry:
- instability and wavering,
- a lack of clarity as to a role of government in technical change processes,
- a set of policy instruments having a one-sided character, mainly fiscal.

The observations made through this analysis prove that**slow, gradual technological development was taking place in the Polish economy in the transition period**. The progress was a resultant of activities of the three main actors and a result of the clash of positive and negative tendencies on the scene. It was and still is a difficult, long-lasting **period of a creative destruction**. The transition from a centrally planned economy to an advanced market economy turned out not an easy and short process also in the field of science and technology.

However, not only the government can be blamed for the slow progress in processes of innovation and technology transfer. All the actors share the responsibility for it. Also, there was a lack of sufficient co-operation between them on the innovation scene . As regards the government's attitude, which is the main subject of our interest, **co-ordination was lacking in activities of various agencies responsible for science and technology policy and for its adjustment to macro-economic policy**. Of course, the state may only support market mechanisms of technological change. Therefore, we have now the following practical state of the scene of innovation (see Figure 4).

The other two players, apart from the government, behaved in different ways:

Figure 4. A model of the innovation scene in practice



Source: Jasinski

- science—**active** defence of *status quo*, and
- industry—**passive** attitude towards R&D and innovation.

As a result, the three actors have not created a harmonious, integrated band. Links between them, except science-government relations, are rather weak. Industrial firms are poorly interested in co-operation with uttis. Public R&D institutions did not yet learn to co-operate closely with private enterprises, and *vice versa*. Additionally, consumers and other users of innovation are too rarely drawn into the research process. Therefore, our model of the innovation scene is still fragmented. This is, to some extent, a relic of the past when all the actors were, in principle, separated from each other.

So, a general picture of the innovation scene in Poland looks as follows:

1. Industry submits too small a demand for R&D and new scientific-technological solutions; also, it offers relatively small supply of modern products,

2. Science, being insufficiently stimulated by industry to greater effort, offers too small a supply of scientific and technical achievements of the highest level,

3. Government is not able enough to couple science policy with industrial policy into a comprehensive S&T policy. Public policy towards the R&D sector is mainly demand-oriented while policy towards industry—mainly supply-oriented, and it is not so easy to reconcile one with another. In addition, the state does not know how to integrate S&T policy with macro-economic policy in a contemporary market economy. Moreover, the government doesn't adequately 'take care' of uttis and consumers as innovation users,

4. Uttis still are sparse and weak; some of them are not expansive enough and tend to disappear from the market,

5. User in Poland was often neglected by all the actors. He/she does not yet have a sufficiently strong position in the market; his/her pressure on industry is not powerful enough.

Policy recommendations

Taking the above into account, some **policy recommendations** can be formulated (Jasinski, 2003a). The proposals apply mainly to public innovation policy.

First of all, **a good 'climate' for innovation** is necessary and should be created by macro-economic policies oriented at growth, employment, equilibrium and market competition. Such a climate should create general economic conditions that are favorable for technological change.

The country's long-term **strategy for science and technology** is equally important. The government should set realistic strategic goals and be responsible for their consistent implementation. S&T policy should result from this strategy.

The key method of counteracting the decline in R&D expenditures would appear to be mobilizing corporate research and innovation activities. **An innovation-oriented entrepreneur/firm should be the main object of S&T policy** rather than a scientific institution. The science sector should be treated—in this context—as the key element of the firm's environment. Therefore, re-thinking is required on the part of policy-makers. This is also a kind of **strategic challenge.**

The scale of state intervention in the S&T system should decline together with:

— the strengthening of market forces/mechanisms in the process of transition;
— the growing role of the private sector in R&D spending; and
— the increasing share of the banking system in financing R&D and innovations.

Science and technology policy should have a more **regional character** i.e., it should become decentralized and regionally diversified. This will also serve to create regional innovation systems (RISs).

Finally, **integration of innovation policy** is needed via the **five Cs**. This means that the policy will be (Jasinski, 2003a):

(1) **coordinated**: the policy should be well coordinated among various government agencies responsible for close cooperation in science and technology. A new semi-governmental body should, in my opinion, be established, such as a Council/Committee for Science, Technology and Innovation headed by Prime Minister;

(2) **correlated**: the policy measures addressed to the science sector should be correlated with measures addressed to industry within innovation policy. Since Poland at present does not need more scientific discoveries but more practical applications of R&D results in the form of new products or processes, the policy priorities must be focused on applied research and, especially, on experimental development and implementation work;

(3) **comprehensive**: important components of the policy-mix should address: (a) high-tech sectors, (b) technology transfer in the broad sense i.e., including uttis (units making up technology-transfer infrastructure) and foreign direct investments, and (c) R&D and innovation in small and medium-sized enterprises, especially private sector enterprises. Policy instruments should be much more differentiated to include not only fiscal instruments but also other financial tools plus organizational measures, training, etc;

(4) **compatible**: the policy should be compatible with, or adjusted to, the macro-economic policy-mix. Government documents concerning macro-policy and S&T policy should be prepared concurrently;

(5) **coherent**: the national innovation policy should be coherent with the EU policy for

research and technology development (RTD). Such coherence is of significant importance in the process of Poland's integration with the European Union. (For more details on the European Union policy—see Galar, in this volume, where he gives comments to *The EU's Third Report on Science and Technology Indicators*, Brussels, 2003).

These five Cs may also be treated as **strategic challenges** for the Polish science and technology.

Conclusion

From this paper, one can conclude that most strategic challenges faced by the Polish science and technology result from Poland's integration into the European Union. The Polish innovation scene now is an element of the Union theatre. Therefore, numerous adjustment actions are necessary to have the country's science and technology system incorporated into the European Research and Innovation Area (ERIA). In Poland, to cope with the above challenges, we should follow the experiences gained by such countries as, for example, Finland (see Routti, 2004) or Ireland (see: Cogan and McDevitt, 2000).

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WOJCIECH BURZYŃSKI

BENCHMARKING KNOWLEDGE-BASED ECONOMY IN FOUR OECD COUNTRIES: SWITZERLAND, NETHERLANDS, FINDLAND AND POLAND*

It is the creation of knowledge and the capacity to act, which are the result of a process that is highly localized, that determines competitive success.[1]
Michael Porter

Introduction

„*To my mind we can build up four trajectories:*
I. The trajectory of regional innovation systems
II. The trajectory of knowledge-based economy
III. The trajectory of geographical and structural clusters
IV. The regional trajectory
In each trajectory we should see three dimensions:
V. the theoretical dimension
VI. the methodological dimension
VII. the pragmatic dimension

*The **theoretical** dimension is reflected in the conceptual framework and in the set of fundamental questions (paradigmatic questions) addressed to the objective reality. The **methodological** dimension is related to the instrumental apparatus of our studies answering the question—how effective and reliable is the whole pattern of applied measurements especially important in comparative interregional and international research programmes. The **pragmatic** dimension is reflected in the network of socio-economic policies developed and implemented by public*

* An earlier version of this text—*Benchmarking Knowledge-Based Economy in Switzerland, Netherlands, Finland and Poland*— was published as the Discussion Paper No. 86,. Foreign Trade Research Institute, Warsaw, in October, 2004, before the dissemination of the European Commission's *European Competitiveness Report 2004. Competitiveness and Benchmarking* as well as *Facing the Challenges. The Lisbon strategy for growth and employment.* Report from the High Level Group chaired by Wim Kok.

[1] Porter M.E. *The Competitive Advantage of Nations.* The Free Press. New York 1990. p. 736.

authorities. These three dimensions can be also outlined as a triadic interaction of theory, measurement and policy."[2]

"***Knowledge has become the driving force of economic growth, social development and job creation as the primary source of competitiveness in the world market. As a result, the OECD countries are in a process of transition from resource-based to knowledge-based economies***."[3]

This paper benchmarks experience of the focus group of four **OECD countries—Switzerland, Netherlands, Finland, Poland**—the Knowledge-Based Societies (KBS) developing the Knowledge-Based Economies (KBE).

Moreover, questions have been posed for better understanding, monitoring and forecasting KBE development as well as on feasibility of multilateral learning from the benchmarked countries' experience.

The course of analysis is composed of the **conceptual, methodological and pragmatic dimensions.**[4] In particular, apart from the methodological part, this paper comprises comparative analysis of **basic data, knowledge development** and **country profile scoreboards**. In this paper, descriptions of the knowledge-based society and the knowledge-based economy presented by the OECD (knowledge-based economy), the World Bank Institute (knowledge assessment), P.Drucker (entrepreneurship society) as well as P.A.David and D.Foray (knowledge society) have been exploited,[5] though not necessarily in detail. In particular, it has been presumed that the knowledge-based society represents the **demand-side** and the knowledge-based economy—the **supply-side** in benchmarking countries' performance. Finally, in line with dimensions of measuring input, output and impact of science and technology,[6] **the time sequence approach to benchmarking development of KBE and KBS** has been presented for countries,[7] with application to regional studies as well.

1. The conceptual dimension

1.1. Assets of the benchmarking procedure

A note on **interpretation of the benchmarking indicators** is quoted here from the *OECD STI Scoreboard 1999* as a set of guidelines for further research:

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[2] Kukliński A. *Three countries—Four trajectories of European cooperation. A note for discussion.* Annex I to The Knowledge-Based Economy and Society Switzerland—Finland—Poland. Experiences and Prospects. Materials for discussion. Warsaw, January 8th, 2004. This is also a note of gratitude to prof. Antoni Kukliński for scientific inspirations.

[3] *Managing National Innovation Systems.* OECD. 1999. p. 3. Compare: *"A knowledge-driven economy is one, in which the federation and exploitation of knowledge play the predominant part in the creation of wealth."* (The British Department of Trade and Industry, 1998). Poland is at the beginning of the road of creating elements of knowledge economy. It has human capital capable of developing knowledge-based economy, however, appropriate institutional and financial conditions should be established. Wyżnikiewicz B. *The knowledge economy—how far Poland could go?* Report on Management. VII edition. Knowledge-Based Economy. Education—Innovation—Infrastructure. L.Koźmiński Academy of Entrepreneurship and Management. Conference. Warsaw. September 2003.

[4] Compare: Kukliński A. *Development processes of the Knowledge-Based Economy in the Factographic Perspective.* [in:] Knowledge-Based Economy. The World Bank Perspectives. [ed.] A.Kukliński. Warsaw 2003.

[5] *OECD STI Scoreboard 2003. Third European Report on STI* EU. 2003. Drucker P. *The Essential Drucker.* 2001. David P.A. Foray D. *An introduction to the economy of the knowledge society.* I.S.S.J. No. 171. 2002.

[6] See e.g.:Goden B. *Outline for a History of Science Measurement.* Project on the History and Sociology of S&T Measurement. Paper No. 1. 2000.

[7] Application of the methodological proposals presented in this discussion paper would require e.g. simulating some examples, involving practitioners, etc.

- ***indicators only give a partial view of the reality***. By nature, they only measure what can by quantified and for which there are data. The need for internationally comparable data further limits the number of indicators. In addition, many indicators do not reflect the quality or efficiency of countries in particular areas. For example, a high R&D intensity does not necessarily imply that R&D inputs are efficiently used;
- ***many variables are interrelated and have to be seen in a larger context***, such as e.g. the national innovation system or the global economic, political and social framework. Only a look 'inside the black box' and causal analysis could permit an identification of the reasons why some countries obtain better results than others. This, however, goes beyond the scope of the *Scoreboard*;
- ***some indicators play a more important role than others***, but it is difficult to establish a hierarchy due to a lack of clear criteria;
- ***many global indicators only reflect the performance of a few industries***. However, an average value for a given indicator may result from excellent performance in some industries and poor performance in others;
- ***the interpretation of some indicators can be ambiguous.*** For example, outward foreign direct investment flows should not be systematically interpreted as the result of weak competitiveness of framework conditions unfavorable to domestic investment in the home country. In contrast, the location of activities abroad may reflect internationalization strategies of firms and be a sign of their dynamism and improved international competitiveness;
- ***country rankings should be interpreted with caution***, especially when absolute differences are small, since many indicators lack precision. But very low rankings may indicate potential areas for improvement.

The above suggestions have been respected in this paper; furthermore—challenges resulting from these remarks have been identified and met.

1.2. Benchmarking in reports on competitiveness

Two examples of country-level benchmarking published yearly by the Institute for Management Development (IMD), Lausanne, and OECD, Paris, are referred to before the detailed insight into databases. Below there are **framework conditions** for benchmarking in the relevant publications.

(1) ***The IMD World Competitiveness Yearbook (WCY)*** looks at the relationship between **a country's national environment** (where the State plays a key role) and **the wealth creation process** (assumed by enterprises and individuals). The WCY focuses on the outcome of interaction of four competitiveness factors, which generally define **a country's national environment or framework conditions** (see p. 1.1 and Diagram 1).

Countries manage their environments according to what the IMD calls the four fundamental forces: these four dimensions shape the country's competitiveness environment. They are often the result of tradition, history or value systems and are so deeply rooted in the *modus operandi* of a country that, **in most cases, they are not clearly stated or defined**.

However, it is possible to integrate these dimensions into an overall theory, which is systemic, that is, which also describes the relationships among the four axes. This theory does not aim to quantify the competitiveness of a country, but rather to highlight a 'competitiveness profile', which characterizes an economy and anticipates how it may behave.

A nation's environment is the result on one hand, of facts, on which human efforts have little impact, and on the other hand, of policies, which can be changed. On the basis of the four factors and dimensions (Diagram 1) as well as more than 320 criteria, the WCY assumes

that healthy performance in these dimensions creates a national environment that sustains world competitiveness.

In particular, the IMD pinpoints technology stating that during the past two decades, the technological revolution—computers, telecommunications and now Internet—has had a profound impact on the competitiveness of nations. Moreover, the IMD clearly refers to both the demand-side and supply-side of the impact of technology on competitiveness. Today, the notion of infrastructure comprises availability of chap and efficient telecommunication systems, connections to the Internet and development of mobile telephony **(these are just a few of the new technological priorities of nations that want to compete**).

"Technology also impacts education by connecting schools to Internet, providing distance learning, creating entrepreneurship attitudes as well as appropriate knowledge and skills. Therefore, the priority of a competitive nation is to develop the people who will operate the new technological infrastructure and strive to be on the leading edge of future developments." Furthermore, *"the new technological requirements of enterprises have forced countries to give a priority to technology.* ***Attracting research centers, and developing cooperation between local universities and enterprises, is becoming just as important for the competitiveness of country as attracting FDI.*** *The Internet allows companies to develop e-commerce, e-procurements, auctions, and e-marketplaces across borders. This pushes countries to develop an advanced technological infrastructure."* [8]

Diagram 1 The Competitiveness Cube (*as per IMD World Competitiveness Yearbook)*

<table>
<tr><td colspan="4">VALUE ADDED CREATION</td></tr>
<tr><td rowspan="2">Attractiveness
(traditionally linked to exports and FDI)
vs.
Aggressiveness
(creating jobs in the FDI host countries, but can be short on income because of the incentives)</td><td colspan="2">COMPETITIVENESS OF COMPANIES</td><td rowspan="2">Assets
('the spell of natural resources' and inherited assets, i.a. education, skills)
vs
Processes
(relying essentially on transformation processes)</td></tr>
<tr><td>Economic Performance</td><td>Business Efficiency</td></tr>
<tr><td rowspan="3">Proximity
(provides value-added close to the end-user; a system generally protectionist and expensive)
vs
Globality
(it benefits from the comparative advantages of markets worldwide)</td><td>Government Efficiency</td><td>Infrastructure</td><td rowspan="3">Social Cohesiveness
(a system preserving social consensus, a more egalitarian approach to responsibilities)
vs
Individual Risk Taking
(a system promoting risk with emphasis on deregulation, privatization, responsibility</td></tr>
<tr><td colspan="2">SUSTAINABILITY</td></tr>
<tr><td colspan="2">COMPETITIVENESS OF NATIONS</td></tr>
</table>

Source: own presentation based on Garelli S. *Competitiveness of Nations: The Fundamentals*. MD Competitiveness Yearbook 2003. p. 705.

[8] Some countries, such as South Africa, Mexico or Poland, are leapfrogging some technological infrastructure, for example by focusing on mobile rather than fixed phones. See: Garelli S. *Competitiveness of Nations: The Fundamentals*. IMD World Competitiveness Yearbook 2003. p. 708.

Concluding, *"**knowledge is perhaps the most critical competitiveness factor**. As countries move up the economic scale, the more they thrive on knowledge to ensure their prosperity and to compete in world markets. **How that knowledge is acquired and managed is each nation's responsibility.** Indeed, nations do compete."*[9]

(2) ***The OECD Science, Technology and Industry Scoreboard (STI)***—in particular ***2001 edition (Towards the Knowledge-Based Economy)*** and ***2003 STI edition,*** brings together the latest internationally comparable data on the knowledge-based economy and focuses on the four interrelated fields of economic activity (Diagram 2) and provides some 70 indicators of framework conditions for developing knowledge-based societies and economies.

"Indicators that capture the changing relationships between science, innovation and economic performance are crucial so that policy makers may make informed decisions, set priorities and address the challenges of the knowledge-based economy."[10]

The OECD presents its approach towards the current transformation of factors of economic development including governments' tasks in creating framework conditions for benefits from innovation systems. *"The current wave of scientific discoveries and technical advances provides OECD countries with unparalleled opportunities for economic growth and improved social well-being. But the rapid increase in new scientific and technological knowledge only provides economic and social benefits when it is effectively exploited and leads to innovation. Innovation is a key driver of long-term economic growth, the primary basis for competitiveness in world markets and part of the response to many societal challenges.*

Diagram 2. The OECD STI Scoreboard focus on knowledge-based economy

THE GROWTH IN THE KNOWLEDGE BASE OF OECD ECONOMIES
Investment in knowledge, human resources and international mobility of scientists
Research and development
Innovation measured by patents
the importance of emerging areas such as biotechnology and nanotechnology
THE INFORMATION ECONOMY
Resources and infrastructure for the information economy
The diffusion and use of Internet technologies and electronic business
The contribution of the ICT sector to economic activity
International trade
THE GLOBAL INTEGRATION OF ECONOMIC ACTIVITY
Key channels of economic integration and technology diffusion (such as direct and portfolio investment)
The role of foreign owned affiliates
Cross-border ownership of inventions and international co-operation in science and innovation
Analysis of trade competitiveness in industries by technology intensity
PRODUCTIVITY AND ECONOMIC STRUCTURE
Comparison of OECD economies in terms of income, productivity and industrial performance
The growing importance of technology and knowledge-intensive industries
The interaction of manufacturing and services
The role of firm turnover

Source: *OECD Science, Technology and Industry Scoreboard 2003*. p. 3.

[9] However, this revolution challenges some of the basic functions of a State, rising such problems as i.a.: taxing people who are making money on the Net; controlling 'net companies' that can operate in any given country without being legally registered in that country' 'net companies' easily bypassing country's social legislation; protecting the privacy of citizens; threats, blackmail, or plain actions using the latest technologies are becoming a reality for both companies and governments. See: Garelli S. *Competitiveness of Nations: The Fundamentals*. [in:] The Competitiveness of Nations in the Global Knowledge-Based Economy. H.H.Chartrand. April 2002. AAP Homepage.

[10] *OECD Science, Technology and Industry Scoreboard 2001*. p. 3.

"While public expectations from technological innovation are evolving in line with social concerns (e.g. unemployment, sustainable development, ageing populations), the innovation process itself is undergoing profound changes. Public policies must adapt effectively to such changes. Governments face the task of strengthening innovation systems in order to take greater advantage of globalization and ***the move to a knowledge-based economy****."*[11]

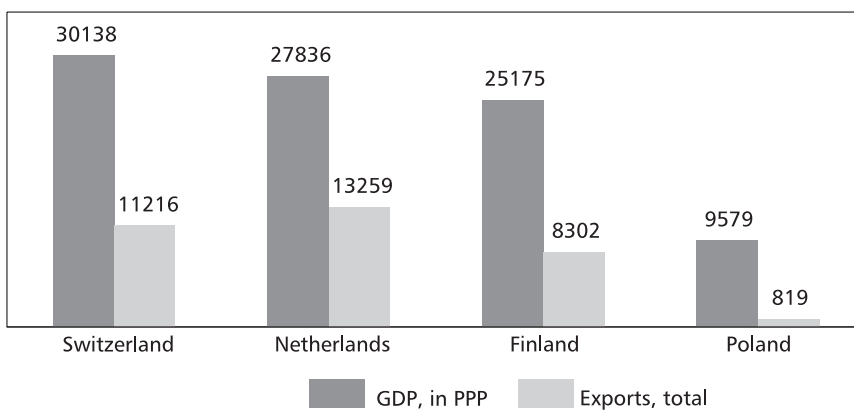
2. The methodological dimension: benchmarking country experience

2.1. Comparative analysis of basic data

The initial comparison of the four countries has been arranged for to expose at least some of the basic economic processes, underlying development of the knowledge-based society and economy. It includes the above mentioned attempt to distinguish between **demand—society and supply—economy** (Appendix I). This presumption resulted in a number of conclusions and questions.

In this paper the order of four countries in tables and figures reflects the currently available and internationally harmonized measure—GDP per capita. **Switzerland** takes the first place, in nominal and in purchasing power parity terms, followed by Netherlands, Finland and Poland (Fig. 1), though **Netherlands** leads the four countries in terms of absolute value of GDP. Exports from **Netherlands** (fob, total value, current prices) per capita—and in absolute value—exceeds figures for Switzerland, Finland and Poland. **Poland** proves the best in the annual growth rate of GDP and **Finland**—in public spending on education as % of GDP. Benchmarking consumer prices average annual increase, savings ratio and most of living standards indicators (as well as for GDP per capita) favored **Switzerland**.

Figure 1
GDP per capita and exports (fob, total) per capita, USD, 2000

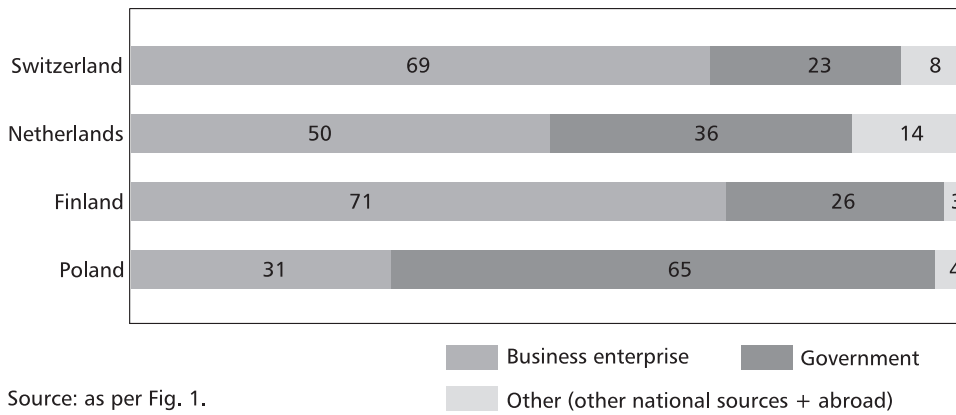


Source, own presentation, based on OECD Science, Technology and Industry Scoreboard 2003 Towards a Knowledge-Based Economy.

[11] *Managing National Innovation Systems*. OECD. 1999. p. 9.

Furthermore, **Netherlands, Switzerland** and **Finland—**with quantitative disadvantage *versus* **Poland** in number of employees—achieved impressive value of exports and reserves. Questions to be posed may regard the size of countries, its impact on KBE development and welfare.[12] Suggested answers result from the benchmarking R&D expenditures by source of funding (Fig. 2) and by R&D performing sector (Fig. 3) as well as business enterprise R&D intensity—expenditures related to value added (Fig. 4). It proved that the business enterprise R&D expenditures (the case of **Finland** and **Switzerland**) had been far more effective than government's (the case of **Netherlands** and **Poland**). *"While the government and higher education sectors also carry out R&D, industrial R&D is most closely linked to the creation of new products and production techniques as well as to a country's innovation efforts."*[13]

Figure 2
R&D expenditures, by source of financing, as % share in national total, 2001



Source: as per Fig. 1.

Benchmarking the four OECD countries by performing sector 's share of R&D expenditures in national total confirms the above finding. Business enterprises in **Switzerland** and **Finland** perform in R&D to a far larger extent than in **Netherlands** and **Poland**. However, it should be noticed that governments in the four countries play more exposed role as sources of financing R&D than as R&D performing sectors—with special regard to **Switzerland** (compare Fig. 2 and 3).

Moreover, benchmarking R&D intensity—allocation of value added to R&D expenditure—in business enterprises discloses approximately ten times higher business R&D intensity in **Finland** and **Switzerland**—and approximately five times higher in **Netherlands**—than in **Poland**. This confirms the conclusion on necessity of combining quantitative with qualitative factors of KBE development, in particular—total financial assets, venture capital as well as institutional framework, managerial skills and attitudes.

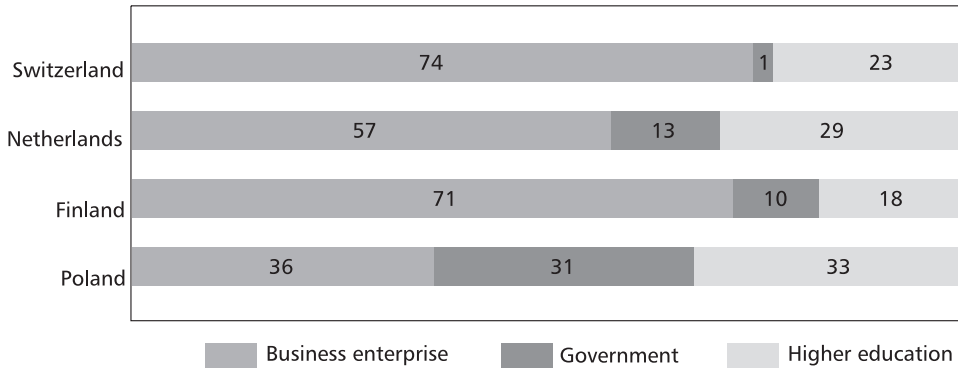
2.2. Benchmarking knowledge economy framework conditions

On the World Bank Institute's Internet site, *Knowledge for Development*, we read:

[12] "Of the ten richest countries in the world in terms of GDP per head, only two have more than 5 mln people: the United States, with 260 mln, and Switzerland, with 7 mln. A further two have population over 1 mln: Norway, with 4 mln and Singapore, with 3 mln. The remaining half-dozen have less than 1 mln people. What does such variation imply about the link between population size and prosperity?" *When small I beautiful? Economics focus. How big a nation-state should be?* "The Economist". Dec. 20, 2003. Compare: Alesina A. Spolaore E. *The Size of Nations*. MIT Press. 2003.

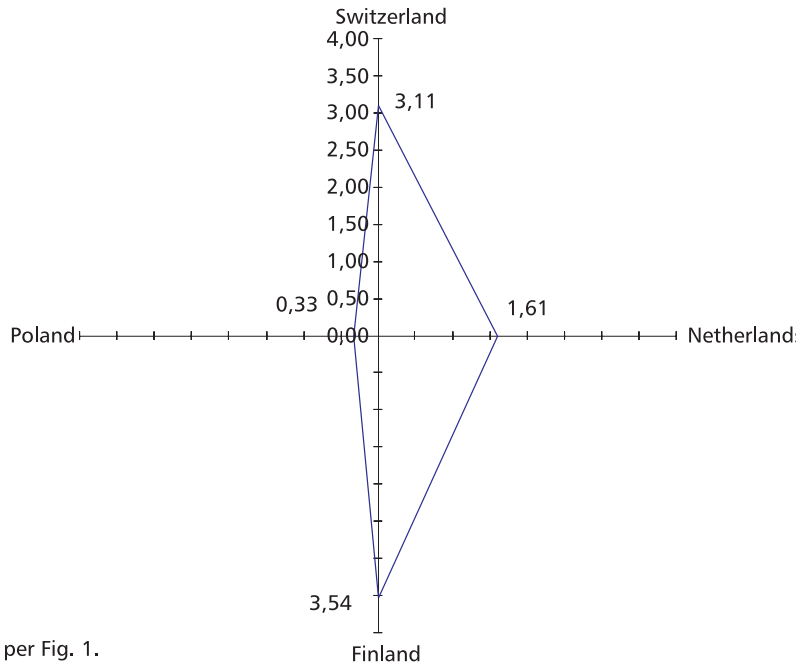
[13] *OECD STI Scoreboard 2003*. http://www.oecd.org.

Figure 3
R&D expenditures, by performing sector, as % share of national total, 2001



Source: as per Fig. 1.

Figure 4
Business enterprise R&D intensity, R&D expenditure as % of value added, 2001



Source: as per Fig. 1.

"The knowledge assessment looks at 61 structural and qualitative variables to benchmark how an economy compares with its neighbors, competitors or countries it wishes to emulate. It helps to identify the problems and opportunities a country faces, and where it may need to focus policy attention or future investments. The variables are proxies of four pillars of a knowledge-based economy. In addition, the methodology includes several variables that track overall economic performance, to show how well an economy uses knowledge for economic and social development."[14]

[14] Compare: *Knowledge Assessment Methodology* http://www1.worldbank.org/gdln/kam.htm.

The World Bank Institute's standard set of variables has been modified[15] to obtain the following composition of framework conditions for development of KBS and KBE, the hypothesis being that amplification emerges between monitored processes, (Box 1).

Box 1. Variables for benchmarking knowledge economy

Performance indicators

1. Average annual GDP growth rate, 1990–99
2. Human Development Index, 1999

Economic Incentives and Institutional Regime

3. Tariff and non-tariff barriers, 2001
4. Property rights, 2001

Education and Human Resources

5. Public spending on education, as a % of GDP, 1999
6. Management education locally available in first-class schools, 2001
7. University education for competitive economy and labor market, 2001

Innovation system

8. FDI, as % of GDP; average 1990-99
9. Companies—universities research cooperation, 2001
10. Technical papers; per mill. persons, 1997
11. Venture capital locally available, 2001
12. High-technology goods, as a % of manufactured exports; 1999–01

Information infrastructure

13. Telephones—including mobile phones, per 1000 persons, 2002
14. Computers, per 1000 persons; 2002
15. Internet hosts, per 10000 persons; 2002

Source: based on http://www1.worldbank.org/gdln/kam.htm. *(2002 KAM)*

Note: *The KAM uses 76 variables and offers a the standard, simplified set of 14 variables*

Regulations of financial markets securing state financial stability, adult literacy, secondary enrollment, tertiary enrollment and number of researchers in R&D from the KAM standard set of indicators have been replaced here by: *public spending on education, availability of management education in local first-class schools, adequacy of university education for a competitive economy and labor market, companies—universities R&D cooperation, inflow of foreign direct investment, availability of local venture capital.*

It is also worth to notice that in the currently available 2004 KAM there are seven groups of variables (described as 'functional clusters'), namely: performance, economic regime, governance, innovation systems, education, ICT, gender equality.

However, in the 2004 KAM we read: "In the Basic Scorecard three variables are used as proxies to describe each of the four Knowledge Economy (KE) pillars: Economic Incentive and Institutional Regime, Education, Innovation and ICT, plus two variables that describe economic and social performance." KAM 2004 offers data on components of Knowledge Economy Index (economic regime, education, innovation, information infrastructure) for 1995 and most recent

In any event, the above brief description of 2004 KAM confirms the explanations to 2002 KAM version (exploited in this paper) as well as justifies the approach and conclusions based on the earlier version of the interactive database.

Source: based on http//info.worldbank.org/etools/kam2004/home.asp

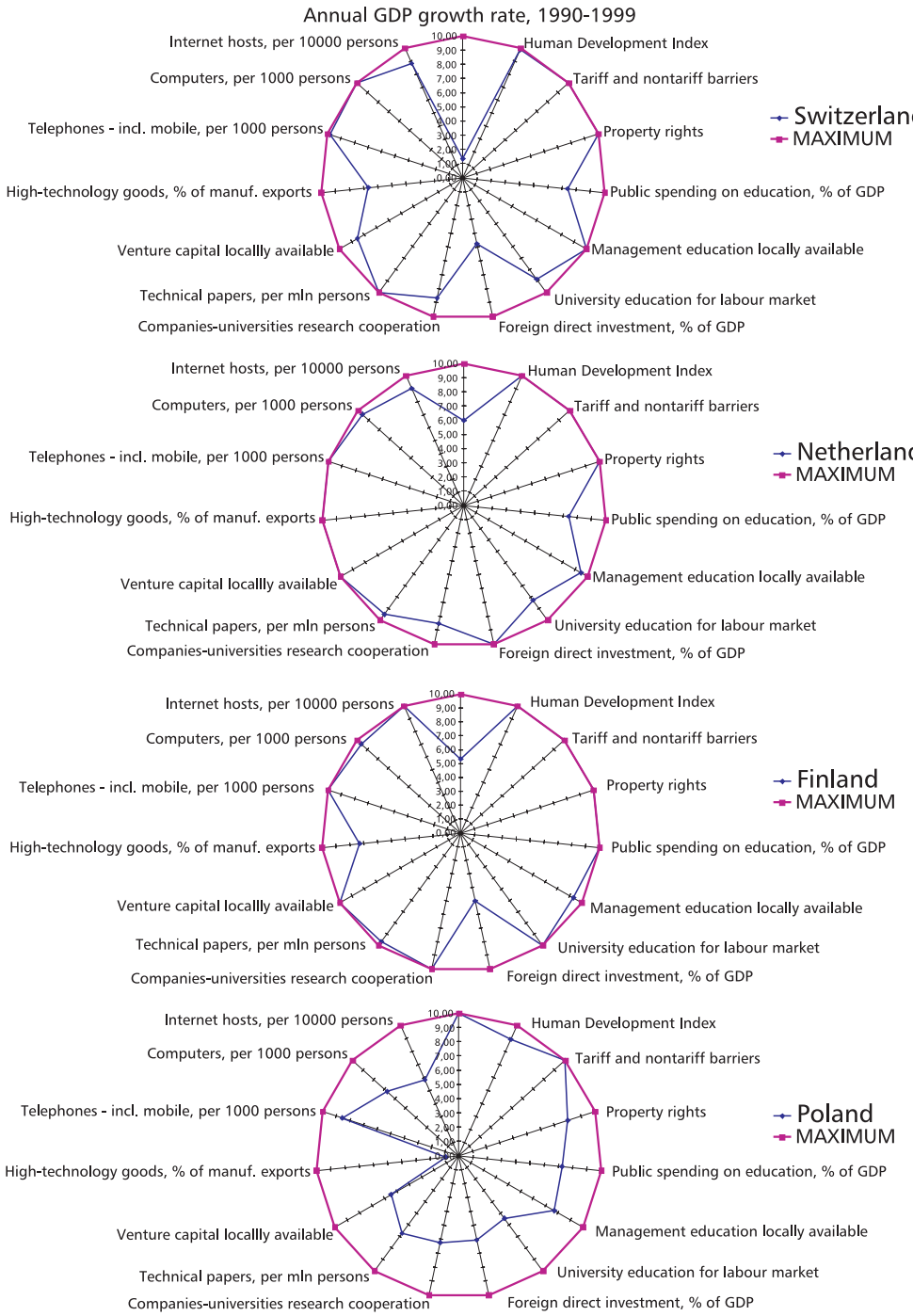
"The globalization of trade, finance and information makes it easier to narrow knowledge gaps across countries. But the fast pace of change may widen the knowledge gap creating a knowledge divide. If the gap widens, capital and other resources might flow to countries with stronger knowledge bases, adding to the inequality."[16]

In order to illustrate strengths and shortcomings of the four countries, individual scorecards are compared to each other (Fig. 5). The shape of diagram for each country results from

[15] The objectives of the Knowledge Assessment Methodology / Matrix (KAM) are presented as follows: develop a benchmarking tool to help countries assess how well positioned they are to use knowledge for development, make the tool flexible so that a country can compare itself to its neighbours, competitors or others it wishes to emulate, help to identify opportunities / challenges and where a country may need to focus policy attention or future investments. http://www1.worldbank.org/gdln/kam.htm.

[16] Dahlman C.J. Aubert J.E. *China and the Knowledge Economy. Seizing the 21st Century.* WBI Development Studies. The World Bank. Washington D.C. 2001.

Figure 5
Knowledge scorecard: Switzerland, Netherlands, Finland and Poland,
as per Knowledge Assessment Methodology 2002



Source: own presentation, based on Knowledge Assessment Methodology (KAM). http://www1.worldbank.org/gdln/kam.htm.

benchmarking normalized variables (each of the 76 variables in the KAM is normalized on a scale of zero to 10).[17] It merits attention that an economy should not necessarily aim for a perfect score of 10 on all variables and be on the outer edges of the scorecard. Some variables reflect performance, others reflect trade-offs which characterize different development strategies, still others reflect the particular structural characteristics of an economy.[18]

Main conclusions from this benchmarking state that:

- **equal evaluation** has been reached by:**Switzerland, Netherlands, Finland and Poland** in the field of tariff and nontariff barriers to trade, such as import bans and quotas as well as strict labeling and licensing requirements;[19] **Switzerland, Netherlands and Poland**—in public spending on education as % of GDP; **Switzerland and Netherlands**—in university education for labor markets and number of Internet hosts per 10000 inhabitants; **Switzerland and Finland**—in FDI as % of GDP and high-technology exports as % of manufacturing exports.
- **individual leadership** has been reached by: **Switzerland**—in management education locally available, number of technical papers per mill. inhabitants and the number of computers per 1000 inhabitants; **Netherlands—**in FDI as % of GDP and high-technology exports as % of manufacturing exports; **Finland**—in public spending on education as % of GDP, university education meeting the needs of labor markets, companies-universities research cooperation and number of Internet hosts per 10000 people; **Poland**—in average annual growth rate of GDP.
- as many as nine variables have **meaningly differ** for **Switzerland, Netherlands, Finland and Poland**, namely: average annual growth rate of GDP, public spending on education as a % of GDP, management education locally available, university education meeting the needs of labor markets, FDI as % of GDP, companies-universities research cooperation, availability of venture capital as well as the number of computers per 1000 people and Internet hosts per 10000 people.

Are these potential fields of sharing experiences or is it rather a starting point to consider further research and qualitative analysis?

2.3. Country profiles

In order to follow the previously presented conceptual approach, the methodological and analytical part of this paper has been supplemented by a distinction between **demand** (KBS) and **supply** (KBE) indicators. Most of these indicators are based on qualitative surveys, so in this respect they differ considerably both from the basic statistics (Appendix I) and the set of the KAM variables exploited in the knowledge scorecards (Box 1 and Fig. 5).

The purpose for further division of demand and supply indicators into groups relating directly to **people and institutions** (demand) as well as **enterprises and business environment** (supply) was purely pragmatic. It corresponds with policies addressing creation and diffusion of knowledge.[20] It may also contribute to feasibility of measures taken in mutual learning from

[17] For details see: *Normalisation Procedure for the KAM*. http://worldbank.org/kam.

[18] *The Knowledge Assessment Methodology and Scorecards*. http://worldbank.org/kam.

[19] The score is part of the larger group of indices comprising *The index of Economic Freedom* provided by the Heritage Foundation. *The Index of Economic Freedom* is a practical reference guide to the economies of 161 countries, with detailed information about economic policy. It offers an annual in-depth examination of the factors that contribute most directly to economic freedom and prosperity. Details of customs tariffs and technical requirements, which may result from and may occur in the EU trade policy, are not mentioned here.http://www1.worldbank.org/gdln/Programs/kam2002/technical.ht m.

[20] Compare: *OECD STI Scoreboard 2001—Towards a knowledge-based economy.* http://www.oecd.org. *Information and communication technology (ICT) continues to diffuse to* ***households and businesses*** *and electronic commerce continues to gain in importance.* OECD STI Scoreboard 2003. p. 7.

the experience of other societies. Benchmarking the proposed groups of variables within country profile scoreboard (Appendix II) has been a sample research exercise, subject to a discussion on the composition of particular groups and their correspondence to **input-output analysis.**[21]

For the chosen set of indicators, benchmarking has revealed the best level of particular variables for each of the four countries in every part of **the country profile scoreboard** (Appendix II). Each country has a potential to offer and share experience. From the 'quantitative' point of view, **Switzerland** has revealed the potential for mutual learning in the case of three indicators, **Netherlands**—in six, **Finland**—in seven and **Poland**—in three, of the total number of twenty four fields covered by examined indicators.

There are equal values of three or even four countries in the case of the five remaining indicators. **Switzerland and Netherlands** are equally evaluated in the field of property rights, **Switzerland and Finland**—in soundness of banks, **Netherlands and Finland**—in Human Development Index and availability of venture capital. It is also worth to notice once again, that **the four economies are equally unaffected by tariff and nontariff barriers to trade**.

The benchmarking basic economic data (Appendix I and Fig. 1, 2 and 3) as well as development of KBS and KBE (Box 1 and Figure 5), confirmed by benchmarking in the form of country profile scoreboard (Appendix II) justify the conclusion on different composition of strengths of each of the four countries. Furthermore, countries having undoubtedly different competitive positions on the global market are equally opened to international competition. The more important it appears to take advantage of benchmarking results by proposals in the field of pragmatic dimension of the present analysis.

3. The pragmatic dimension: the time sequence approach to benchmarking development of KBE

The proposed approach to benchmarking development of KBE is based on a set of indicators prepared and published by international organizations. In this paper

- **leading** indicators relate to investment both in tangible and intangible assets,
- **resulting** indicators refer to knowledge dissemination and ICT,
- while indicators **confirming** the KBS and KBE development represent international economic relations in the field of knowledge-intensive goods and services (Appendix III).

The development of KBS and KBE—as medium-term and long-term processes—may seem isolated from short-term fluctuations. However, the similarity of notions used in the proposed approach to those applied in a short-term analysis is not accidental. Modifications of speed in ICT development result from 'revolution' of its technological background.[22] Waves on the markets for ICT equipment, software and services are also directly connected with regulatory reforms

[21] Compare: *Multiregional and multinational systems* [in:] Input-Output Techniques. Proceedings of the Fifth International Conference on Input0Output Techniques. Geneva, January 1971. Mori S. Kikuchi J. Baba Y. Mitsuma H. *Development of Input-Output Model for Science and Technology Development—Numerical Evaluation and Policy Implication.* 1st Research Group. NISTEP Report No. 22.. Yamada M. *Overseas Production of Japanese Firms and Japan-US Interdependence. An Input-Output Analysis*. Journal of Applied Input Output Analysis. Vol. 8 (December 2002). *The Measurement of Scientific and Technological Activities.* Manual on the Measurement of Human Resources Devoted to S&T. Canberra Manual. OECD Paris 1995. Godin B. *Outline for a History of Science Measurement*. Project on the History and Sociology of S&T Statistics. Paper No. 1. 2000.

[22] See: *New telecommunications technologies. After the telecommunications bubble*. OECD Economic Outlook. No. 73. June 2003.

and financial restructuring of the ICT sector[23] and supports justification of the proposed time sequence approach.

The comments on quantitative results of the time sequence approach to benchmarking development of KBE (see: Appendix III) read as follows:

- of the eight proposed **leading** indicators the most favorable level has been noticed by: **Switzerland**—in one case (number of technical papers per mill. inhabitants), **Netherlands**—in four cases (gross capital formation as % of GDP, international telecommunication cost , FDI as % of GDP and—ex aequo with Finland—in availability of venture capital (the only one evaluated variable), **Finland**—in three cases (public expenditure on education as % of GDP and total expenditure on R&D as well as—ex aequo with Netherlands—in availability of venture capital) , **Poland**—as Switzerland—in one case (average annual GDP growth rate);
- of the four proposed **resulting** indicators—**Switzerland** had reached the highest level in three cases (number of computers per 1000 inhabitants, Internet hosts per 10000 inhabitants and patent applications gained by the US PTO per mill. inhabitants), **Finland**—in one case (number of telephones per 1000 inhabitants);
- of the five proposed **confirming** indicators—**Switzerland** had achieved the most favorable level in three cases (high-tech goods share in total exports and in manufacturing exports as well as receipts for exports of technology), **Netherlands**—in one case (world market share of exports of high-tech products, 2001), **Poland**—also in one case (average annual growth rate of world market share of exports of high-tech products, 1996–2001).

Referring to sequence of KBE development in the four OECD countries, the most favorable position in the field described by leading indicators has been achieved by **Netherlands**, in the fields described by resulting and confirming indicators—by **Switzerland**. **Finland** and **Poland** have reached a moderate position in the three discussed fields. These results require a discussion both on the tools and data for the time sequence approach to benchmarking development of KBE.

Benchmarking in detail the technological intensity of exports (Fig. 6) has revealed:

- in share of high-technology goods in manufacturing exports—the leading position of **Switzerland**, followed by **Netherlands** and **Finland** as well as **Poland** (with share 3–4 times lower than for the three other countries);
- in share of medium-high-technology goods—again the leading position of **Switzerland**, followed by **Poland** as well as **Netherlands** and **Finland**, with share considerably lower than for Switzerland and Poland.

Additional benchmarking average annual growth rate of high-tech exports and manufacturing exports, 1992–2001, has resulted in pointing to **Poland**, with the highest rates in both cases, followed by **Finland, Netherlands** and **Switzerland** (Fig. 7). These results to a considerable extent reflect the already achieved position of high-tech goods in manufacturing exports of each of the four OECD countries.

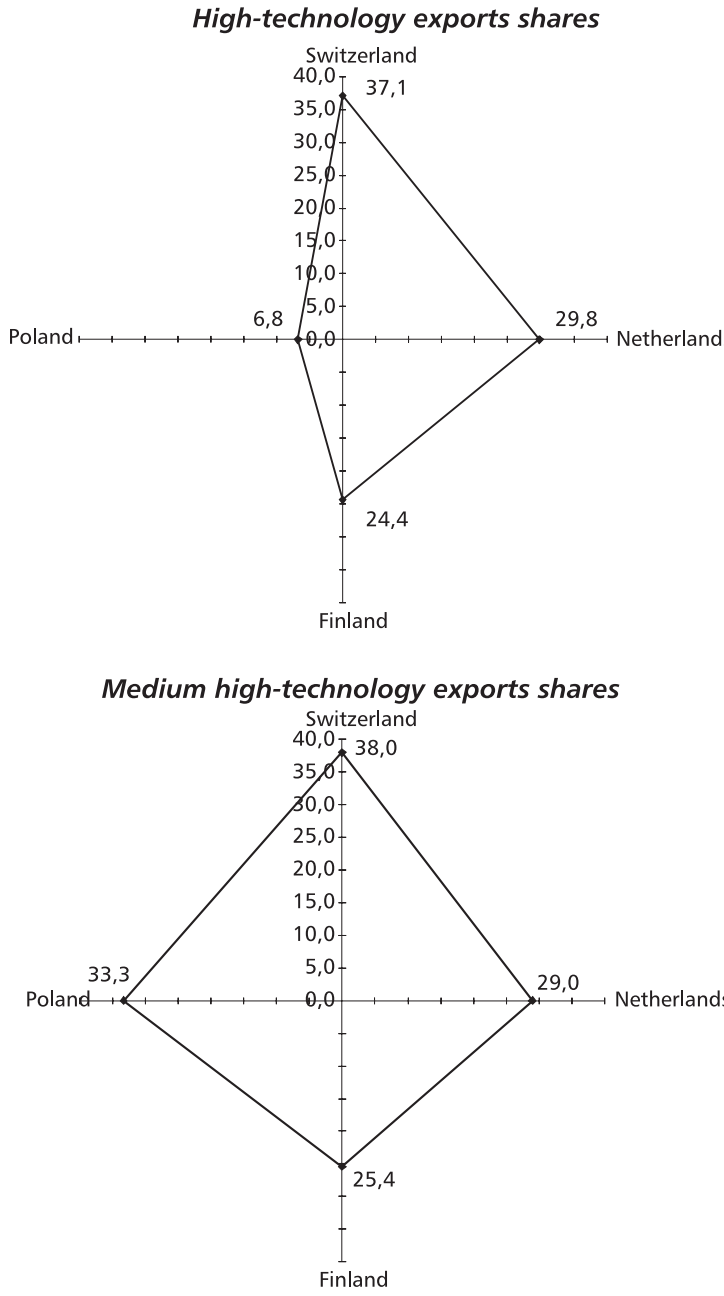
Like in an **investment project**, the time sequence illustrated by the proposed sets of KBE development indicators:

- **initially**—involves more investment than brings income (**leading** indicators);
- **consequently**—promises more income than investment (**resulting** indicators)
- **finally**—leads to competitive advantages, with surplus in manufacturing trade, high-technology products and technology balance of payments (**confirming** indicators).

In this context, as far as **forecasting KBE development** is concerned—even more important for particular countries than their positions in rankings or scoreboards—are distances among

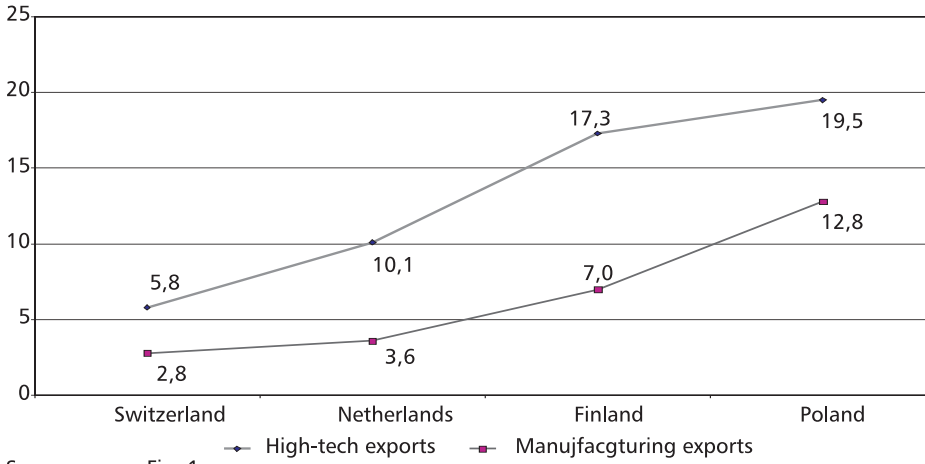
[23] See *The OECD-wide regulatory reform in telecommunications markets. The industry is in the middle of a deep financial restructuring. After the Telecommunications Bubble.* OECD Economic Outlook. No. 73. June 2003.

Figure 6
Exports by technology level, as % of manufacturing exports, 2001



Source: own presentation, based on *OECD Science, Technology and Industry Scoreboard 2003 Towards a Knowledge-Based Economy. Intra and Extra-European Trade.* Eurostat database. 2002.

Figure 7
Annual average growth rate of high-tech exports and manufacturing exports, 1992-2001



Source: as per Fig. 1.

compared countries, as measured by benchmarked indicators, institutional and financial framework conditions included.

Benchmarking commodity structure of trade, by technology intensity, should be supplemented by comparing difference between the cost of internal development and commercialization of technologies and the cost of implementing technologies available on international markets, considering also that internal investment in technologies may multiply local learning capabilities.[24] However, the sequence of events—from investment in education and R&D till production and income effects for enterprises and state budget—requires not only "patience and time", but also intermediate financing.

4. Follow-up considerations

"Benchmarking should not be considered a one-off exercise. To be effective, it must become an integral part of an ongoing improvement process with the goal of keeping abreast of ever-improving best practice. Respective of the organizational context of a benchmarking initiative, open and committed high-level support is a prerequisite for success."[25]

This paper contains a set of indicators was proposed and used for benchmarking development of the knowledge-based economy, not neglecting the knowledge-based society. To meet the analytical challenge of "individualizing" variables related to the knowledge-based society, the economic approach of demand and supply was considered. **Demand** from the KBS for **supply** from the KBE has been introduced into the benchmarking exercise—possibly, to the research advantage—in comparison of basic statistical data, framework conditions and country profiles.[26]

Benchmarking basic statistical data resulted in questions on size and prosperity of nations.

[24] See: Arora A. Fosfuri A. Gambardella A. *Markets for technology in the knowledge economy.* I.S.S.J. No. 171. 2002. *Managing National Innovation Systems.* OECD. 1999.

[25] See: O'Reagain S. Keegan R. *What is Benchmarking?* http://www.benchmarking-in-europe.htm.

[26] Compare: *Knowledge Assessment Methodology.* http://www1.worldbank.org/gdln/kam.htm. (Available 2004 KAM).

Benchmarking KBS and KBE indicators suggested the potential for offering and sharing experience in creation societies and economies based on knowledge.

Benchmarking country profiles confirmed the above potential and proved usefulness of qualitative variables to be exploited in further research projects.

Conditional answers to most questions asked in this paper provoked and inspired to propose **the time sequence** approach to benchmarking development of KBE—also to be discussed and—possibly—improved, resulting in **better understanding the development of the Knowledge-Based Society and Economy in their interdependence**

Moreover, this paper has aimed at posing questions on possible change of the picture resulting from benchmarking, that is, a question on **feasibility of catching up, in the face of the scarcity of catching up in modern economic history**.

"*In the current debate on the European Union enlargement there is an apparent mythical belief that if the set of preconditions set by Brussels are fulfilled, rapid and sustained economic growth would ensue, which would allow the newly admitted countries to catch up economically with the better off European countries. An encapsulation of this thesis is the expression: "A well functioning competitive market economy", which would be able to withstand competitive pressures inside the EU. Those who accept this thesis are ready to pont out to the experiences of Ireland and Spain in Europe, in particular. But the evidence in this regard is not so conclusive. In addition, there is glaring evidence worldwide as to the rarity of catching up. Thence,* ***taking for granted the above hypothesis can be misleading unless the possible sources of growth are examined in a thorough and open-minded way.***"[27]

It may be true that a country like Ireland might not have enjoyed the success without the emergence of ICT, with its weightlessness and global applications. Nevertheless, it emphasizes the extent to which ***the new economy is a great opportunity, provided the policies are right***.[28]

Membership in the EU does not automatically accelerate real convergence, but in combination with ***proper internal policy it can help close the development gap separating Poland from richer EU countries***.[29] *In particular,* ***the design of programs to encourage private funding of R&D*** *has exercised the minds of policymakers in developed and developing countries,*[30] *but manufacturing industry still plays a key role in Europe's prosperity. It is, however, facing challenges and* ***there is a real concern about the risk that the Union is facing a process of deindustrialization***"[31].

*"Innovation policy the European Union has developed strongly since the mid-1990s following a period of awareness rising prompted by studies illustrating the relative gap—****"the innovation deficit"****—in performance between the EU and its main competitors (notably the United States). Given the EU policy context, the question of how the countries applying for admission to the Union are faring in terms of developing and implementing an innovation policy is clearly of considerable importance."*[32]

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[27] Daianu D. *Is Catching Up Possible in Europe?* TIGER Working Paper Series No. 19. Warsaw, May 2002. p. 2.

[28] Johnston D.J. The new economy: technology is not enough. OECD Observer. No. 221. Summer 2000. p. 5.

[29] Huebner D. *Impact of the Membership in the European Union on Economic Growth in Poland.* TIGER Working Paper Series. No. 51. Warsaw, April 2004. p. 25.

[30] Poland and the Knowledge Economy. Enhancing Poland's Competitiveness in the European Union. The World Bank. Washington 2004. p. 37.

[31] *Fostering structural change: and industrial policy for and enlarged Europe.* COM(2004) 274 final. Brussels, 20.04.2004. p. 2.

[32] *Innovation policy issues in six candidate countries: The challenges.* European Commission. 2001. p. 9.

The proposed and outlined approaches to thorough examination of sources of KBE performance—enforced by monitoring and forecasting—should contribute to reliable answering these questions.[33]

Postscript—why going ahead in benchmarking knowledge-based economy?

Companies and economies flourish because of pressures, challenges and new opportunities, not a docile environment or outside "help", that eliminates the need to improve. Progress comes from change, not from preoccupation with stability that obstructs it, [34] answers Michael Porter.

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[33] Compare: The New Economy Indicator (NEI) measures the level of readiness of transition economies for harnessing the potential of the innovation and technology diffusion stemming from the 'new economy' to accelerate the long-term economic growth and catching up with developed countries. The NEI results largely square with the ranking of the Global Competitiveness Report published by the World Economic Forum, which illustrates countries' competitiveness. This suggests that fundamentals responsible for the development of both the 'new' and the 'old' economy are largely the same. Hence, since both 'economies' rely on the same foundations, then there is no 'new' or 'old' economy, there is only one economy where old recipes for development still apply. Piątkowski M. *The Institutional Infrastructure of the 'New Economy" and Catching Up Potential of Post-Socialist Countries.* TIGER Working Paper Series. No. 16. Warsaw, March 2002. p. 2. See also: Radulovic B. *Knowledge Based Restructuring in Transition Economies: The Role of Business Environment, Competition and ICT.* TIGER Working Paper Series. No. 48. Warsaw, January 2004.

[34] Porter M.E. *The Competitive Advantage of Nations.* The Free Press. New York 1990. p. 735. Compare: "The result that the social rate of return on R&D is about twice as high as the private rate of return appears to be a robust—but not always significant—finding." European Commission. European Competitiveness Report 2004. Competitiveness and Benchmarking. pp. 39–40.

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Appendix I

Basic statistics: international comparisons—Switzerland, Netherlands, Finland and Poland, 1999–2001

Indicator	Unit	Switzerland	Netherlands	Finland	Poland
Population, total	Thousands	7184	15926	5181	**38646**
KEY DEMAND-SIDE DATA					
Gross domestic product					
At current prices and exchange rates	Bill. USD	239,4	**369,5**	120,9	157,6
— Per capita	USD	**33326**	23212	23359	4078
At current prices and PPPs	Bill. USD	216,5	**443,2**	130,3	370,2
— Per capita	USD	**30138**	27836	25175	9579
Average annual growth rate, previous 5 yrs	%	1,8	3,7	5,1	**5,2**
Gross fixed capital formation	% of GDP	22,2	22,4	18,2	**26,5**
Public spending on education (a)	% of GDP	5,2	5,1	**7,3**	4,4
KEY SUPPLY-SIDE DATA					
Employment					
Total civilian employment (TCE)	Thousands	3908	7758	2326	**14526**
of which: agriculture	% of TCE	4,5	3,3	6,1	**18,8**
Industry	% of TCE	26,4	21,3	27,6	**30,8**
Services	% of TCE	69,1	**72,9**	66,0	50,4
PRICES, SAVINGS AND LIVING STANDARDS					
Consumer prices(b) average annual increase rate over previous 5 years	%	**0,8**	2,7	1,9	9,8
Gross saving ration(c)	% of GDP	**31,9**	27,6	27,8	20,9
Living standards					
Private consumption per capita, PPPs	USD	**17513**	13681	11897	6160
Passenger cars, per 1000 inhabitants (a)	Number	**433**	387	367	289
Television sets, per 1000 inhabitants (a)	Number	461	495	**519**	423
Computers, per 1000 inhabitants (a)	Number	**348**	201	182	82
Internet hosts, per 10000 inhabitants	Number	6,4	6,5	**7,2**	4,2
Doctors, per 1000 inhabitants	Number	**3,4**	3,1	3,1	2,3
Infant mortality per 1000 live births	Number	4,6	5,2	**3,6**	8,9
EXTERNAL TRADE AND RESERVES					
Exports of goods, fob	Mill. USD	80578	**211169**	45604	31667
— as % of GDP	%	33,7	**57,1**	37,7	20,1
— average annual increase rate, previous 5 yrs	%	-0,2	1,4	2,5	**6,7**
Imports of goods, cif:	Mill. USD	82586	**196458**	33948	49022
— as % of GDP	%	34,5	**53,2**	28,1	31,1
— average annual increase rate, previous 5 yrs	%	0,7	2,0	2,9	**11,0**
Total official reserves	Mill. SDR	**26463**	7357	5980	17876
as ratio of average monthly imports, goods	Ratio	3,8	0,4	2,1	**4,4**

Note: *the best (not necessarily maximum) values are marked bold.*

a) 2002; b) 2001; c) for Switzerland and Poland—1999.

Source: own presentation, based on *OECD Economic Surveys*: Switzerland, Netherlands, Finland and Poland. *OECD Economic Outlook*, Vol. 2003/1, No. 72. *Knowledge Assessment Methodology* http://www1.worldbank.org/gdln/kam.htm. *Multimedia World Atlas*, "FOCUS" Weekly, http://www.focus.pl.

Appendix II

Country profile scoreboard: benchmarking demand and supply in development of Knowledge-Based Societies and Economies in Switzerland, Netherlands, Finland and Poland, 2001

Indicator	Switzerland	Netherlands	Finland	Poland
DEMAND—Knowledge-Based Society				
People-related indicators				
Researchers in R&D (thousand)	21,0	35,5	14,0	**53,0**
Professional and technical workers, as % of the labor force	11,91	34,27	**38,72**	21,60
Flexibility of people to adapt to new challenges	6,14	7,55	**7,63**	5,37
Intellectual property rights protection	**6,50**	**6,50**	6,40	3,80
Well educated people do not emigrate abroad	6,34	**7,19**	6,54	4,62
National culture is opened to foreign influence	6,46	**8,44**	6,84	6,49
Human Development Index (HDI)	0,92	**0,93**	**0,93**	0,83
Institution-related indicators				
Research cooperation business-universities	5,30	5,20	**6,10**	3,8
ICT expenditure, as % of GDP	**7,48**	7,13	5,88	4,90
Investment in telecommunication as % of GDP	0,34	0,55	0,49	**0,85**
Extent of staff training	5,90	**6,10**	5,80	3,80
SUPPLY—Knowledge-Based Economy				
Firm-related indicators				
Productivity growth (% change of GDP per person employed)	2,04	0,49	3,89	**7,61**
Private sector spending on R&D	**6,10**	5,60	5,80	3,90
Management education is locally available in first class business schools	**6,10**	5,80	5,70	4,70
Entrepreneurship among managers	6,60	**6,92**	6,91	6,04
Local competition	5,40	**6,20**	6,10	5,20
Business environment-related indicators				
Tariff and non-tariff barriers	**8,00**	**8,00**	**8,00**	**8,00**
Soundness of banks	**6,80**	**6,80**	**6,80**	5,40
Adequate regulations & supervision of financial institutions	8,28	8,53	**8,60**	5,17
FDI, as % of GDP, (1990–99)	1,88	**3,95**	1,97	2,39
Availability of venture capital	4,70	**5,50**	**5,50**	3,00
University education meets the needs of a competitive economy	7,23	6,75	**8,19**	4,44
Administrative burden for start-ups	5,60	5,50	**6,30**	5,20
E-government	4,20	5,20	**5,80**	4,10

Note(1): HDI max. = 1.0. Qualitative indicators are based on the statistical score of a large samples group in a particular country responding to the particular questions and—as a rule—1 = the most inadequate situation, 7 = the most adequate situation.

Note (2): *the best (not necessarily maximum) values are marked bold.*

Source: own presentation, based on *Knowledge Assessment Methodology,* http://www1.worldbank.org/gdln/kam.htm.

Appendix III

Leading, confirming and resulting indicators for monitoring and benchmarking development of KBS and KBE—Switzerland, Netherlands, Finland and Poland

Indicator	Unit	Switzerland	Netherlands	Finland	Poland
LEADING indicators					
Public expenditure on education (1999)	% of GDP	5,1	5,1	**6,9**	5,0
Gross capital formation (average 1990–99)	% of GDP	0,3	**22,0**	19,0	21,0
Total expenditure on R&D (1987–97)	% of GNI	2,60	2,08	**2,78**	0,77
Technical papers, per mill. Inhabitants (1997)	Number	**6,89**	6,54	6,66	4,64
International telecommunication cost of call to USA (1999)	$/3 min.	1,00	**0,30**	1,75	3,65
Average annual GDP growth rate (1990–99)	%	0,6	2,7	2,4	**4,5**
FDI, related to GDP, (1990–99)	%	1,88	**3,95**	1,97	2,39
Availability of venture capital (2000)	Evaluation, 1–7	4,70	**5,50**	**5,50**	3,00
Human Development Index (2000)	x	0,92	**0,93**	**0,93**	0,83
RESULTING indicators					
Telephones, per 1000 inhabitants (2002)	Number	461	495	**519**	423
Computers, per 1000 inhabitants (2002)	Number	**348**	201	182	82
Internet subscribers, per 10000 inhabitants (2001)	Number	**31**	25	18	8
Patents applications gained by the US PTO, per mill. inhabitants (1995–02)	Number	**188**	86	158	0,5
CONFIRMING indicators					
High-tech goods in total exports (2001)	%	**21,1**	22,3	21,1	2,6
High-tech products in manufacturing exports (1999–01)	%	**37,1**	33,0	24,4	6,8
Technology balance of payments—receipts (2001)	% of GDP	**1,33**	1,30	0,08	0,10
World market share of exports of high-tech products (2001)	%	1,56	**4,62**	0,82	0,08
—average annual growth rate (1996–2001)	%	- 1,66	2,79	2,44	**3,99**

Note: *the best (not necessarily maximum) values are marked bold.*
Source: own presentation, based on *Knowledge Assessment Methodology* http://www1.worldbank.org/gdln/kam.htm. *Multimedia World Atlas*, "FOCUS" Weekly, http://www.focus.pl.
Key Figures 2003–2004. Towards a European Research Area. STI. European Commission. 2003.

WOJCIECH BURZYŃSKI

SCIENCE AND TECHNOLOGY MEASUREMENT —AN OBSESSION OR A NECESSITY?

(inspired by The Third European Report on Science and Technology Indicators 2003)

Introduction

Does publishing a report on S&T measurement three times during 10 years necessarily mean an obsession? Certainly not. The answer is not so obvious when we consider the affluence of regional, national and cross-country reports:

Over the last decade, OECD countries and the European Union have been developing sets of indicators to evaluate the evolution of economic, social and environmental phenomena, as well as the quality of policies undertaken by public authorities. The indicators are widely used to perform benchmarking exercises and to assess relative performances of national or local communities.[1]

So, for a commentator—and, possibly, a researcher—appears the choice stipulated as the title of this paper—is it an obsession or a necessity? To make this distinction is vital, because of its direct influence on attitudes: standing-by or joining the debate on statistics, knowledge and policy.

The Third European Report on Science & Technology Indicators 2003, European Communities, has been enumerated among documents of the OECD World Forum on Key Indicators regarding Knowledge Base on National and International Experience in the category "supranational reports" matched with "knowledge, innovation and competitiveness". Surprisingly, no documents have been indicated to match "knowledge, innovation and competitiveness" with "methodological issues", which may be justified by the above quoted presumption of policy and not technical orientation of the 2004 OECD World Forum on Key Indicators.

The reason for presenting this paper is approximately the same as—*toutes les proportions gardees*—the recent OECD initiative to arrange for the World Forum on Key Indicators: to compare experience in measuring development of science, technology and knowledge-based economies as well as to suggest remarks and—possibly—new solutions in these fields.

In the impressive, introductory statements to **the OECD World Forum on Key Indicators, 2004,** we read: *"In today's rapidly changing, increasingly interdependent world, productive debate and decisions require comprehensive, trustworthy and comprehensible information. It is for this reason that the OECD, as one of the world's leaders in the area of developing indicators for policy-making, is organizing this World Forum. The purpose is to promote research- and*

[1] *OECD World Forum on Key Indicators—Overview.* http://www.oecd.org.

information-sharing among countries, allowing them to compare strategies intended to measure and assess the overall ***"position" and "progress"*** *of a certain political entity (country, region, etc.) vis-à-vis other similar entities. The Forum will be more policy-oriented, rather than technical in nature, as indicator systems are about establishing an agreed set of figures for everyone to use to assess the position and progress of their country."*[2]

1. On an outline for a history of science measurement

The measurement of science and technology was fifty years old in 2000. It owes a large part of its existence to the work of **the National Science Foundation** (NSF) and **the OECD** in the 1950s and 1960s.[3] It is worthwhile to quote the mission of the NSF, which reads as follows: ***"to promote the progress of science, to advance the national health, prosperity and welfare, and to secure the national defense"***[4]. The measurement of science and technology, as a part of an integrated system and the statistics on science and technology, emerged simultaneously at the international and national levels.

Like social statistics, science and technology (S&T) indicators are produced mainly by governments, but differ in a number of aspects. First, they have not been developed in order to "control" individuals. Second, they have taken shape from the start at the international level. Third, they reflect a consensus among states and its organizations.

However, the situation looks as it is likely to change, as governments focus attention upon performance measures.[5] One objective is to determine the specific areas in which research ought to be conducted, such as research fields and performing sectors. Another is to better "control" the results generated by this work. Two types of measurements have been developed to meet these objectives.

First, **the counting of university innovation activities** as a means of measuring the commercialization of knowledge and the socio-economic relevance of research.

Second, **the measurement of university collaboration with socioeconomic users**, the hypothesis being that increased collaboration translates into an increased probability of impact. This type of measurement serves only as **a proxy of impact measurement**, however, impact which itself remains difficult if not impossible to measure.

These new measurements are directly related to the aims of the last fifteen years of **science policy**. During the 1980s science policy has gone from being a policy on science to being one in which science must be made to serve socio-economic ends. **It is no longer a matter of funding scientific activity for its own sake, but rather one of funding whatever contributes to economic progress and social improvement.** This is well illustrated by the fact that **the Frascati Manual (1963) excluded innovation in the measure of research, while the Oslo Manual**[6]

[2] What is the OECD World Forum on Key Indicators? 10–13 November, 2004, Palermo, Italy. http://ww.oecd.org/.

[3] Given the centrality of science and technology statistics in science studies, it is surprising that no history of the measurement exists in the literature. Godin B. *Outline for a History of Science Measurement.* Project on the History and Sociology of S&T Statistics. Paper No. 1. 2000. p. 3. See e.g.: *The Methodology of Statistics on R&D.* NSF. Washington 1959. *The Measurement of Scientific and Technical Activities: Proposed Standard Practice for Surveys of Research and Experimental Development* (Frascati Manual). OECD. Paris 1963.

[4] The NSF is an independent agency of the U.S. Government, established by the National Science Foundation Act of 1950, as amended, and related legislation, and was given additional authority by the Science and Engineering Equal Opportunities Act and Title I of the Education for Economic Security Act. http://www.nsf.gov/.

[5] *Technology and the Economy: the Key Relationships.* OECD. Paris 1992.

[6] *Proposed Guidelines for Collecting and Interpreting Technological Innovation Data* (Oslo Manual). OECD. Paris 1997.

(1997) is entirely devoted to the measurement of innovation. In 1993, it was suggested that in the field of technology Europe should redirect its $7 billion R&D budget from basic research to market needs such as high-speed communications. **European companies must join with American and Japanese partners for access to new technologies and global distribution.**[7]

Moreover, according to B. Godin (2000), it would be a mistake to imagine, however, that governments alone are involved in these measurements. They are also the subject of academic interest, at least among those members of the scientific community who are interested in the measurement of science and technology. The concept of **National Innovation Systems** designed to understand scientific systems in all their interactions and complexity—a notion of which the OECD is an ardent advocate[8]—can only come to truition if researchers possess the necessary tools with which to understand science in all its dimension.

In any event, impact measurement is laden with considerable difficulties. **The socio-economic impacts of science and technology are diffuse, and are usually only apparent in the long-term. They are also mostly manifest at the macro level: any link with the micro level would, methodologically speaking, be difficult to establish.** This is true, first of all, in respect to quantitative indicators, while not necessarily—to qualitative measures.[9] In sum, the state of **impact** measurement is comparable to the state of **input** measurement at the beginning of the 1960s. It remains to be seen whether the present willingness of governments to measure **outputs** and **impacts** will translate into efforts and investments similar to those which led to both the Frascati Manual and to the subsequent surveys that are annually conducted by statistics organizations and government departments.[10]

Coming back to the future, we find signs of **an increasing recognition of the vital role played by research in the modern economy** (Table 1) in the above mentioned Third European Report on S&T Indicators 2003, with a significant subtitle: "Towards a Knowledge-Based Economy".

Table 1

'Actors' in the modern economy

'Actors' in the modern economy	Increasing recognition of the vital role played by research in the modern economy
Citizens	Are we becoming more and more aware of the impact of science and technology on their daily lives?
Enterprises	Appreciate the growing importance of research and new technologies for their competitiveness
Expert analysts	Recognize that knowledge is a key driver of growth, employment and improvements in the quality of life.
Policy makers	Are we accepting that measures to stimulate research and the exploitation of knowledge must play a more central role in government policies?

Source: own presentation based on: Busquin P. Preface. Third European Report on Science & Technology Indicators 2003. Towards a Knowledge-based Economy. European Commission. p. vii.

[7] *Europe's economy. What must be done*. Business Week. February 15, 1993. pp. 22–26.

[8] See: Godin B. *Outline for a History of Science Measurement.* Project on the History and Sociology of S&T Statistics. Paper No. 1. 2000. Appendix I.

[9] Qualitative variables are vastly exploited e.g. in the World Bank Institute's Knowledge Assessment database. http://www.worldbank.org/kam.

[10] Godin B. *Outline for a History of Science Measurement.* Project on the History and Sociology of S&T Statistics. Paper No. 1. 2000. pp. 3, 23–25.

The *"go ahead"* approach has been preferred here over the above mentioned *"standing by"* attitude. Thus, the enumeration of actors in the modern economy with respect to the vital role of research have been recognized here as an appropriate summary of these general deliberations on science, technology and knowledge-based economy (KBE) development, and as a starting point to the review of international organizations' experience in measurement of position and progress in the field of KBE, intentionally leaving for other occasions discussion on socio-cultural impact of developing KBE.

2. The KBE measurement in Poland

Three approaches to the KBE measurement are presented here. The first case refers to scientific and editorial activities of Prof. Antoni Kukliński in the field of promotion the idea of measuring science, technology and KBE development in Poland. The second case concerns the experience of a research team—under the leadership of Prof. Leszek Zienkowski—cooperating with the Central Statistical Office. The third case deals with examples of internal monitoring by the Central Statistical Office as well as comparative studies, by the Foreign Trade Research Institute, Warsaw,.

2.1. Conceptual framework—towards increasing creativity

A series of volumes on developing knowledge-based economy as a challenge for Poland and Europe, as well as the global challenge of the XXI century was published in Poland, started in the second half of 1990s. Contributions in these volumes, inspired and edited by Prof. Antoni Kukliński, mean the intellectual provocation in the country with a considerable share of low- and medium-low technology industries in manufacturing. However, for this same reason it may be argued that the series on KBE appeared 'Just-in-Time'. [11] The last volume deals with the World Bank perspective: exploits the knowledge assessment attitude, poses questions on the extent and feasibility of implementing international experience as well as on framework conditions for developing knowledge-based economy in Poland.

2.2. An assessment knowledge diffusion and use—approaches and variables

The research program focused on technological progress, endogenous growth and the knowledge-based economy: *Polish opportunities in the integrating Europe.*[12]

A set of six variables has been chosen in order to assess the position of Poland against the EU Member States (then—the EU-15) in the field of knowledge economy. Comparison of data for 1995 and 1999 enabled to conclude on the rate of leveling the distance from Poland to the most technologically advanced EU Member States.

The following variables served as proxies of the position as well as readiness to take advantage of knowledge and new technologies:[13]

GERD—gross expenditure on research and development, as % of GDP,

ICT—investment in telecommunication sector, as % of GDP,

[11] See e.g. *The Knowledge-Based Economy. The European Challenges of the 21th Century*. Science and Government Series No. 5 [ed.] A.Kukliński.. State Committee of Scientific Research. Warsaw 2000.

[12] *Knowledge and Economic growth (Wiedza a wzrost gospodarczy)* [ed.] L.Zienkowski. SCHOlAR. Warsaw 2003.

[13] Compare: Smith K. *What is the Knowledge Economy? Knowledge Intensity and Distributed Knowledge Bases.* Discussion Paper No. 6. Maastricht. United Nations University. Institute for New Technologies. 2002.

EPO—patent applications granted by the European Patent Office / mln population,
INT—Internet hosts, per 1.000 population,
EDU—higher educated population, aged 15–65, as % of total population,
EXP—high-tech products as % of manufacturing exports.

Before choosing variables, the research team posed a question on the very idea of KBE—illusion or reality?—and proposed comments by combining investment in research and development with relative rise of real stock of intangible capital.[14]

Furthermore, there are several scenarios of the knowledge sector development in Poland till 2040, differing by scope and structure of investment in R&D in the model of endogenous growth of KBE, which emulates paths of Greece, Spain and Finland.

2.3. Cross-country comparisons and internal monitoring—approaches and variables

Cross-country comparisons may refer to studies performed in the **Foreign Trade Institute, Warsaw**. For example, the Expert Meeting on ***"The Development of Knowledge-Based Economy in Europe"***[15] gathered experts from four Visegrad countries, four EU member countries, plus experts from the OECD and the European Union, as the challenge of the highest quality of the EU membership—as well as measurement of this quality—is still ahead. Thus, the Expert Meeting addressed three groups of measurement problems: starting with a general debate on **knowledge and social capital in growth of economies** (with case-studies of countries and regions), passing through ***perspective of knowledge-based economy in the Central European countries***, finally focused on **Poland in comparative perspective**. The analytical input on Poland was generated by the team of the Foreign Trade Research Institute, Warsaw[16]. These contributions respected both endogenous and external factors of growth, including foreign direct investment, imports and exports. The research programme is continued by monitoring KBE development in Poland as well as by comparative studies.[17]

Internal monitoring is represented by sets of data published by the **Central Statistical Office (CSO)** regarding, i.a. **cooperation of enterprises in industry and service sectors in innovation activities with other enterprises and institutions**. Innovation cooperation presumes active participation in **joint R&D** and other innovation projects with other organizations—either

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[14] Compare: Abramowitz M. Dawid P. *Technological Change and the Rise of Intangible Investments: the US Economy's Growth-Path in the Twentieth Century* [in:] Employment and Growth in the Knowledge-Based Economy. OECD Documents 1996.

[15] The Expert Meeting took place in Konstancin, Poland, in June, 2001. It was held in the framework of the Initiative 4+4+2.

[16] This input included an introductory paper on *Potential impact of Poland's accession to the European Union on development of the knowledge-based economy*. The contributions reflected the need for research and decisions in the fields of: generating, acquiring and disseminating knowledge (*Education, science and human resources),* results of R&D and implementation of ICT (*R&D and ICT—international perspective*), technology structure of output and foreign trade (*KBE and the structure of output and trade of Poland* and *Trends in trade in high-technology products—eight European countries*), as well as identification of factors underlying international competitiveness—in the form of the factor analysis model (*KBE and competitiveness—the case of Poland*)—amplified and completed by an overview and conclusions (*Government policies supporting development of the knowledge-based economy).*

Swe i. Burzyński W. *R&D and information technologies—international perspective. [in:] The development of knowledge based economy. The initiative 4+4+2.* J.Kotyński [ed.] The Expert Meeting. Konstancin, Poland, June 7^{th}–10^{th} 2001. Foreign Trade Research Institute. Warsaw. See also Burzyński W. *The Lisbon Strategy and opportunities for Innovation-oriented development of Polish economy and enhancing export competitiveness*. Foreign Economic Policy of Poland 2002–2003. Foreign Trade Research Institute. Warsaw. 2003.

[17] See also: Kukliński A. Burzyński W. *Developing the Knowledge-Based Economy in Europe: the Perspective of Eight Countries*. TIGER Working Paper Series No. 49. Warsaw 2004. http://www.tiger.edu.pl.

other firms or non-commercial institutions. Pure contracting out of work, where there is no active cooperation, is not regarded as innovation cooperation.

The data have been collected by the *CSO* through a mail **questionnaire** and definitions used in the survey were fully in line with those recommended by *Oslo Manual* and used in the *Community Innovation Survey* in the EU. The target population was the total of firms employing more than 9 persons in the following service activities (according to NACE): wholesale trade and commission trade, transport, post and telecommunications, financial intermediation, computer and related activities, architectural, engineering and other technical activities.

The strongest point of the Polish innovation system is the growing innovation expenditure in the manufacturing sector, but the weakest point is still the low level of innovativeness in the service sector and within SMEs in manufacturing as well as the lack of appropriate progress in emerging effective innovative clusters, creating knowledge and commercializing new products and processes.[18]

3. Constant learning from international experience

The World Forum on Key Indicators—already mentioned—held in November 2004, being—as a matter of fact—one of the OECD initiatives, is treated separately because of direct (not only virtual) participation of experts and the unique wide scientific scope. The review of the scientific programme of workshops reveals the range of issues relevant to key indicators and enables to confirm the set of issues directly referring to science and technology measurement as well as to knowledge-based economy (Table 2). It also points—more or less precisely—to beneficiaries using key indicators, thus suggesting an answer to the main question of this paper as a necessity.

Within this general framework, but more precisely, the topic of workshops read as follows:

- Gender Statistics a Tool to Change Policies;
- **Measuring Social Capital**: National Experiences and International Possibilities;
- Rewarding Jobs: Government Policy and Work Incentives;
- Using Foreign Direct Investment Statistics for Policy Indicators;
- Health Care Performance: The Role of International Indicators;
- Indicators to Evaluate Agricultural Policies in OECD and non-OECD Countries;
- Territorial Indicators for Regional Policies;
- Improving Economic Indicators;
- Role of the Civil Society;
- Advocacy and Numeracy: Helping the Public to Use Statistics;
- **Indicators and Benchmarking**;
- Measuring the Environment;

[18] The share of innovating firms for Poland is largely influenced by trade enterprises, as they constitute 68% of the whole surveyed population and the share of innovating firms within them is considerably low—only 14%.

In 1997–1999, in order of decreasing frequency of established partnerships, the most popular partners for cooperation were:

- domestic suppliers of equipment, material, components or software,
- domestic consultancy enterprises,
- other domestic enterprises within the enterprise group (branch).

Universities and research institutes appear to be of minor importance as partners for cooperation in innovation activities with service firms in Poland. Moreover, for small enterprises, foreign firms were more frequently chosen partners for innovative cooperation than Polish firms, which was not the case for medium and large firms.

See *Innovation Activities in the Service Sector in Poland in 1997–1999*. Central Statistical Office. Warszawa 2001. *Innovation Activities in Industrial Enterprises in Poland in 1998–2000*. Central Statistical Office. Warszawa 2002.

- Making Governments Accountable;
- **The Information Society Measurement Issues and the Impact on Policy Making;**
- Regional Indicators and Fund Allocation;
- Statistics for Society;
- Scoops and Statistics: Role of Media;
- Politics and Statistics;
- **Using Knowledge to Boost Competitiveness;**
- Measuring the Effectiveness of Public Services;
- Making Business Count;
- The Role of Central Banks;
- **Planning for the Future;**

Table 2

The OECD World Forum on Key Indicators—Knowledge Base Information, by Topic

	Geographical coverage				Methodological issues
Subject Matter Areas		Supranational	National	Subnational	
	Comprehensive efforts				
	Social issues				
	Environmental issues				
	Economic issues				
	Knowledge, innovation and competitiveness				
Creating a System of Indicators					

Source: http://www.oecd.org.

- United States: Evaluating Progress;
- Italy: Assessing National and Regional Performance;
- Measuring Australia: Lessons from the Key Indicators Initiative;
- Ireland: when EU indicators are not enough;
- Cross—Country Comparisons;
- **Policy Coherence across Government: Role of Prime Ministers' Offices.**

Still further going in a search for a justification of affluence of indicators, i.a. measuring science, technology and knowledge-based economy, it proved useful to disclose potential users of information from producing and/or processing data in foresight exercises -the first place being occupied absolutely by policy makers (Table 3).

In this context, as lessons from international experience, several issues—referred to in the OECD World Forum papers—are worth attention and contributions:[19]

[19] As per *OECD Workshops Scientitic Programme.* The OECD World Forum on Key Indicators. Statistics, Knowledge and Policy. http://www.oecd.org.

Table 3

Foresight focus and possible foresight users

Foresight Focus	Social	Technology	Business dynamics	Territorial vision
Possible Foresight Users	Policy makers Consumer associations Knowledge infrastructure	Policy makers Universities Research organizations Industry	Policy makers Industry Chambers of commerce SMEs	Policy makers Territorial associations Unions

Source: A Practical Guide to Regional Foresight. FOREN (Foresight for Regional Development Network). December 2001. p. 57.

- Statistics for Policy Making;
- Indicators for Policy Making;
- Statistical Indicators for Broad Policy Purposes in Ireland—Developing the Consensus Between Statistics and Politics;
- Indicators and Benchmarking as a Support to the Decision-making Process: the Italian experience in active employment policies.

4. New approaches to well-known data

Following the inspiration of i.a. the Third European Report on Science and Technology Indicators 2003 and the OECD World Forum on Key Indicators 2004 as well as having reviewed to a considerable extent the present 'state-of-the-art.', two **new approaches to well-known data** are proposed, namely:

- adjusting the standard basic scorecard of the World Bank Institute's Knowledge Assessment Methodology to measure framework conditions of KBE development in the 'new' EU member states;
- time sequence to assess stage and development prospects of KBE, by country or region.

4.1. The adjustment to 'new' EU member states

The affluent World Bank and other international institutions and organizations data-bases are adequate to the variety of circumstances in any research comparing economies of e.g. extremely different Human Development Index *(HDI*.[20].

There is a research tool within the framework of KAM (see p. 2.2.3), namely **a standard scoreboard**, enabling to select a required set of indicators for intended comparisons. The KAM standard scoreboard is composed of 14 indicators arranged in four groups—as for four areas (or pillars) that are critical in the development of the knowledge-based economies. A set of **performance indicators** serves as an introduction to and a background for assessment of KBE development and are followed by indicators of:

- economic incentive and institutional regime *(business environment);*

[20] Based on *The knowledge assessment methodology & scorecards.* http://www1.worldbank.org/gdln/kam.htm. See also Anuja Adhar Utz. *The knowledge assessment methodology.* ECA Staff Training. Program on Knowledge for Development. World Bank Institute. July 17, 2001. Dahlman C. *The knowledge economy: implications for Poland.* World Bank Institute. June 17, 2002.

- education and human capital;
- innovation system;
- information and communication technologies (ICT).

It was possible to propose an adjustment of the standard KAM scoreboard to better meet the case of research exercises concerning 'new' EU member states. So, five indicators have been left aside:[21]

- regulations of financial institutions securing state financial stability,
- adult literacy,
- secondary enrollment,
- tertiary enrollment,
- number of researchers in R&D.

To stay with these 'reasonable 15, the new set of indicators has been added (Table 4):

- public expenditure on education,
- local availability of management education in first-class schools,
- adequacy of university education for a competitive economy and labour market,
- R&D cooperation between companies and local universities in,
- inflow of foreign direct investment,
- availability of local venture capital.

In my opinion, **the six new indicators better reflect a regional (or local) perspective** than the five indicators from the original set of indicators from the KAM standard scoreboard. Moreover, this replacement of indicators enforces the four areas (or pillars) approach to factors of KBE development. Furthermore, the proposed replacement preserved a balanced perspective reflecting both differences as well as similarities of compared both countries and regions (in new research programmes), though the new set of indicators is still a subject of evaluation and modification, including further EU enlargement(s).

4.2. The time sequence approach

This case is intended as the input into the methodological issues and proposes a new approach to well-known data on science, technology and economy (Table 5).

Indicators that capture the changing relationship between science, innovation and economic performance are crucial, so that policy makers may make informed decisions, set priorities and address the challenges of the knowledge-based economy.[22] This paper develops indicators for measuring the knowledge-based economy in several interconnected areas.

The pragmatic dimension of science and technology measurement is proposed here: the time sequence for benchmarking development of the knowledge-based economy.

The proposed approach to benchmarking development of KBE is based on an available set of indicators, which are prepared and published by international institutions and organizations once a year, as a rule. In this paper:

- **leading** indicators relate to investment both in tangible and intangible assets,
- **resulting** indicators refer to knowledge dissemination and ICT,

[21] Compare Kukliński A. Burzyński W. *The Development of Knowledge-Based Economy in Europe: the regional trajectory—model 4+4+4+22* [in:] The Knowledge-Based Economy in Transition Countries. Selected Issues. [ed.] K.Piech. School of Slavonic and East European Studies. University College London. 2004. Kukliński A. Burzyński W. *Development of Knowledge-Based Economy in Europe: Innovation Systems in Four Trajectories of a New Research Programme* [in:] Creating Knowledge-Based Economy. Infrastructure—Organizations—Individuals. [ed.] W.Gasparski and J.Dąbrowski. Leon Koźmiński Academy of Entrepreneurship and Management. Warsaw 2003.

[22] For a country-to-country comparison see: Burzyński W. *Benchmarking Knowledge-Based Economy in Switzerland, Netherlands, Finland and Poland.* Discussion Papers No. 86. Foreign Trade Research Institute. Warsaw 2004.

Table 4

Indicators used in the scoreboard, based on the WBI KAM

No.	KAM Code	Indicator and description
		Performance indicators
1	p1	**Average annual GDP growth rate**, %, 1990–1999
2	p2	**Human Development Index (HDI)**, 1999; *[based on three indicators: longevity (life expectancy at birth), education (adult literacy rate x 2/3 and combined primary, secondary and tertiary enrollment x 1/3), standard of living (GDP per capita at PPP)]*
		I. Economic Incentive and Institutional Regime *(business environment)*
3	e4	**Tariff and non-tariff barriers**, 2002 *(barriers to trade, a part of the larger group of indices comprising The Index of Economic Freedom)*
4	e5	**Property rights**, 2002 *(based on a survey: "private intellectual property rights are well protected?" 1 = strongly disagree, 10 = strongly agree)*
		II. Education and Human Resource
5	h7	**Public expenditure on education**, % of GDP, 1999
6	h13	**Management education locally available** (in first-class business schools), 2001 *(based on a survey: 1 = limited access or poor quality, 7 = among the world's best)*
7	h15	**University education for labour market**(meets the needs of a competitive economy), 2001 *(1–7 scale, based on a survey)*
		III. Innovation System
8	i2	**Foreign direct investment,** inflow as % of GDP, 1990–1999 average
9	i8	**Companies-universities research cooperation** (close cooperation between companies and local universities), 2001 *(based on a survey: 1 = minimal or nonexistent, 10 = intensive and ongoing)*
10	i10	**Scientific and technical journal articles,** per million persons, 2001
11	i12	**Venture capital locally available**, 2001 *(based on a survey: entrepreneurs with innovative but risky projects can generally find venture capital in their countries; 1 = disagree, 7 = agree)*
12	i14	**High-tech exports**, as % of total manufacturing exports, 1999 (*e.g. aerospace, computers, pharmaceuticals, scientific instruments, electrical machinery; based on OECD classifications)*
		IV. Information Infrastructure and Communication Technologies (ICT)
13	t1	**Telephones,** per 1,000 persons, 1999 (telephone mainlines + mobile)
14	t4	**Computers,** per 1,000 persons, 1999
15	t10	**Internet hosts,** per 10,000 persons, 2000

Source: own presentation, based on the 2002 Interactive Internet data base—KAM. http://www1.worldbank.org/gdln/kam.htm and the file:///A/The Knowledge Assessment Methodology and Scorecards.htm.

- while indicators **confirming** the development of KBE represent international economic relations in the field of knowledge-intensive goods and services (Table 6).

The development of KBE—as medium-term and/or long-term processes—may seem isolated from short-term fluctuations.

However, the similarity of notions used in the proposed approach to those applied mostly in a short-term analysis is not accidental. Modifications of speed in ICT development result from

Table 5

A) The CAUSE-RESULT approach to measurement of science, technology and knowledge-based economy

Approach	Groups of indicators	
	CAUSE/INPUT	RESULT/OUTPUT
European Commission	Investment in KBE	Performance of KBE
OECD	Growth of knowledge base Information economy Global integration	Productivity & economic structure
World Bank Institute	Economic regime & governance Innovation system Education ICT Gender	Economic & social performance
UN ECE	Global knowledge economy subindexes Technology Public institutions Macroeconomic environment	Global knowledge economy index

B) The CAUSE-RESULT-IMPACT approach to measurement of science, technology and knowledge-based economy

Time Sequence	Group of indicators		
	LEADING /cause	RESULTING /result	CONFIRMING /impact
Approach	Investment in tangible and intangible assets	Knowledge dissemination (diffusion) and ICT	International trade in knowledge-intensive goods & services

Source: own presentation, based on OECD Science, Technology and Industry Scoreboard. 2003 edition. Source: The Knowledge-Based Economy. OECD. Paris 1996. http://worldbank.org/kam . Regional Assessment Report. Towards a knowledge-based economy. Country Readiness Report. UN ECE. New York and Geneva 2002.

'revolution' of its technological background.[23] Waves on the markets for ICT equipment, software and services are also directly connected with regulatory reforms and financial restructuring of the ICT sector[24] and support justification of the proposed time sequence approach.

Like in an **investment project**, the time sequence is illustrated by the proposed sets of KBE development indicators:

- **initially**—involves more investment than brings income (**leading** indicators);

[23] See: *New telecommunications technologies. After the telecommunications bubble*. OECD Economic Outlook. No. 73. June 2003.

[24] See *The OECD-wide regulatory reform in telecommunications markets. The industry is in the middle of a deep financial restructuring. After the Telecommunications Bubble*. OECD Economic Outlook. No. 73. June 2003.

- **consequently**—promises more income than requires investment (**resulting** indicators);
- **finally**—it leads to competitive advantages, with surplus in manufacturing trade, high-technology products and technology balance of payments (**confirming** indicators).

In this context, as far as **forecasting KBE development** (see p. 3) is concerned—even more important for particular countries than their positions in rankings or scoreboards—are distances among compared countries, as measured by benchmarked indicators, including **institutional and financial framework conditions.**

Table 6

Leading, confirming and resulting indicators for monitoring and benchmarking development of KBS and KBE

Group of indicators	Units
LEADING indicators, timing: average, 10–15 years and/or 5–7 years	
Public expenditure on education	% of GDP
Gross capital formation	% of GDP
Total expenditure on R&D	% of GNI
Technical papers, / mill. Inhabitants	Numer
International telecommunication cost of call to USA	$/3 min.
Average annual GDP growth rate	%
FDI, related to GDP,	%
Availability of venture capital	Evaluation, 1–7
Human Development Index	Numer
RESULTING indicators, timing: most recent or 2–3 years	
Telephones, / 1000 inhabitants	Numer
Computers, / 1000 inhabitants	Numer
Internet subscribers, / 10000 inhabitants	Numer
Patents applications gained by the US PTO, / mill. inhabitants	Number
CONFIRMING indicators, timing: most recent or 1–2 year(s)	
High-tech goods in total exports	%
High-tech products in manufacturing exports	%
Technology balance of payments—receipts	% of GDP
World market share of exports of high-tech products	%
—average annual growth rate	%

Source: own presentation, based on *Knowledge Assessment Methodology* http://www1.worldbank.org/gdln/kam.htm.

Benchmarking commodity structure of trade, by technology intensity, should be supplemented by comparing difference between the cost of internal development and commercialization of technologies and the cost of implementing technologies available on international markets, considering also that internal investment in technologies may multiply local learning capabilities.[25] However, the sequence of events—from investment in education and R&D till production and income effects for enterprises and state budget—requires not only "patience and time", but also intermediate financing. There is also a fascinating analytical field of cultural indicators for development,[26] to be addressed soon.

'Follow-up remarks (on research projects in science, technology and knowledge-based economy measurement)

1. In this paper it was presumed and—consequently—presented the conceptual and methodological side of science, technology and knowledge-based economy measurement, leaving empirical issues to new research project.

2. Even the leader—the OECD -puts forward significant reservations as to multilaterally agreed 'universal' methods or sets of indicators:

A few countries have launched comprehensive national projects, sustained by the highest policy authorities, to produce regular reports based on an agreed set of indicators covering economic, social and environmental domains.

The OECD acts as a catalyst to promote research and information sharing among countries, allowing them to compare strategies intended to measure and assess the overall position and progress of a certain political entity (country, region, etc.) vis-a-vis other similar entities. The World Forum project is not intended to develop any comprehensive set of international indicators or reports.[27]

3. Apart from the already quoted issues of using indicator by policy makers (see p. 3), there are several areas for contribution in new research projects:

Composite Indicators: the Controversy and the Way Forward;

A Model to Benchmark Innovation Capacity—the Need for global indicators;

and—last but not least—

The Impact of Statistics on a Competitive and Knowledge-Based Economy.

4. It is appropriate to extend these considerations confirming that the **science and technology measurement is a necessity** rather than an obsession and to quote one more justification of usefulness of reasonably selected, workable sets of indicators:

There is no silver bullet that allows for achieving a higher level of competitiveness in knowledge-based economies. But there is hope. Statistics, i.e. knowledge itself, is an excellent means to identify strengths and weaknesses of an economy. Based on the evidence gained, politicians can and should take measures to further develop the competitiveness of their respective countries.[28]

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[25] See: Arora A. Fosfuri A. Gambardella A. *Markets for technology in the knowledge economy.* I.S.S.J. No. 171. 2002. *Managing National Innovation Systems.* OECD. 1999.

[26] McKinley. *Cultural Indicators of Development.* Occasional paper series on culture and development. UNRISD—UNESCO. 1997.

[27] OECD World Forum on Key Indicators—Overview. http://www.oecd.org.

[28] Buergi-Schmelz A. The Impact of Statistics on a Competitive and Knowledge-Based Economy. Director General, Swiss Federal Statistical Office. Statistics, Knowledge, Policy. OECD World Forum on Key Indicators. November 2004. P. 2.

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WŁADYSŁAW ŚWITALSKI

THE CONDITIONS AND MODALITIES OF IMPLEMENTING THE KNOWLEDGE-BASED ECONOMY PARADIGM BY THE EUROPEAN UNION

1. Introductory remarks

The knowledge-based economy paradigm or principle has entered the vocabulary of economic theory, strategic thinking and policy making. However, the true contents and the meaning of this paradigm still remain largely entangled in doubts and discussions.

Doubts stem from the fact that the theory is as yet unable to discern this what makes the difference between an economy that the theory had been, and still is, preoccupied with and the new system termed the knowledge-based economy. Although the paradigm of the knowledge-based economy is with us for quite a long time (in fact, formally, since the publication of OECD inquisitive reports [OECD 1996; 1997] but in reality, since Friedrich A. von Hayek has written his article on the uses of knowledge [Hayek v. 1945] or even since earlier times) neither neoclassical nor institutional economics have managed to incorporate that paradigm into the set of their key notions or suppositions. The ensuing doubts are even more aggravated by the absence, in the economic theory tool-box, of analytical instruments or models (prescriptive or at least descriptive, notional or formal) that would be capable of explaining how knowledge (together with the knowledge generating sector) becomes the third important factor that complements labour and capital in the processes of economic growth.

Economic theories of the main stream have very little to say about the ways and modalities by which knowledge, basic and applied research, budgetary expenditure on education and research interact with:

— business activities in manufacturing, finance and banking, commercial services in communication, transport and other branches of societal infrastructure;
— operation of the market in the short and long term horizons[1];
— government structures, distribution of competences among its departments, pursued policies and the selection of policy making instruments;

[1] The preoccupation with equilibrium issues and the competition based on price mechanism, with the attending disregard to competitiveness based on quality and innovative products on the part of traditional economics does not help to perceive the knowledge-based economy in the right perspective.

— the way in which public services in education, health protection or old age pension schemes are functioning; and
— many other facets of public, political and economic life of societies and countries.

Discussions among and between the economists, technologists, educators, government experts [EC 2003a; 2003b] and policy makers take place not only on the grounds of economic theory but also within the plane of ways and means how the difficult but promising perspective of creating the knowledge-based economy in the European Union and its individual member countries can be realized within the foreseeable future.

Irrespective of these discussions we observe that the economic performance of the countries of Europe when compared with the one of other countries is not satisfactory as far as the paradigm is concerned.

2. The Lisbon declaration and its perception

The conclusions of the Lisbon summit of March 2000 [EC 2000] have created a new situation that challenges data collection experts, model builders, academics and policy makers in governing bodies of EU and its member countries. The efforts to meet these challenges are undertaken by researchers (data gathering, analyses), thinkers (model building, theory formulation) and administrators (structuring of Framework Programmes, e.g.).

We will shortly be half way down the road towards the date (2010) by which the enlarged EU is to become the world leader in sustainable economic growth, innovativeness, employment opportunities and social cohesion, [Rodrigues 2003, p. 16].

The pronouncement of this strategic goal signified in fact that the European Union has entered a contest that had never before been proclaimed in such a way in the open. Albeit that contest had always been taking place among countries and their economies. On many occasions it was called the race towards economic leadership.

In the context of Lisbon Declaration it is quite obvious that the criteria to nominate the winner of this particular race by year 2010 will be: the achieved competitiveness and the degree to which economies are based on knowledge. Although other countries, outside the EU-15, have not officially declared that they are entering the race we choose to call the whole exercise a sort of a rallye in which neither participation rules nor the properties of the race course are fully known. All we can say now is that the rallye had started long ago and it will continue well beyond the year 2010. We shall return to this metaphor of the rallye in later parts of this article.

Some discipline into the race had been introduced by a series of publications initiated by OECD [OECD 1976, 1991; 1992; 1994a; 1994b; 1994c; 1996; 1997a; 1997b][2]. These publications have greatly helped in comprehending the issues, offered useful definitions (*Frascati and Oslo Manuals*) and have been serving as means of general orientation and guidance on the then yet uncharted territories of research, inventions, innovation, technical progress and competitiveness. The publications mentioned are not unrelated to writings of many earlier authors of whom we would like to mention Joseph A. Schumpeter [1928; 1976], Vannevar Bush [1945], Jacob Schmookler [1966], Richard R. Nelson and Sidney G. Winter [1977; 1982], Stephen J.Kline and

[2] The publications on science and technology and their impact on economic growth are very numerous. We have, specifically, selected these few to document the evolution of ideas that flourished within the context of the notion of knowledge-based economy. It is worth observing that emphasis was put not so much on any investments into fixed assets but on the importance of investments in education, in the so-called human capital (we prefer a term: *human assets or human intellectual assets*), scientific research and technology development. Knowledge and human assets have thus become a factor that fuels growth, alongside labour and capital.

Nathan Rosenberg [1986], David Mowery and Nathan Rosenberg [1989]. These authors, some of them having been undeservedly forgotten for many years—like J.Schumpeter and his recognition of the nature and role of innovation—have introduced a new dimension into economic thinking. Their contribution together with ones of other writers [Gibbons et al. 1994 e.g.] towards the understanding how the economy really works, apart from the obsessive preoccupation with the general equilibrium theory is, as yet, not adequately appreciated by the main stream economics. However the new thinking about economic processes started to be less concerned with equilibria or competition based on price alone mechanisms. The notions of science, technology, use of knowledge as production factor, and of human capital were entered into the vocabulary of discussions about strategies how to enhance growth.

Let us return for a short while to our the metaphor. Racing is an exercise that requires devoted and responsible approach, be it a field and track event, car racing or economic contest. In each case, before the decision to enter the particular event is taken, a lot of preparatory work—analyses, coaching, training etc has to be done. To visualise the extent of preparatory effort one may try to imagine how much it is to be done to enter a motorcar rallye of the type Paris—Dakar. Selection and upgrading of equipment, support systems, mapping of the route, solutions to the navigation, communication and logistics problems are the areas which call for harmonization and consolidation. The driver has to accomplish the final task in the contest, and he has to be certain that the whole system is well tuned and will work flawlessly despite the fact that the route is uncharted and many uncertainties are ahead. The challenges that are facing the European Union economies are many times over more complex, difficult and are loaded with much higher level of uncertainty.

The rallye to become the most competitive economy of the world is on. There are many entrants and many categories of competitors. From the European perspective three participants are the most important and they form number one category of competitors in the race. They are EU, the US and Japan. They are called the Triad. The remaining entrants belong to other categories and classes. Some of them have the potential to join the main class of participants (large, economies, quickly growing GDP, large scientific research and R&D sector) in not so distant future (India, China might be named as examples of such countries).

Each of the main class contestants is characterised by its own traditions, history, experiences, political system, the modality by which its economy is operating, by its potential and strategy. Each of them has its own failures and accomplishments recorded in the past stages of the rallye. They know the route covered so far. They study it and try to envisage what lies ahead. The space to be covered remains largely unmapped. There are no sign posts indicating direction or detours and by-passes or warnings against dangers and obstacles. Some participants have their systems tuned not well enough to match the performance of others. What evokes particular concern among observers who have a stake in the position EU takes, is the fact that other contestants performed better in the past, move faster at present and the gap that divides EU from them is not getting shorter. Some stakeholders (among them members of the EU expert team) voice doubts whether certain characteristics of other contestants (that had allowed them to keep ahead) are fully known and understood: "interfaces between public research, technological development and commercial exploitation **have to be better understood if improvements are to be made**;" (emphasis WŚ), [EC 2003c, p.413].

These concerns have very complex, and profound at the same time, background. On one hand we may ask a pertinent question whether there is something wrong with the economic theory underlying the quest for leadership in innovativeness and becoming the knowledge-driven economy? On the other, there are questions addressing the appropriateness of identification of differences in political, economic and social institutions and mechanisms. In addition to resources (body of

knowledge, stock of fixed assets, labour supply, human assets, social capital) and the resolve to become "the most competitive and dynamic knowledge-based economy in the world" [EC 2000, § 5] there is the transmission component in the system. If, other things being equal, transmission in not working efficiently, then the particular economy is not performing *pari passu* (or faster) with other economies.

3. The gap between EU-15 and other countries

As far as the economic theory is concerned we can safely assume that it is equally well known in Europe as it is in the US and Japan. If economists and policy makers can not be guided in their decisions by the economic theory (because of its inadequacies or misgivings), then it applies, in equal measure, to all economies. We infer then that the failure in boosting the performance of European economy can not be explained by the selection of wrong theoretical framework. If these are not the resources, the resolve to win or the theory, what is it then?

Below we use few excerpts from the *Third European Report*. The observations and assessments contained in them illustrate the situation of the race as it obtained in the very recent past.

1. "According to [European Commission Report of Spring 2003], both the level of overall investment in the transition to being a knowledge-based economy and its growth rate are still **significantly lower** [emphasis WŚ] in Europe than in the US and Japan," [EC 2003c, p. 23]
2. "Since the mid-1990s, the gap between EU and the US in terms of R&D investment has increased significantly in favour of the US. The EU figure is below that of the US regarding the volume and rate of growth of resources devoted to R&D, as well as the level and growth of R&D intensity ... **The gap has widened for the past eight years** (emphasis WŚ) ... Recently, the gap between the EU and the US has widened rapidly", [EC 20032c, p. 85].
3. "...the gap between EU business sector R&D investment and that of the US **has actually increased** (emphasis WŚ) during recent years... The US manufacturing sector has a considerably higher R&D intensity than that of the EU", [EC 2003c, p. 161].
4. "Almost all the Member States of the EU **lag behind the US and Japan** (emphasis WŚ) in terms of their ratio of researchers to labour force and it will be difficult to catch up with these two countries", [EC 2003c, p.253].
5. Patents relative to the size of population, (as registered by the patenting offices of the Triad[3]) show that "...the EU has slightly fewer than 28 patents, per million population which is **well behind** (emphasis WŚ) the US (42) and Japan (69)[4]„, [EC 2003c, p.333].
6. "The EU's science intensity **was much lower** (emphasis WŚ) than that of the US especially in European patents, where Japan posted the strongest science linkage of all", [EC 2003c, p. 421].
7. Exports, imports and trade balances in high-tech products of the Triad members during 1995-1999 reveal a picture that requires comments [EC 2003c, p. 355 and 356]. During that period the averaged annual growth rate of high tech exports amounted to 13.0% (EU-15), 14.0% (US) and 4.0% (Japan) while imports of high-tech products grew at 19.5% (EU-15), 16.3% (US) and 6.6% (Japan). The accumulated balances in this trade for the same period

[3] The Triad is composed of the EU-15, the US and Japan. The respective data are drawn from the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the Japanese Patent Office (JPO).

[4] There are marked differences among members of the Triad in the cost of obtaining a patent: on the average European patents cost five times as much as US patents and 3 times more than Japanese ones (the average cost of European patent in 2000 amounted to Euro 50,000), [EC 2003c, p. 354].

amounted to deficit of 81.6 bln Euro (EU-15), surplus of 18.9 bln Euro (US) and surplus of 209.5 bln Euro (Japan). The situation characterised by the quoted above data was not healthy at the period for which they were recorded. These and other data reveal that the EU **is unable to balance its high tech trade** (emphasis WŚ) and has been greatly dependent on high tech imports from its main competitors (in 2000 developed Asian economies recorded 41 bln Euro and NAFTA countries 32 bln Euro surplus in high-tech trade with EU-15!), [EC 2003c, p. 361][5].

Given the indicated above lagging of Europe behind the US and Japan in:

a) overall investment to enhance the transition into knowledge-based economy;
b) volumes and growth rates of resources devoted to R&D;
c) dimensions and shares of business sector R&D expenditure in total investments into R&D;
d) the level of saturation of labour force with researchers and innovators;
e) low relative level of patenting activities;
f) low level of impact of scientific research on registered patents;
g) international trade in high tech products,

we need to ask question on why Europe is so deeply retarded and what can be done to redress the situation. The first part of the question needs, perhaps, a much wider study on European history, traditions, culture, societal attitudes as well as ideological vagaries of political elites. It constitutes a promising area for specialist research conducted independently of present day efforts to face the challenges of the future. We leave this issue, at the moment, untouched. The second part of the question (means and ways of improving the status of Europe *vis-à-vis* the US and Japan) can be approached with greater ease thanks to the *Third Report*. In Chapter 4 (*Human Resources in Science & Technology*) the authors address a topical issue of the availability of personnel being able to generate outcomes that would help the European Union to become " *the most **dynamic** and competitive knowledge-based economy of the world".*

4. Availability and deployment of human resources

4.1. Production of human assets

The *Report* emphasizes the crucial role human resources play in knowledge production, dissemination and use—recognizing, at the same time, the ensuing shortages of human assets in the European science and technology sector. *"One way of increasing a country's reserves of human resources in S&T is to produce science and engineering graduates. Degrees in S&E field of study, especially PhDs, formally qualify their holders for employment as researchers"* [EC 2003 c, p. 186].

The *Report* (noting that the EU has, relatively, fewer researchers than the US and Japan) appraises that if EU-15 is to catch up with the US in number of researches per 1000 labour force by the year 2010, then it would need to educate, in addition to the current output, 835,000 more researchers[6] [EC 2003c, p. 189].

[5] Trade balances in high-tech products reflect the absolute competitive position of an economy. Deficits in these balances indicate inadequate contribution of R&D into productive potential. Probably only a fraction of EU-15 deficits is used to reduce the gaps in technological development and innovativeness between EU versus the US and Japan. The massive deficit will grow much bigger when similar statistics will be prepared for the enlarged EU.

[6] The arithmetics behind this number is the following: 550,000 more researchers are needed to achieve in 2010 the US number for 2000 and an extra 285,000 additionally, assuming that the US would continue the trend recorded in the past. The number is then 835,000 researchers over the current numbers of output, during the rest of the present decade!

Let us reflect, shortly, on this required number of additionally produced researchers by 2010. If we assume that this goal would have to be achieved during seven years (2004–2010) then nearly 120 000 extra researchers would have to be educated each year. How many additional entrants into academic degree level studies would guarantee that the societies of EU-15 would have 120 000 additional graduates to become researchers? Even if 100% of additional entrants become researches then total number of graduates in each year would have to be increased by 5.5%, (in 2000 total number of graduates in all fields of study amounted, in the EU-15, to 2,143,500, while for science & engineering graduates the figure was 555,647 persons). Another pertinent question is: how many additional professors would be needed to provide education for this extra number of students? We do not dare to answer this and several other questions that should also be asked. Are the teaching facilities existent? If not, then when and in what disciplines the new facilities should be created? Where from would we attract the additional educators? When the graduates that are to become researchers will start fruitful professional careers? Would there be adequate number of employment positions to absorb the increased number of researchers? The conclusion from this reflection is that the task of catching up with the US by 2010 in terms of numbers alone (not in terms of the results of research work) is totally beyond practical reach.

It is a great achievement of the *Report* that the issue of the gap in number of researchers per 1000 labour force between the US and the EU-15 had been addressed, studied and that the relevant statistics had been presented. But, at the same time, we have to state that the remedies to improve the situation need to be sought with devotion and understanding. In connection with this issue we would like to revert to Antoni Kukliński's thought concerning the strategic choices that Europe faces at the beginning of 21st century: *"Should the Lisbon Agenda be taken seriously or this Agenda should be regarded only as a nice set of good intensions?"*. [Kukliński 2004, p.2].

All signs indicate that the proponents of Lisbon strategy were not aware of this what it takes to become knowledge-based, most competitive economy in the world. When we think about knowledge-based economies and societies then, immediately, comes into the picture the issue of the body of science that should generate the most important component of knowledge. Scientific approach in the outlining of the Lisbon strategy was, most probably, absent in the minds of those who voted to approve it with such a short target date. We used the term "outlining" to indicate that we do not see the **designing** effort in setting the goals as well as in indicating instruments that should be used.

4.2. Deployment of human assets

Before we address another issue, albeit closely related to the one we dwelt upon above, we want to mention that perhaps the line of reasoning how to break even with the US in terms of researchers (whose task would be to generate new knowledge, to use it and to produce innovation) should not rely on numbers alone, but also on the philosophy and methodology of how to use the human resources in constructing the foundations of the knowledge-based economy.

On page 189 of the *Report* [EC 2003c] we find a very important question: "*Does the education system adequately meet the demand for highly skilled R&D personnel?*" We do not find, in the *Report*, a conclusive answer to this question. In the expectation that our present short note is not merely reproducing figures and ideas contained in the *Report* but also could be an inspiration for new inquisitive studies we would like to devote few thoughts to the issue of deployment of human resources in S&T.

In Figures 4.1.1 and 4.1.2 being accompanied by Table 4.1.1 the authors of the *Report* present data[7] on total number of researchers (p.181), number of researchers in relation to labour force (p.182) and the distribution of human research potential among business, government and higher education sectors in the EU-15, the US and Japan (p. 183).

The aggregate numbers alone evoke pessimistic, rather, feelings concerning Europe's ability to meet the objective set in Lisbon strategy. When we examine the numbers we can notice some facts that reveal certain striking differences present in the researchers' employment statistics among the countries of the Triad.

We will limit ourselves only to the structural difference. We see (Tab. 4.1.1) that only 3.9% of all American researchers are employed in government institutions (for Japan the percentage is 7.7%) while countries of EU-15 employ in the government institutions on the average, 16.3% of all their researchers. These comparisons lead to astonishing constatation: EU-15 countries employing, proportionately, more than four times more researches in government, should be more efficient in designing policies to enhance economic growth, to reduce unemployment and to create conditions for the full implementation of the knowledge-based economy principle. Other data indicate that:

1) growth rates in the EU-15 are much lower than in the US;
2) unemployment rates in the EU-15 are much higher than in the US;
3) more inventions, patents and innovations are generated in the US than in the EU-15.

So, the conclusions could be that:

1. policy makers in the EU-15 do not listen to the advice given by researchers and deploy policies counteracting growth, reduction of unemployment and the stimulation of innovation; or that
2. the statistics are wrong in classifying the employees of government institutions as researches, these employees may hold academic degrees but they are simply undereducated bureaucrats who do not comprehend the real challenges and therefore they are unable to provide advice on what should be the goals of the governments concerned or to advocate instruments that serve to achieve these goals, or that
3. the paradigms that govern the behavior of researchers and policy makers in the EU-15 drastically differ from those that are present in the minds of American policy makers and researchers.

We tend to think that all three conclusions could be valid but the third one plays the most important role in explaining the widely acknowledged fact that Europe is lagging behind the US.

When we analyse the figures that reveal the employment of researchers in business enterprises we may find, that:

a) 85% of all researchers in the US are working for the business enterprises sector;
b) only 57% of all researchers in the EU-15 are employed in profit seeking enterprises, (the corresponding figure for Japan is 67%).

These findings well correspond with numbers that characterise the share of researchers in total labour force employed in the US and Europe. On the average there were 0.87% research workers in the US (for Japan the figure was even higher: 0.97%) while in the EU-15 we had only 0.54% of researchers in relation to total number of employees.

Considering conclusions that were suggested in points 1^o–3^o above we are inclined to think that both, the processes to educate researchers are wrongly designed in Europe (regarding the

[7] We noticed that numbers contained in Fig. 4.1.1 do not tally with those included in Tab. 4.1.1 although they pertain the same categories for the same year. For UE-15 the difference between Fig. 4.1.1 and Table 4.1.1 is 14,497; for the US: 20,673; for Japan 15,747.

curricula of university level training) and that the prospects for freshly doctorised (PhDs) people are less attractive when employed by business enterprises in Europe than in the US.[8]

The line of reasoning goes thus the following way: in Europe we have to alter the predispositions and objectives of educating the experts (inclusive of researchers and policy makers) for governments and businesses.

Perhaps the principles of the liberalized market economy as well as the principle that governments should not organize free rides for one part of the society at the expense of the other part (calling it a policy of social justice) and should become an important part of policy making and the philosophy that governs the attitudes of European universities, business and public administration schools and technological academies?

Perhaps different teaching curricula should be adopted in social sciences and engineering disciplines, so that people trained in economics, sociology etc would better understand the issues that have to be coped with by the graduates of engineering and technology departments?

Perhaps such a change would provide a basis for developing a common language between technologists and economists when they face challenges and attempt to solve problems that are present in building the knowledge-based economy?

4.3. Ways of performance improvement

In changes that we contemplate here one aspect seems very important and deserving a specific approach. The issue in question is that in research and innovative processes we always have to deal with structures that are typical of project work. Project formulation, apart from the formal skills needed for analysis and appraisal, requires good knowledge of design methods, procedures and tools.

Mastering of the art of design in the technological and engineering sense, that is in the sense by which the products of designing (be it a machine, a bridge, a new drug or a new household appliance) are imprinted with:

— functional properties,
— composition of materials and parts,
— internal structure of components,
— reliability and performance characteristics,
— size, weight and shape,
— ease of manufacturing or construction,
— production and exploitation costs levels,

constitutes an indispensable element of technical education and occupies a large part of teaching curricula in technical universities.

Students of engineering and technology are taught about properties of various materials, about operations by which materials are given the required shape, smoothness and hardness, about linking operations in chains to form processes, about managing and scheduling jobs to be done and about conveying the knowledge about the products that are designed to other specialists that design effective methods of producing these products. This knowledge and the required intimate familiarly with various problems is highly specific. It has to be mastered if graduates of technical universities are to become the creators of innovative products and processes. Yet there exists abundant evidence that certain, sometimes even very attractive, innovative projects in engineering or certain innovative products have failed to win the approval of potential buyers or users.

[8] From other sources we know that employment and career opportunities in the US for young and older researchers are much more promising than in Europe.

Strategy designers, policymakers and experts that are supposed to assist policy makers, normally educated in other than engineering faculties, are not, as a rule, trained in the art of designing. Nevertheless they are expected to solve design problems that are by far more complex and demanding than problems for which we educate our technologically minded elites.

The design of innovative political, financial, education, social insurance, public health protection or national defense systems are in the hands, not infrequently, of those who had no chance to master the art of designing. The problems of design of country-wide systems that serve social purposes had universally not become the subject of monographs, manuals or text-books for students of economics, business administration or politology. Nor even there exists a universally accepted methodology of design work that would consist of:

— guidance on how to set attainable goals;
— instruction how to draft the modalities of achieving the set goals and objectives;
— methods of conducting the pre-feasibility studies of the suggested ways and means to put the contemplated system into operation;
— specification of o tool box to help the design of products and processes of the system under consideration in a similar manner as it is usually done in engineering of technical systems;
— methods of experimentation on models of societal systems to discern the operational properties of the latter once these systems are implemented by political decisions.

The supposition derived from the observations presented above is that the potential losses, suffered by the societies in terms of their well being as well as prospects for future economic and social development when the designs for macro-scale systems are wrong, could be many times higher than losses inflicted by cases when certain engineering projects fail to achieve the hoped for quality or performance.

The conclusion, and also a recommendation, that follows from this working supposition is that perhaps it is a time that in the quest to achieve the objectives of the Lisbon strategy we should be less concerned with the numbers only but also should devote more attention to the cause-effect mechanism and the philosophy of approach. Numbers have to be present in our analyses because they define the point of departure, the trajectory of change and the objective. Nevertheless the quality of project work and the approaches of newly educated experts and researchers towards the challenges that are present in the rallye should dominate our thinking about the designs for the future.

Perhaps it is a time to conceive an idea that the governing bodies of EU establish, similarly like the governments of member countries establish state universities, a new university that would teach a new breed of researchers, consultants and policy makers who would design systems that would guarantee the highest probability to achieve the declared goals.

Perhaps then the project work, involving project formulation, design of its constituent parts, phases, analyses, reformulation and final implementation in different scales of societal, economic and political activities of EU, its member states and functional sectors (economy, knowledge production, R&D, innovation) would then become the focal interest of researches, authors of teaching curricula and case studies as well as professors of the innovative educational institution set to define, address and solve the problems that face Europe of its stakeholders.

We are of the opinion that graduates in social sciences, medicine schools and in other, non strictly, technical disciplines should also be educated in the design and experimentation methodology. In the longer time horizon this additional training should generate positive effects not only in operation of societal, or government systems but also may bring about better understanding of ways how new knowledge is produced and in what ways it could be exploited for the benefit of countries and societies.

It has not escaped our attention that the understanding of design and experimentation processes among e.g. economists may contribute to the development of a useful economic theory of innovation, technical progress, and, on the whole, the theory of operation of the knowledge-based economy.

5. The S—T—E triangle: where is the place for innovation?

When it comes to study linkages and interactions that are active in the SCIENCE—TECHNOLOGY—ECONOMY (S—T—E) triangle it becomes evident that we are still gathering factography [EC 2003a; b], formulating hypotheses on how data on the numbers of science and R&D workers, scientific publications, patents etc influence the innovativeness, competitiveness and rankings of countries in terms of the levels and rates of growth [EC 2003c; Kukliński, Skuza 2003]. Efforts that aim at the outlining of policy making trajectories how to implement the knowledge-based economy paradigm [Rodrigues 2003] are undertaken.

The frequently referred to **"the European paradox"** [EC 2003b, p.413] can be treated as an indication that the processes by which corporations, industries, regions, countries and their groupings gain absolute competitive advantage over their counterparts are not well understood in Europe. It appears that they need not only descriptive [Porter 1990] but also prescriptive treatment. Were it not, then policy makers would do without detailed investigations on facts and cause-effect mechanisms that help to accelerate economic growth and assist certain countries in attaining privileged position in the race for better living standards of their populations. What is still missing in the landscape of studies and investigations are the workable models that would explain in operational terms the astonishing performance of e.g. Japanese economy in the 1970s and 1980s in terms of innovativeness and competitive position in international trade or the self-perpetuating pace of American economy during the whole of 20th and the beginning of the 21st century.

The linear model of science—technology—economy linkages (so easily rejected when Stephen J. Kline had written his first articles [1985a; b], followed by S.J. Kline and Nathan Rosenberg publication [1986] on chain-linked model), is still valid in many specific areas of relations between science, technology and practical applications. The linear model (or its prototype yet to be developed into a fully-fledged numerical formula) still commands relevance and strength in many fields, where value and strategic judgments on efforts to improve the performance of state or societal institutions are surmounting the commercial principles.

It is quite striking that since its inception, the in fact half baked idea of a chain-linked model had not been enriched by clear specifications of explanatory and dependent variables as well as by numerical identification of the relevant coefficients. The so-called model of chain-linkages replicates, in the form of a block-diagram, certain paths by which flows of ideas, data, money, inputs and various activities bring in innovation, first into the firm and consequently, into the economy.

Ability to replicate the linearity of thinking and putting down in writing our knowledge about the many trajectories that link science with business practices is only the first step towards operational models. The block diagram as presented by the authors of the chain-linked model offers, in contrast to the linearity of speech and texts, multi-dimensional map of influences and dependencies. Many parallel links and feedbacks on figure 3 [Kline, Rosenberg 1986, p. 290] reveal the complexity of the problem and mutual interplay of various phases, their outcomes and actors performing their specific roles.

This picture refers to virtually microeconomic domain of use of science in practical life. If the line of reasoning present in the chain-linked model is to be further developed we need not only refinements and detailed specification of this model. Equally important there seem to be models that would take into account the processes and actors that are present in the macroeconomic and institutional framework. The linear model, as the one attributed to Vanevar Bush is the one that is rooted in the macro scale [Bush 1945].

The micro and macro approaches would probably not suffice. A meso scale model would be needed to capture the specificities of industry-wide or region-rooted efforts to convert achievements in the science sector into more efficient processes or better products.

One thing can be said now. The authors of the *Third European Report* are very correct in their frank admission that "...there is a need to develop a more refined understanding of the complex interactions and co-evolution of S&T along the different stages of innovation", [EC 2003c, p. 413].

This declaration states that the understanding of interplay among science, technology and economy (STE) is no longer a matter of curiosity of researchers. It is a *sine qua non* condition of rendering the knowledge about STE metabolism that would be usable in policy formulation and extension.

The widely felt dissatisfaction with models proposed by the orthodox economic theory (in which neither economic growth nor the nature of technological change through innovation is embodied [Gomułka 1990]), that fail to explain the dynamics of factor productivity and competitiveness has not, as of now, brought a new approach to the perception and understanding of STE phenomena. Perhaps something is gestating and the next generation of models will soon be made known. It is highly unlikely, however, that these new models would rely on symptomatic, describing the surface of phenomena only, approaches that in the past were derived from the Cobb-Douglas production function or econometric manipulations with data on output and R&D expenditure or patent registration. What is needed is the organic modeling of cause-effect mechanisms. The relevance of traditional econometric models is limited, the experiences derived from the application of e.g. the two factor (capital and labour) production function tell us that it can not explain the phenomena that are present in long term growth . Traditional econometric models illustrate only the correlations that might have happened in the past.

Policy makers, presidents of corporations and managers are looking into the future. Their decisions are based on perceptions of economic reality, as it occurs to them at present, as well as on general strategies, assessment of potential of their systems relative to the potentials of their competitors and on forecasts of purchasing power or demand for products they are in position to deliver to the markets they focus on. The particular knowledge of this how researchers or model builders explain the past events is probably totally irrelevant to them.

We can, therefore, formulate a postulate that the new generation of models that would be useful in, the yet to formed, theory of competitiveness for business and for economic policies should be based on the new composition of explanatory variables[9]. From this postulate it follows

[9] The variables that I have in mind would reflect individual, perhaps subjective to a degree (but definitely not averaged over the whole industry or economy), projections of contemplated actions, relating the decisions to be taken to the changes of employing new technology being in possession of a firm or having a potential to be developed internally by the firm vis-à-vis the perceived moves by competitors and the projected changes in the market demand. In an article dealing with the need to develop a new generation of models for a knowledge-driven economy it is was suggested that a completely new modeling paradigm should be adopted. Taking into account the largely unstudied by econometric investigation the area in which basic research, R&D, final engineering (products and processes) and commercialisation of end effects of those efforts are interacting, together with the attending uncertainties (financing, success chances, sources of repayment of incurred costs) it was proposed that gaming simulogy models are employed [Świtalski 2000, p. 163–167].

that studies in the competitiveness of S&T sector of European economies might yield more useful results when these new variables of business behavior models in firms are incorporated into models of technology development.

6. An alternative reflection

Before we attempt to formulate the remarks that would conclude this contribution we feel compelled to make a short reference to the meaningful article written by another author of this volume. Roman Galar, in his insightful, frank and open, perhaps even bitter, appraisal of implications resulting from the *Report* [EC 2003c], addresses several issues that are very important (see: *Adaptive versus Managerial Approach to S&T Policy*, contained in the present collection of articles). Documenting his stance with historical examples, the author attempts to present an alternative view of premises, methodology of deriving conclusions and of formulating policy directives that follow from the assessment of the situation that obtains in the EU at present. Professor Galar, inspired by Antoni Kukliński's dichotomies that are permeating the strategic choices related to the future of Europe (see: *Europe—the Strategic Choices of the XXI Century. Six Methodological Reflections*, also present in this volume), raises the issue of a dirigistic *versus* leseferic modalities in introducing measures to improve the performance of S&T sector. That issue touches the core of the contemporary understanding of the ways by which S&T structures and policies influence the economy.

While there are no workable theories or models that would explain the working of science/technology—economy interface, so these complex, and not fully understood (especially by economic theory) phenomena and processes can only be grasped thanks to hunches and guesses. We highly appreciate the weight and the background of arguments that R. Galar presents to support his position in advocating the leseferic approach. Nevertheless we are of the opinion that S&T policies can not wholly rely on no policies at all. The pragmatic solution to the problem of a choice between dirigistic or leseferic attitudes in formulating the policies toward basic and applied research, engineering, technology and innovation is, with all probability, more dependent on the optimal mix of the two approaches then on any one of them, taken separately.

In some instances the linear model (pattern) of dependence between the expenditure on research and the practical outcomes is more useful and appropriate. Despite all the shortcomings (the contestable assumption that the supply push suffices to attain the targets, the requirement that state's budgets should finance the expenditure on S&T projects, the widely acknowledged facts that a prominent role in advancing societal technologies is played by corporate funding of research and that innovation is proliferating through processes of spatial and inter-industry diffusion) the assumption that there exists a linear (or near-linear), relationship or dependence between budgetary expenditure and the commercialization of new technology, in many cases seems to gain the upper hand. In these instances the goal to catch up with the race leaders seems to justify the dirigistic approach. In such cases the objective is set quite clear: attain the same (or higher) level of excellence as other participants have attained. The criterion in funds allocation is also straightforward: allocate funding in such an amount and in such a way that guarantees the achievement of the goal with the minimum of expenditure.

Such instances may occur not so frequently. So we also need another approach. Many policy makers and researchers tend to think that the so called chained-linked model can be applied *in lieu* of the decisive moves to direct the areas and orientations of research. However, the chain-linked flow diagram neither specifies the objectives nor provides the criteria for the evaluation of progress or performance. The approach in question is, in its essence, behavioural. It

leaves out the process of search as well as the act of defining the objectives to the operation of invisible hand. Although that observation is deeply rooted within the leseferic paradigm it does not offer any comfort when policy makers are forced to take position *vis-à-vis* the challenges posed by the natural environment protection, depletion of fossil fuels or the threat of structural unemployment.

The idea that multiple relationships among funding sources, direct actors working on consecutive phases of an innovative project and the end-users of the project outcome can be presented in the form of a block diagram (the chain-linked model as proposed by S. J. Kline and N. Rosenberg [1986]) is quite fruitful but still should not be called a model. In our view it is merely an illustration of the way of thinking about the process or a suggestion that indicates the lines of further research. Without clearly set objectives or criteria to evaluate the ensuing courses of action, this suggestion hardly can fulfill the role of an analytical tool for diagnosing the situation or for drafting macroeconomic policies. In the absence of appropriate investigative or prescriptive instruments we fully support R. Galar's view that adaptative approaches, being reinforced by efforts to produce social capital (as a supplement to the human one) and efforts to create an environment that would enhance quality and social usefulness of research as well as the wide acceptance of innovative behaviours is more promising than the dirigistic dispositions that would empower bureaucrats to assume control over the delicate sphere contained in the S—T—E triangle.

Roman Galar's approach is based on broad philosophical assessment of implications that follow from the structure of the *Report* and the intellectual inclinations of its Authors. In our contribution we wanted to take a more technocratic perspective. We confined ourselves to numbers and their meaning. We attempted to point to circumstances that question (in extreme situations invalidate) the lines of the contemplated future actions that would follow from the Lisbon declaration in the light of hard facts and the demanding reality. Galar's insights into the pitch and key of the declared policies as well as into the message that the "Lisbon strategy" and the *Report* proclaim, go into the very intellectual foundations of deliberations over the possible shape of Europe's future. We think that the referred to paper corroborates our assumption that a better, and the less concerned with solving the imminent problems of today, understanding of the metabolism that is present in the S—T—E triangle on the part of researchers from both sides (technological and economic) will eventually flourish in the emergence of practicable theory of innovation and competitiveness.

7. Final remarks

When the practical issues of implementation of Lisbon strategy are taken into account then policy measures would come to the fore in the new light. The important indications on what problems the technology development policies (and, consequently science sector's research effort) should be focused on would not be derived from academic's perceptions but rather from the subjective expectations of those who take decisions in businesses, in administration and from the modalities by which state or Union institutions are functioning.

The authors and back-office researchers contributing to individual chapters and dossiers of *The Third European Report* [EC 2003c] have made a formidable effort and have achieved the lasting and meaningful result. The breadth and minuteness of their investigations provides a very good launching platform for further studies (new factography, hypotheses, fresh models, premises to formulate a relevant theory of a knowledge-based economy). What will be needed to develop

the knowledge-based economy paradigm into the theory of knowledge-based economic behaviour , in my personal assessment, are two extensions of studies done so far [EC 2003a; b; c].

Extension one seems to be not very difficult: the issue of patents. We have here two parties. The owners of patents and their buyers. Irrespective of the owner we have to discern the patent users (owner and buyers). The patent rights users are the producers of goods and services. The benefits that should ensue from the use of patents are: new products, higher factor productivity, larger market share, improved profitability and a sustainable competitive advantage. Attempts to include the statistics on actual patent uses by corporations and governmental institutions in the *Fourth Report* would propel the knowledge on these issues to new insights and hypotheses.

Extension two would pertain the closed-loop mechanism. Better performance on the market, in domestic as well as in international dimension, generates surpluses that should fuel both, the business expenditure on R&D and engineering of specific projects as well as the government financing of basic research and the functioning of institutions that help the economies concerned to attain the status of a knowledge-driven economy.

Allowing ourselves to return to our starting metaphor, namely to the one that EU has consciously declared its intent to win the competitiveness and knowledge-based economy rallye, we would like to underline our conviction that the success depends not only on putting additional cylinders into the inherited driving engine (i.e. producing higher number of graduates in science and technology, in the expectation that they would become researchers) or mounting larger wheels on EU's vehicle (i.e. implementing Framework Programmes that encompass broader ramifications for research areas to be covered) but, in equal measure, the success depends on :

1) achieving higher rating and more useful output from the already installed power;
2) putting-in more efficient transmission between the power plant (science, education, technology and engineering sector) and the mechanism that safeguards effective performance (generation of patents, innovation and technical progress in business, government administration and social services sphere);
3) educating the sponsors (sources of funding) as well as other stakeholders to be more aware of potential benefits when the system performs according to expectations and unavoidable losses in case any part of the whole system is not using the resources and potential (human, material and financial as well as knowledge and aspirations) in the right way;
4) improved charting of the territory that extends ahead by which the ensuing uncertainties would be reduced while alternative trajectories or paths might help to take shortcuts on the route or to select less bumpy roads;
5) better training of the drivers of the vehicle;
6) better communication among drivers, logistic experts and the support team.

When this thinking is introduced into strategic considerations how to win in the race for leadership in knowledge generation, exploitation and commercialization then the chances for success in achieving the objectives goals of Lisbon strategy would become higher although the numerical goals themselves would still remain distant and uncertain.

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Part Two

Education—The Key to The Future of Europe

KRZYSZTOF PAWŁOWSKI

EDUCATION—THE KEY TO THE FUTURE OF EUROPE

Introduction

The transition into the 21st century highlights not only a noticeable economic transformation, but also a societal one. Developmental trends in the global economy and demographic changes, indicate a transfer of developmental propensity towards countries of the "Pacific Rim". It is increasingly clear that two new, giant entrants will soon enhance the group of developed nations: China and India, which, due to the size of their internal markets, can affect the world's economic situation. They can do so in the near future, as well as influence global politics and culture.

Simultaneously, the end of the 20th century brought with it the increasing role of transnational corporations, whose existence and developmental strategies are increasingly removed from the widely understood political, social and economic situation, not only of those countries where the TNC's are headquartered, but also those where the corporations operate their production and trading divisions. The global liberalisation of trade enhances such tendencies. Less and less countries opt for economic isolationism, with the most notable change in this approach being adopted by China where almost all of the Fortune 500 corporations have already located their production, service and trading divisions.

The role of the nation state is constantly being reduced, especially in the case of small and medium-sized countries. For many years Europe has been attempting to adapt to the new situation by increasing integration processes between the national economies of its member states. EU widening to 25 countries has brought a considerable expansion in the internal market and, in the perspective of a decade or so, should bring about a clear economic development impulse, not only for individual member states but also for the EU as a whole. Unfortunately, the positive long-term economic and political changes within the EU are under threat from the demographic changes, as all EU member states will experience a decline in their population numbers coupled with an unavoidable ageing of those that remain. Such a situation highlights the need for the EU to focus on the resources that form the basis for the Knowledge-based societies: people, especially those most talented and innovative, and on systems that educate and shape such people. It seems that in the current globalising economy combined with negative demographic trends, effective education systems and the organisation of scientific research will become the keys to sustaining Europe's position in the world. Unfortunately, due to political reasons European education systems are egalitarian in nature, while the dominant political doctrine is the democratic access to knowledge and equality for all academic institutions. At the same time, modern times are times when those

most talented are vital for science and the economy. What should be done in Europe so that the tradition of equality isn't compromised, yet those most gifted are effectively selected, educated and offered conditions in which they can utilise their talent in the service of the nation state?

What should be done to draw in, just like in the USA, those most talented individuals from the rest of the world, so that they would see Europe as a place in which to realise their scientific and economic ambitions?

Europe in the changing world

The current organisational solutions in European science, systems of promoting young scientists and ways of funding scientific research force the most gifted, ambitious and young European scientists to seek better fortunes in American universities.

Over the last century, Europe has persistently lost its hegemonic status, and done so in all of the most important areas of human activity: political, social, cultural, economic or that of scientific research. We can make an analogy to the times of the Roman Empire. Greece as an area, which just recently dominated the world was loosing its importance, Greek cities were crumbling, the Greek fleet was non-existent, and primitive farming was re-emerging as the primary mode of survival. While the state crumbled, Greek culture spread across the ancient world carrying forth its amazing achievements in philosophy, mathematics and literature. Today, our modern world, just like its Roman equivalent, has accepted, transformed and developed the greatest achievements of European civilisation, including the institution of the University and scientific research, while Europe as a whole is beginning to lose its place as a political, military, cultural and economic power.

It is difficult to tell an enlightened European, who can look back on a glorious past, that we can easily envisage a world without the considerable influence of geographic Europe. It is easy to create a script, where Europe joins the global periphery. To illustrate Europe's declining role in world economic affairs, we can draw on much data[1], but the exercise would be pointless—we treat this process as fact visible to all who engage in analysing the present and future.

If we assume that, in the 21*st* century the world's development will depend on the Knowledge-Based Economy, then the expansion of scientific research, or widely-defined, the production of knowledge and its application, will be the fundamental way in which corporations or countries will acquire supremacy or at least a sizeable portion in the global division of the results of human economic activity[2].

To illustrate the level of scientific research development in a given country we can utilise a variety of data or synthetic indicators. This work proposes to use the simplest of them all, which clearly illustrates the position in the global race for scientific dominance—the percentage of the entire number of Nobel Prize laureates (excluding the Peace and Literature prizes), generated in 10-year periods by Europe, the United States and the rest of the world.

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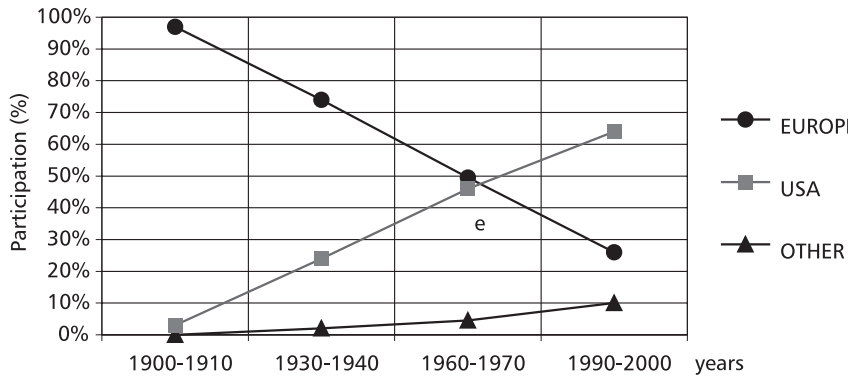
[1] Kennedy, P., (1989), *The Rise and Fall of the Great Powers*, New York: Vintage Books; Huntington, S. P., (1996), *The Clash of Civilisations and the Remaking of World Order*, New York: Simon & Schuster; Oswald, S., (1991), *The Decline of the West*, New York: Oxford University Press.

[2] Read: Kleer, J., Liberska, B., Kukliński, A., (et al), (1998), *Globalizacja gospodarki światowej, a integracja regionalna. Konsekwencja dla Polski*, Warszawa: Komitet Prognoz „Polska w XXI wieku" przy Prezydium PAN, Dom Wydawniczy ELIPSA; Bożyk, P., (et al), (1999), *Jaka przyszłość Europy?*, Warszawa: Komitet Prognoz „Polska w XXI wieku" przy Prezydium PAN, Dom Wydawniczy ELIPSA; Jałowiecki B. (2000), Brukselskie scenariusze dla Europy, in: *Strategia rozwoju Polski do roku 2020, Vol. 2, Studia eksperckie na temat 20-lecia 2001–2020*, Warszawa: Komitet Prognoz „Polska 2000 Plus" przy Prezydium PAN, Dom Wydawniczy ELIPSA, p. 164–181.

The process of globalisation and the development of the Knowledge-Based Economy will boost the role of world leaders—corporations and countries that have direct access to research data and its applications in the shortest possible time frame. The winners will be those, who can create the best systemic conditions for the conduct of science and for utilising the results of scientific research and who acquire the best scientists. That is the reason why the number of Nobel Prize winners working in a given country is a clear illustration of the country's scientific potential, and thus its developmental opportunities.[3]

Pic.1. Percentile participantion by nation in Nobel Prizes awarded between 1900-2000



Source: Own analysis, based on data from www.nobel.se

The data speaks for itself, and should provide the necessary impulse for Europe to initiate special actions. The number of Nobel prizes awarded to Europeans has declined from nearly 100% to 26% in the 1990's while the number of Nobel Prizes awarded to scientists working in the USA has exploded from 3% to over 60% in the same period. The number of Nobel prizes awarded to scientists from outside Europe and the US is also steadily rising. Of course we could delude ourselves that, when looked upon in absolute values, the decline is much smaller because we still generate over a third of the laureates and six of the American laureates in the 1990's came from Europe[4]. But such explanations only weaken the message emanating from the graph above, especially when we extrapolate the European decline into the future, even if we assume a relative slowdown of the process. The message is stunning: should the decline in the number of Nobel Prize laureates living and working in Europe persist, after 2030 the number of Prizes awarded to the Continent ought to be marginal. The data presented is a shocking signal of Europe's possible marginalisation in one of the crucial areas of human activity—the development of science.

[3] To simplify the analysis, numbers of laureates have been partitioned into 10-year periods: 1900–09, 1930–39, 1960–69, 1990–99, and those are the periods of relative stability in crucial areas of the world (therefore the decades following both World Wars and the periods of turbulence that followed have been omitted).

[4] Detailed data about the Nobel Prizes awarded in various areas can be found in: Braun T., Szabadi-Peresztegi Z., Kovacs-Nemeth, E., (2003), No-bells for ambiguous of ranked Nobelists as science indicators of national merit in physics, chemistry and medicine 1991–2001, *Scientometrics*, vol. 56, no 1, p. 3–28

What the data says and why American universities are the best

The Nobel Prize data presented above, illustrates the increasing lead that American science has over its continental European counterpart. To avoid any accusations of one-sidedness it is necessary to quote additional data from B. Clark's "Places of Inquiry"[5]. The US economy has roughly 25% of global GDP, but American share of the global expenditure on R&D amounts to 38%. Also, 38% of scientific publications originate in the US, but the share of index citations is over 50%[6]. In various disciplines, 18–20 US universities are places in the global top 25, while the top 10 is traditionally dominated by 8–9 of them. In the "electrical engineering" top 25 category, 20 universities are US-based, 4 in the UK and 1 in Japan. In the "economics" top 25, 21 universities are US-based, 2 in the UK and 2 in Israel. New inventions and achievements originate from the US: 72% of all new business methods based on the use of Internet originated from America[7], while US corporations were responsible for 60% of the top 100 innovations made between 1945 and 1970[8]. Despite the fact that biomedical R&D is conducted all over the world, 75% of all biotechnology pharmaceutical patents emerge in the US[9]. American domination is clearly visible in the area of organising and funding scientific research: 89% of global venture capital belongs to US investors, while half of the 17 well-known innovation centres[10] are located in the US (Silicon Valley and Boston Route 128 are the most famous)[11]. When quoting such data we have to remember that the USA never achieved the level of R&D expenditure that the European Union has it eyes upon—3% GDP. The US case shows that excessive funding is not enough and that effective systemic solutions are needed. The US economy has retained the status of the world's most dynamic economy, and over the last 50 years has increased GPD per capita by 2.5 times, despite the fact that it spent less than 3% GDP on R&D over this lengthy period.

A different argument illustrates the dominance of American higher education: in 2000/2001, there were 23 705 American students in Europe, whereas the US hosted over 80 000 Europeans[12]. But if we consider the overall population size and recalculate the data the US-Europe ratio would be even higher. If we recalculate the number of European students relative to 1 million US citizens, we receive 295, whereas there are 49 Americans for every 1 million European citizens (six times less). It is appropriate to point out that a decision to undertake study in the US also means the need to fund ones study, the costs of which are much higher than comparative study at even the most expensive European institutions.

If we assume that top research universities in the US are the current world reference, we should ponder upon what differentiates them from European institutions.

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[5] Clark, B.R., (1995), *Places of Inquiry: Research and Advanced Education in Modern Universities*, Berkeley: University of California Press, p. 139.

[6] JSI data for 1991–2000. ibid.

[7] NSF, (2002), *Science and Engineering Indicators 2002*, Arlington, Da; Washington, DC: National Science Foundation.

[8] OECD, (1970), *Gaps in Technology: comparisons between member countries in education, research and development, technological innovation, international economic exchanges*, OECD.

[9] Porter, M.E., Schwab, K., Sachs, J., (et al), (2002), National Innovation Capacity, in: *The Global Competitiveness Report 2001–2002: World Economic Forum, Geneva, Switzerland, 2001*, New York: Oxford Universitry Press p. 24.

[10] Manuel Castells calls these centres „technopolis sites", in: Castells, M., Hall, P., (1994), *Technolpoles of the World: the making of twenty-first century industrial complexes*, London, New York: Routledge.

[11] UNDP, (2001), *Human Development Report 2001: Making New Technology Work For Human Development*, New York p. 32–34.

[12] OECD, (2001), *Number of foreign students in tertiary education by country of origin and country of destination*, electronic document: www.oecd.org, table C3.5; OECD, (2002), *Foreign students enrolled in institution of higher education in the United States and outlying areas, by continent, region, and selected countries of origin:1980–81 to 2000–01,* electronic document: http://www.opendoorweb.org, table 415.

The Author's experience in creating and managing a higher education institution, situated on the crossroads of two cultures and education systems—Polish and American—allows for the formulation of five major factors that differentiate US universities:

1. Effective and professional management;
2. A shortening of the journey to scientific and academic independence of staff;
3. Financial and organisational stability;
4. Focusing research funding (both public and private) on the best research teams;
5. An academic atmosphere where scientists and students coexist; that situation creates attitudes and character;
6. A much stronger relationship with the surrounding environment, especially with the economy.

Proposed changes to the European system

One of the most important characteristics of the American higher education system is its internal differentiation. Alongside top research universities—where those most talented, and often the richest, are educated, where Nobel Prize laureates and/or candidates conduct scientific research—there is also a sea of colleges and universities whose primary mission is education. The education system is analysed through a variety of rankings, which allow the prospective student and academic to find an institution best suited to their needs and capabilities. Simultaneously, the American system allows for the progression of students and staff to better and better universities in line with their career objectives and abilities.

The European higher education system, especially the Continental one, due to the incorrectly understood equality in access to funding, "dilutes" public financial support, which still remains the dominant form of university funding, equally across all universities. This is undoubtedly one of the fundamental reasons why there haven't appeared any European elite research universities capable of competing with the best American and British research institutions.

The model presented below shows the proposed changes in national education systems, which focus on:

A. The creation of conditions for the emergence in individual EU member states of research universities capable of competing with the world leaders, that can be achieved via funding and organisational methods;
B. The creation of a system for staff development at the highest level, that are necessary for effective and efficient national governance;
C. The identification and selection of scientific talent at the university entry level, followed by the creation of opportunities for conducting scientific research at European universities, while retaining the rule of equality of access to education.

In the system outlined below, the Author attempts to combine the best American solutions with European values.

Fundamental assumptions of the proposed new higher education system are as follows:

1. The best universities selected by the government, receive funds for accepted students onto "competency" programmes lasting 5 years, yet each year there is a public verification process of elite-creating institutions. Universities or Faculties that lower their standards will be denied follow-on contracts, while their place is taken by new entities that have raised their education standards to the appropriate level. This system assures competitiveness and enforces the sustaining or enhancement of educational quality. Governmental contracts for elite education are signed with institutions regardless of their status, i.e. private or state-owned.

2. The government decides about the scale of competency-based special scholarships based on current demand and financial resources. We can assume that such scholarships will cover 5% of all students accepted onto the 1st year in most nations to 10% in the richest countries. This approach is based on the solutions applied in French Grand-Ecole's, but doesn't freeze the process into an elite-educating programme, seeing that places are accessible only after passing a stringent selection process. Five faculties/universities leading in each teaching area would function within this system, allowing for the dispersion of "special" students amongst them so that a monopoly never arises at a single institution.
3. The remaining 95% candidates study for free during the 1st year, which retains the principle of democratic access to higher education. Individual institutions define intake limits and set entry criteria, for example additional entry exams.
4. From their 2nd year, all students learning on normal terms pay tuition whose minimal amount is defined by the government and the maximum amount by the university, taking under consideration the real costs of study on a specific programme or faculty. The government transfers to all universities (private and state-owned) a standard amount of funds per student, via an "education coupon" or by an algorithm, as well as covering the operational costs of state universities like investments, renovations, fixed and administrative costs, and internal research. When retaking a year, students pay a much higher tuition, which ought to cover the full cost of studying.
5. National and local governments create scholarship systems permitting the awarding of funding based on study results as well as awarding social/poverty scholarships that cover the tuition and study costs for students originating from poorer families.
6. The national government, through a special fund, covers the cost of doctoral studies, but also awards high scholarships to the most gifted doctoral students, so that they become tied to the European universities and consider remaining there to undertake scientific careers.

The nature of the proposed funding and organisation system is based on:

— Moving away from tuition-free studies for all students;
— Introducing a rule where only the state carries the financial burden of study for those most gifted students and doctoral researchers, simultaneously strengthening European universities so that they could compete with the best institutions in the world.

Detailed solutions regarding the new system of funding and organisation of higher education for a specific country—Poland—have been explained in a previously published book[13].

The proposed system foresees a much higher than standard funding for competency-based studies and doctoral programmes from the state budget. Such a solution should gradually, within a decade or so, strengthen the best Faculties and universities, in terms of money and people, which conduct competency and doctoral programmes. Additional public funding for education will permit hiring of increasingly better academic and scientific staff and bring about the return of the highly individualised Master-Apprentice relationship. If this system will be accompanied by a well-prepared system of research grants, then gradually, the best will be visibly strengthened—those institutions that best find their way in the new conditions—and as a result gain much needed international competitiveness.

An important part of the system must be its openness and the introduction of permanent competition for access to additional funding. Every several years (5–7) universities should undergo external evaluation by validation committees, while a special national-level accreditation organisation would maintain an official ranking of Faculties conducting competency and doctoral

[13] Pawłowski, K., (2004), Społeczeństwo wiedzy—szansa dla Polski, Znak, Krakow

programmes. The weakest and lowest-ranked institution would loose its license to the strongest of the Faculties applying for the right to conduct competency and doctoral programmes that would be additionally funded from public sources.

A very important part of American and British university dominance is their ability to draw in students from the rest of the world, especially for their doctoral programmes. It is obvious that such people strengthen the scientific potential of those universities where they undertake studies. US and British universities have a fundamental advantage: they offer programmes in the most popular global language, English. Yet, there is no financial barrier to the creation of a European network of universities offering all, or their best, programmes taught in English. Such a network would not only enhance much desired staff and student mobility within the EU, but would also draw in students from elsewhere, especially in a situation where they would be able to continue their studies in a series of universities operating in different EU member states. Tentative steps are being taken in this direction within the framework of the Socrates-Mundus programme, but on a small scale and with the simultaneous retention of programmes operated in national languages.

One of the reasons for the superiority of American universities over their European counterparts is the high mobility of researchers and academics and the relative ease of their employment and firing. Most European states are still dominated by the mentality promoting permanent employment of people who have been awarded the state professorship, regardless of their professional activity. In the American system, a professorship is tied to the institution and the percentage of people being awarded tenure is clearly lower, while the evaluation of academic and scientific activity is much stricter. As a result, there is increased competitiveness between staff employed by American universities, which, when looked at through the prism of final results, clearly has an effect on the quality of work.

When analysing the staffing policy of European universities their over-socialisation is clearly visible. A popular model (virtually undoable in the USA) is one where a person's entire professional development is conducted within the confines of a single Department: from a student, through doctoral study all the way to the state-awarded professorship. Such a system in no way enhances effective staff selection nor stimulates the generation of conditions helpful in maximising the effects of conducted research and its application.

Conclusion

Education, in its widest sense—from primary school, through university, all the way to continuous learning—is becoming the key to the future for all societies.

This notion seems obvious, but maybe it is worth recalling the arguments in its support:

1. A good education system creates people capable of creative and innovative application of knowledge.
2. A good higher education system boosts the development of scientific research and its application in the economy.
3. An open and effective education system maximises value added—it is not only the increase of knowledge in the minds of those being educated, but also of abilities to utilise it, both amongst those most gifted as well as all participants within the education process.
4. A good education system, in the long run, brings with it social behaviours that can bring about the emergence of an innovative Knowledge-based society.

Only an innovative Knowledge-based Society is capable of creating and innovative and competitive economy. Only an economy capable of constant competition with the best in the

approaching world, combined with an entrepreneurial, mobile and innovative KBS can help Europe regain its competitiveness and thus become a global actor in the 21st century.

European politicians, still dreaming of realising the Lisbon Strategy, are left with implementing the decision to introduce a series of reforms into the European academic world, including those most fundamental—introducing competition and the concentration of funding for research and university development in the best institutions.

The reward is not only the position of the European academic establishment in the race for global leadership but also something much more important—the position of the European economy in the global competitive system and the chance to acquire the potential to effectively compete with the best.

Reforms are difficult to implement, because they go opposite to the centuries-old traditions of academic autonomy and overturn politically correct notions of equal access to higher education. Yet, without them, the goals set in the Lisbon Strategy will remain forever on the horizon, possibly a horizon moving further and further away.

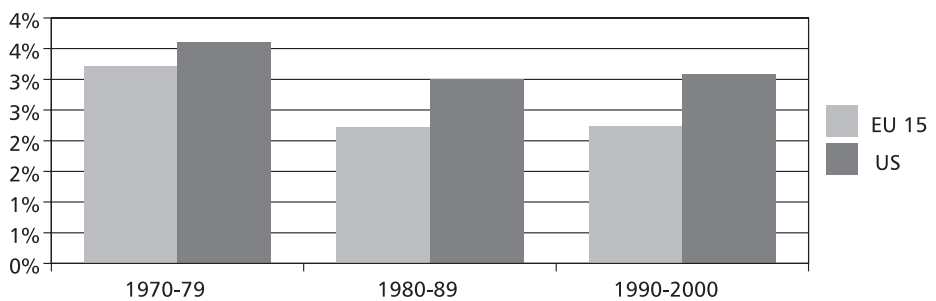
JOANNA SIWIŃSKA

A NOTE ON EDUCATION, GROWTH AND PUBLIC FINANCES

Introduction

Average GDP growth rate of the European Union countries during the 1980's and 1990's has not been outstanding, both in absolute terms and relative to the US.

Graph 1. Average GDP growth rate in the EU-15 and US



Source: OECD Statistical Compendium, 2003

Since both economic theory as well as empirical research indicate that education and human capital belong to important factors driving sustained growth of nations, hence it seems that one of the possible reasons for such an unfavorable outcome for the EU could be attributed the significant difference between the level of human capital in EU, as compared to US (see, for example, Sapir, 2003).

Therefore, for the European Union (and other) countries, it is important to understand what factors influence the level and accumulation of human capital. Among the policy issues that arise in this context is the question of the influence of public education expenditures on the level and accumulation of human capital.

This paper is intended as a brief survey of the theoretical and empirical literature on the impact of education[1] and public education expenditure on the rate of economic growth and human

[1] The emphasis of this paper is on education, rather than on more extensive concept of human capital that includes also training. This reflects the focus of the existing cross-country empirical research—the nature of training varies considerable across countries which makes very hard to capture it in international data (Temple, 2001a).

Table 1

Educational attainment of the total population aged 25 and over in EU-15 and US: average years of school and percentage of the population aged 25 and over that has completed at least post-secondary level of school

	Average years of school		% of the population aged 25 and over that has completed at least post-secondary education	
	EU-15 average	US	EU-15 average	US
1980	7,32	11,91	5,5	18,0
1985	7,54	11,71	6,5	20,4
1990	8,07	12,00	7,6	27,3
1995	8,43	12,18	9,1	28,1
2000	8,75	12,25	11,0	30,3

Source: Barro & Lee (2000) dataset

capital accumulation. The question that this paper tries to answer, is the following: can public sector, by raising expenditures for education, stimulate the accumulation of human capital, and hence growth rate of an economy.

The first part of the paper discusses the theoretical and empirical links between human capital and growth. The proposition that human capital may lead to sustained long-term economic growth stems from the so called "endogenous growth theory", including the seminal works of Lucas (1988) or Romer (1990). Voluminous empirical research, although not uniformly, confirms the importance of the level and the growth rate of human capital for economic development. In the words of Temple (2001a, p. 81): "*Over the last ten years, growth researchers have bounced from identifying quite dramatic effects of education, to calling into question the existence of any effect at all. More recent research is placed somewhere between these two extremes, but perhaps leaning closer to the original findings that education has a major impact*".

The second part of this paper focuses on the possible impact of public education expenditure on human capital formation and growth rate of economy. The empirical research on this subject is far from being conclusive. While some studies find evidence that public resources allocated to education may increase the GDP growth rate, other works reach opposite conclusions namely that public education expenditure does not influence or even depresses growth. Several studies focus not on the growth rate, but on the impact of public spending on education attainment of population; these studies also do not reach uniform conclusions.

Thus the third part of this paper presents some additional empirical evidence on the influence of public education expenditure on the level of human capital. The results of a simple regression analysis show that public expenditure on education is not a significant determinant of education attainment in developed and developing countries. Hence the conclusions from this paper are the following: public expenditure on education does not notably affect human capital and thus the link between public education expenditure and growth seems to be weak.

1. Education and growth

"Economists have long stressed the importance of human capital to the process of growth" (Maniw et al., 1992, p.415). However, traditional neoclassical growth models, like Solow-Swann or Cass-Koopmans models (see, for example, Romer 2000, or Barro and Sala-i-Martin, 1999) hold that sustained growth can only be driven by technological progress, which is an exogenous factor left unexplained by the model. Thus, paradoxically, neoclassical growth models cannot explain the process of economic growth. This paradox was resolved by a new wave of research, initiated by the seminal contributions of Romer (1990) and Lucas (1988), which had induced economists to reconsider the theory on economic growth.

The "new growth" or „endogenous growth" theory, contrary to the neoclassical models, indicates that returns to a broad concept of capital, including human capital are not necessarily diminishing and thus growth may go on indefinitely explained only by accumulation of factors of production (Barro and Sala-i-Martin, 1999). Among the endogenous models, several emphasize the importance of human capital to growth, including the models developed by Lucas (1988) and Romer (1990).

The Lucas model (1988) assumes that production depends on the level of physical as well as human capital. The presence of human capital implies that the returns to broad concept of capital are not diminishing, because human and physical capital complement each other in the production process. Hence, the feature of the model is that "*it exhibits sustained per-capita growth from endogenous human capital accumulation alone; no external engine of growth is required*" (Lucas, 1988, p. 19). Temple (2001a) notes that this feature makes it hard to treat Lucas' concept of human capital as the level of education, measured by years of schooling—it is rather the equivalent to knowledge or to quality of educational attainment, which might be constantly increasing over time.

Another theoretical work that exemplifies the importance of human capital is the model developed by Romer (1990). Similarly to neoclassical models, Romer (1990) assumes that the main mechanism of growth is technological change. However, in Romer'a model technological change is a result of work and research effort of educated inventors (thus technological progress is not exogenous). The model thus implies that per capita growth rate depends on the level of human capital, which determines the capacity of a country to develop new technologies. Other theoretical models (Benahbib and Speigel, 1994) provide evidence that human capital is also crucial for countries that concentrate mainly on imitating the technology of richer, more developed countries, as opposed to developing original technology on their own. These models show that the ability to benefit from new ideas "imported" from abroad also depends on the level of human capital in home country, as it determines the speed at which new ideas can be utilized by home country.

Despite differences—note that the Lucas model (1988) emphasizes the accumulation of human capital as the engine of growth, while in the Romer model (1990) growth depends on the level of human capital—both models stress the importance of human capital for economic development.

Many empirical works try to verify these hypotheses. Obviously, the results of these studies depend heavily on the quality of data, which in case of human capital leaves much to be desired. It captures only certain aspects of human capital, often ignoring the quality of education and is flawed with measurement error (Engelbrecht, 2003). Hence, it must be stressed that the results of empirical studies are unavoidably biased.

The articles that concentrate on the influence of the level of human capital (in the spirit of Romer's model) almost uniformly confirm that education positively affects economic growth. Among these articles is the work of Barro (1991). Using econometric methods applied to a large cross section of countries, the author proves that the level of human capital, proxied by school enrollment rates, has a significant positive impact on the rate of economic growth. Similar results

were also obtained by Barro and Sala-i-Martin (1999). Using a sample of 97 countries in years 1965–1985 they find, that the level of human capital measured by years of schooling is significantly and positively related to growth.

Another influential article is the study by Benhabib and Spiegel (1994). Their empirical analysis also indicates that the level of human capital is important for growth; moreover they postulate that the mechanism through which human capital influences growth is different in rich and poor countries: in a sub-sample of rich countries, the level of human capital positively affects domestic innovation, while in the poorest countries' sub-sample, level of human enhances technological catch-up process. Additionally, they also provide evidence that human capital encourages accumulation of physical capital and through that also contributes to growth.

Another interesting study is the article by Hanushek and Kimko (2000). While the other studies test for the impact of level of human capital measured usually by the school enrollment rate or average years of schooling, these authors concentrate on human capital (or schooling) quality. Using scores from international students' tests in science and mathematics, the authors have constructed a "quality index" for OECD as well as several developing countries. In the estimated regression, they include the measures of quantity as well as quality and the results indicate that both of these measures significantly and positively affect per capita growth rates of economies.

Engelbrecht (2003), using several different measures of education attainment, also confirms the importance of the level of human capital to growth. Interesting, the author shows that in the sample of OECD countries (i.e. rich economies) the role of human capital, in technological catch-up process is also important, what contrasts with the findings of Benhabib and Spiegel (1994).

Another strand of studies follows Lucas (1988) approach and tests for the impact of human capital accumulation on growth. The evidence delivered by these studies is not as uniform as that provided by articles mentioned above. The works by Benhabib and Spiegiel (1994) and Pritchett fail to find a positive relationship between the rate of accumulation of human capital and growth. Moreover, Pritchett finds that the accumulation of human capital may even affect growth negatively! However, several authors have argued that these results are mainly due to mis-specification of the model and measurement errors. Krueger and Lindahl (2000) hold that the results of Benhabib and Spiegel (1994) are mainly the consequence of measurement errors in data on human capital that they use. Controlling for the errors, they find that both the level and the change of human capital increase the growth rate. Similar conclusions were reached by de la Fuente and Domenech (2001). They have compiled a new, more reliable education data set for OECD countries and using this new, improved dataset, they have found that changes in human capital positively affect changes in output. Bassanini et al. (2001) have extended de la Fuente's (2001) dataset to include subsequent years and have reached similar results—namely that accumulation of human capital matters for growth. Also Engelbrecht's estimations (2003) indicate that "*human capital matters for economic growth, both directly, through its accumulation, and through its role in facilitating diffusion*" (Engelbrecht, 2003, p. 49)

The empirical evidence thus does not allow one to jump to easy and straightforward conclusions, however most of the studies indicate that education matters for growth.

2. Public expenditures on education, economic growth and human capital

Since education seems to stimulate economic growth, one is tempted to pose another question—can the government increase the growth rate by stimulating the level as well as

the growth rate of human capital by means of public expenditure on education? To put it in other words: are public educational expenditures important for growth? The empirical evidence concerning this subject is blurred. Some studies find that public educational expenditures increase economic growth, while some studies find a reverse effect. There are also studies that do not find any statistically significant relationship.

The latter view is held by Easterly and Rebelo (1993), who aim at uncovering the growth effects of several fiscal variables. They estimate a regression using a sample of 100 countries in 1970–1988 and find that while the coefficient of public education is positive, it is insignificant.

However, Hasson and Henrekson (1994) reach quite opposite conclusions. They estimate a regression for OECD countries and show that public education expenditures increase economic growth. Kneller et al. (1999) reach similar conclusions also estimating a regression using data from OECD countries. The proposition that these expenditures matter for growth is also upheld by the work of Barro and Sala-i-Martin (1999).

On the other Devarajan et al. (1996) estimate a regression, which indicates that public expenditure on education depresses economic growth. Their result is robust to sample selection—the negative coefficient is present when they estimate the regression using data on developing countries only, as well as on developed and developing countries together.

Such divergent conclusions indicate that there is no simple relationship between education attainment and public expenditure on education. Thus another strand of literature tests the direct effect of public education expenditure on education level and quality. Conclusions stemming form these works are also not uniform.

Hanushek and Kimko (2000) run a regression analysis for a sample of OECD and developing countries that indicates that neither public expenditures on education nor total public expenditures exert significant impact on the quality of human capital, measured by international students' test scores. Similar conclusions have been reached by Gundlach et.al, (2001), who analyze data for OECD economies. Woessman (2000) using microeconomic data from OECD countries concludes that "*what is clear that there certainly is no strong and systematic relationship between resource use and student performance*" (Woesmann, 2000, p.52). He stresses that not resources, but institutional structures of the schooling system are an important factor determining students' performance: "*for educational policy this means that the crucial question is not one of more resources but of improving the institutional environment of education to ensure an efficient use of resources.*" (Woesmann, 2000, p.79).

Hence it seems that public expenditures on education do not affect it's quality. However, empirical research indicates that quality as well as quantity of education matter for growth. Therefore it might be possible that public education expenditures affect quantity of education and through that have influence on the rate of growth.

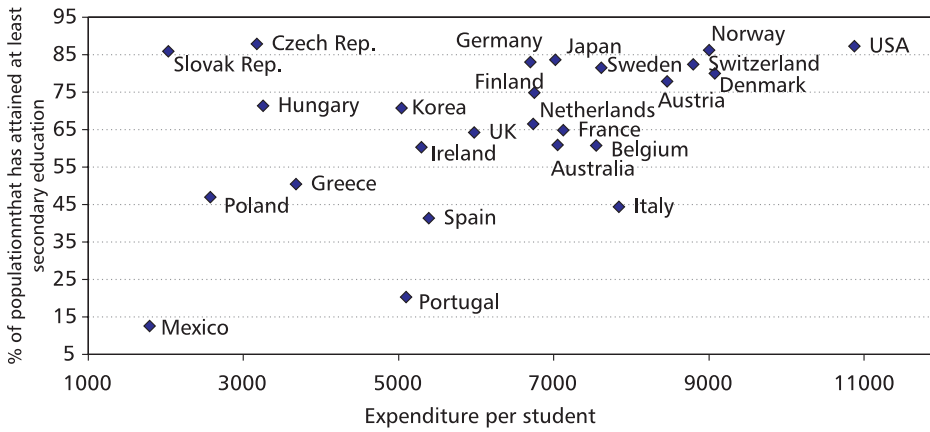
Gupta et. al (1999) finds that education expenditure is a significant determinant of gross secondary enrollment rates in regression estimated using data from developing and transition economies. Similar conclusions were reached by Baldacci et. al. (2002), who additionally find that public spending is a significant factor influencing all levels of enrollment rates. Hence, the literature suggest that public education expenditure may matter for the accumulation of human capital, but not for its quality.

In the next section I report results from a few simple regressions, which try to provide some additional evidence on this issue.

3. Public expenditure on education and human capital—empirical analysis

A preliminary look at the data for OECD countries indicates that indeed the relationship between total (public and private) expenditure on education and amount of human capital is not straightforward.

Graph 2. Annual expenditure on educational institutions per student in year 2001 (in equivalent US dollars converted using PPPs), and percentage of population, aged 25-64 that has attained at least upper secondary education in year 2002, in OECD countries



Source: Education at Glance, OECD (2004)

In order to study the influence of public education expenditure on human capital formation, I run a few simple regressions. The estimated equation is based on a simple partial equilibrium model derived by Jacobs (2002) that analyzes the mechanism governing individual decisions concerning education. Jacobs (2002) shows that these decisions are governed by several factors. Among them are direct costs of education—the higher they are, the less time a representative agent spends on education. Hence, public education expenditure can be viewed as a device that lowers private costs of education and increases time spend studying. Another factor that influences agent's choices concerning education is taxation—taxes affect costs as well as returns from investment in education, and it can be shown that they reduce the optimal time invested in education. GDP per capita is also of importance, because as household's income rises, the relative cost of education is reduced (see, for example Gupta et al., 1999). I have also included a variable that indicates the rule of law, as it quite straightforward to show that the decision of how much time an individual commits to acquiring education is affected by the probability of future higher wages. An unstable legal environment and weak rule of law will probably attribute to a perception that future earnings are unsure (because for example they might be confiscated, stolen, etc.) and consequently lower the amount of time spent studying. Unstable, badly functioning legal system is a disincentive to invest in human capital

I estimate the following function using cross-section data for sample of OECD and developing countries.

$$S_i = \alpha + \beta\ edu/gdp_i + \gamma X_i + u_i \qquad (1)$$

where:

S is average years of schooling for population over the age of 25 in 1990–1999

edu/gdp is total public expenditure on education, as percentage of GDP

X are other variables:

— average GDP per capita, in years 1990–1995
— average taxes, as percent of GDP in years 1990–1995
— dummy variable equal to 1 for advanced countries
— dummy variable equal to 1 for transition economies
— index for the rule of law (higher value of index represents better rule of law)

All variables are in logs. To avoid disturbances from short-run fluctuations, I use data averaged over several years. Equation (1) is first estimated for the sample of developed and developing countries, then for a sample of developed countries only and finally for developed and transition economies. The regressions are estimated using ordinary least squares, with White Heteroskedasticity-Consistent Standard Errors. Table 2 shows the results.

Table 2

Regression results, dependent variable: average years of schooling

	Sample of developed and developing countries	Sample of developed countries	Sample of developed and transition economies
Constant	0.680 (1.355)	1.025 (1.661)	0.477 (0.605)
Public expenditures on education, in % of GDP	0.046 (0.515)	–0.053 (–0.376)	–0.053 (–0.314)
Taxes, in % of GDP	–0.110 (–1.770)	–0.127 (–1.548)	–0.134 (–1.496)
GDP per capita	0.149 (3.400)	0.107 (1.153)	0.192 (1.808)
Rule of law index	0.108 (2.872)	0.345 (3.774)	
Developed countries' dummy	0.236 (1.935)		
Transition dummy			0.697 (4.12)
No. of observations	35	22	27
Adjusted R-squared	0.791	0.63	0.46

Source: Own calculations
t-statistics shown in parenthesis

The regression analysis indicates that public expenditure is a statistically insignificant. determinant of the average level of schooling. It even becomes negative, although still insignificant, in developed countries sum-sample. It seems therefore, that public education expenditure does not influence human capital accumulation. Neither the exclusion of outliers nor manipulation of

variables (including average GDP per capita and average taxes from 1980's[2]) affects this main result.

All other variables have the expected signs. Noteworthy is the negative effect of taxation on human capital accumulation, which is significant in the whole sample. This indicates that high level of taxation (observed in many EU countries) might depresses accumulation of human capital and hence growth.

4. Conclusions

The theoretical as well as most of the empirical analyses indicate that human capital is an important factor determining the growth of nations. One is thus tempted to conclude that public expenditure on education should be an effective mechanism of promoting growth and development.

However, the empirical research on the influence of this kind of government spending on human capital and growth is far from conclusive. Some works show that public expenditures on education stimulate the growth rate, while some reach opposite conclusions.

The studies that relate public expenditure directly to education indicators, also do not deliver uniform conclusions. The results of simple empirical estimation conducted in this paper indicate that the link between public spending on education and human capital accumulation is weak. Hence, this result also indicates that there are no easy answers to the question of how to stimulate human capital accumulation in EU countries. Simply increasing public education expenditure will probably not do the job.

What is needed is a change of the existing institutions and, possibly also a decrease in the size of taxation, which of course cannot be done without reducing the size of government spending, hence without reforming the welfare state.

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[2] GDP per capita from 1990's might be an endogenous variable, hence the substitution of GDP from 1980's also indicates that the results were not driven by that data problem

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Appendix. Data

The data used in this paper are from following sources:

GDP per capita; Taxes (central government only), in % of GDP (both are an average over 1990–2000): *World Bank World Development Indicators 2004*

Public expenditure in education (general government), in % of GDP (average over1998–2001): *UNESCO's World Education Indicators*

Average years of schooling for population over the age of 25:*Barro, Robert J. and Jong-Wha Lee, International Data on Educational Attainment: Updates and Implications (CID Working* Paper no. 42) *Human Capital Updated Files (April 2000)* (http://www.cid.harvard.edu/ciddata/ciddata.html)

Rule of Law Index: *Governance Matters III: Governance Indicators for 1996–2002 by D. Kaufmann A. Kraay, and M. Mastruzzi (2003) • World Bank Policy Research Working Paper 3106 (http://www.worldbank.org/wbi/governance/pubs/govmatters3.html)*

SIMONE ARNALDI

SOME THOUGHTS ON THE RELATION BETWEEN EDUCATION AND ECONOMIC GROWTH

A Comment to Siwińska's "A Note on Education, Growth and Public Finances"

Opening my short comment to Dr. Siwinska's article, I would try to recapitulate the main findings of the paper. In very simple terms, Joanna Siwinska tests two correlations: (1.) between education (as a measure of human capital) and growth; (2.) between public expenditure in education and growth. The first correlation exists and is positive, while the second does not. The hypothesis the Author wants to test is the intuitive policy assumption that, if education stimulates growth, then public expenditure in education has necessarily a positive impact on growth. However, as regression analysis counterintuitively rejects the second correlation and, then, the hypothesis is falsified. The brilliant argument is clear and, as far as I understand, it reaches its purpose.

Since I am not an economist, then I do not want to use my scarce knowledge on macroeconomics. Rather, as a sociologist, I would try to present some thoughts about the implicit representation of education and culture that are behind the article.

I start my remarks from commenting the link between education and human capital. Economic theory uses different measures of human capital and they relate to education in a more or less complex way, both quantitative and qualitative. Indicators seem to range from simple quantitative measures (e.g. average years of schooling) to more sophisticated indexes considering the quality of education processes and the specificity of the competences and skills that fomr human capital. For instance, Enrico Gori lists three dimensions of human capital: (1.) general academic competences and skills to be learnt during the school years; (2.) field—specific competences and skills to be learnt partly at school and partly at workplace; (3.) management competences and skills to be learnt basically at workplace.[1]

I do not want to evaluate the different definitions[2], but only to observe that they are focused on the cognitive aspect of education processes, i.e. on the teaching and learning of competences and skills. However, education as a process and education systems function primarily as reproductive agents of the social and cultural order, or better they reproduce the social order through cultural

[1] Gori E., "Listruzione e investimento in capitale umano [Education and investment on human capital]" in Vittadini G. (a cura di), *Capitale umano. La ricchezza dell'Europa* [Human capital. The wealth of Europe]. Milano: Guerini e Associati. 2004. pp. 71–101.

[2] A complete and interesting panorama is in the work by Vittadini mentioned in note 2.

transmission.[3] Sociological literature on this topic focuses particularly on social mobility and social inequality that derives by the education processes. However, I would like to consider a different aspect that is inherent to the cultural dimension of reproduction.

In fact, culture, as a socially organised inventory of meanings[4], surely includes a cognitive dimension, but also a normative one[5]. It means that, through education, not only competences but also value codes are distributed. This normative dimension is omitted when considering human capital, but it may be relevant to determine the link between public expenditure on education and growth. For instance, what I consider as dependent on this normative dimension, is pro-social and cooperative attitude, community cohesion, positive attitude towards innovation, etc. In sum, it depends on our values all the sets of value judgements and scales of preferences which orient also our economic behaviour at micro (individual) and macro (aggregate) level.[6]

In my opinion, these attitudes, which are normative rather than cognitive, concur to create the climate of "confidence and trust" that Jean-Marie Rousseau partially overlaps to the concept of "social capital" and considers as a distinctive trait of some experience of catching up in territorial development in Europe (e.g. Ireland). At the micro-level, favouring the transmission of values which strengthen confidence in the future, pro-active and pro-social attitudes can positively influence the individual investment in education and "accumulation" of human capital. Further, this is so much important in an age when "the triad cause-effect-gain, that is commonly used as pocket model of the world in planning one's own career" does not work satisfactorily and "some more fundamental model, involving some set of community oriented values, must be implemented to provide for social stability".[7] At the macro-level, this contributes to avoid the risks of the

[3] Sociological literature on this topic is enormous. A few classics are: Bernstein B. *Class codes and control. Theoretical studies towards a sociology of language*. London: Routledge & Kegan Paul. 1977; Bourdieu P, Passeron J.C., *Reproduction in education, society and culture*. London: Sage. 1990; Willis P, *Learning to labour. How working class kids get working class jobs*. New York: Columbia University Press. 1981.

[4] The definition rely on the definition of culture as "social organisation of meanings" given by Ulf Hannerz's book *Cultural complexity* (Hannerz U., *Cultural complexity*. New York: Columbia University Press. 1991).

[5] Cognitive and normative perspectives on culture are the two mainstream approaches in contemporary anthropology. Two classics representing these contrasting positions are respectively: Geertz C. *The interpretation of cultures*. New York: Basic Book. 1973; Kluckhohn C., Kroeber A.L., *Culture. A critical review of concepts and definitions*. New York: Vintage Books. 1963. A convincing synthesis between the two approaches is by the Japanese sociologist Raymond Bachika. His "functional distinction of cultural meanings" is presented in his paper "Differentiation between culture and religion", presented at the International Conference of Crossroads in Cultural Studies at University of Tampere (July 1–4, 1996).

[6] According to these perspective, economic, as well as social, variables and the relations among them are the result of stable patterns of behaviour emerging from the individual to the systemic level (with feedbacks of course). As an empirical confirm, we can find historical experiences that challenge our current way of thinking about economy and growth. For instance, in a book first published in 1923, the French anthropologist Marcel Mauss offers a fascinating description of how economic behaviour can be based on wealth destruction instead of wealth accumulation. It is the system of *potlàc* "the purely ritual destruction of accumulated wealth, to obscure the rival chiefs". The *potlàc* is a system of "rights and duties of consuming and returning, which correspond to rights and duties of giving and receiving". We get the same result if we move backwards in time rather than far in space. In fact, Johann Huizinga outlines a fascinating picture of late medieval society in Bourgogne and Flanders. In those times, "in waste greediness marries the ancient pride, and the latter was still strong and alive: the feudal and hierarchical ideal did not loose anything of its splendour yet; the joy of luxury and ceremony, of sumptuous and magnificent life was still purple" (Huizinga 1987:25).

The book of Marcel Mauss (*Essai sur le don*), who was a disciple of Emile Durkheim, was first published in the Année sociologique, II series, 1923–1924, vol.1. Quotations are from the Italian edition: Mauss M., *Saggio sul dono* [Essay on gift]. Torino:Einaudi. 2002. Quotations from Huizinga are from the Italian translation of the original Herfsttij der Middeleeuwen published in Flanders in 1919: Huizinga J., *L'autunno del Medioevo* [The Autumn of Medieval Age]. Firenze: Sansoni. 1989.

[7] Galar R., Falkner A.H., "An evolutionary viewpoint on university reform" in Arnaldi S. (ed.). *Science, research and competitiveness. Perspectives on internal market integration in Central and Eastern Europe*. Trieste: Goliardica Editrice. pp.49–69.

NEGA-development, which Rousseau defines as: (1.) **negligence** of public authorities to internalise development strategies; (2.) **evading** the responsibility to connect the development actors on the territory; (3.) **grudging** about the current model of development; (4.) **anomie** and inertia, which spreads across the whole community.[8] According to Rousseau, this positive environment allows territories to be increasingly and progressively independent on public assistance in their development and, ultimately, it creates a positive multiplier effects for public expenditure.

After presenting this short discussion about the relevance of socio-cultural aspects of education and human capital, I would like to end the comment without a proper conclusion, but only with a suggestion about future research both in sociology and economics. Rousseau applies his paradigm of social capital and NEGA-development to territorial aspect of economic growth and social cohesion. However, this perspective may offer interesting insights on models of virtuous relations between public expenditure on education, human capital accumulation and economic growth. Expanding research on human capital including values in addition to competences and skills may hence give answers to the question left open about the positive correlation between public expenditure on education and growth.

[8] Rousseau J.M., "Research, competitiveness and society: the regional aspects. The Trieste Touch in a promising new enlarged Europe?" in Arnaldi S. (ed.). *Science, research and competitiveness. Perspectives on internal market integration in Central and Eastern Europe*. Trieste: Goliardica Editrice. pp. 137–158.

STEFAN KWIATKOWSKI

INSTITUTIONS OF HIGHER LEARNING IN EUROPE
The lost Ego of Hidden Masters?

1. Invocation

Institutions of higher learning have overlooked, or have even neglected, the consequences of rapidly changing role of knowledge and of its capitalization in the form of intellectual and social capital. Besides new knowledge and skills acquisition, an individual student while in the school, changes his attitudes, motivations, and even perceptions. These are extremely important elements of his/her potential to acquire both explicit and tacit knowledge. Yet, very few universities have attempted to measure that human potential and to monitor its changes. Still fewer have even considered ways and means to link ever changing human capital imbedded in individual students with their own structural capital. The reasons and ways to do it are suggested and explained below. If followed, they might result in universities becoming the real centers of knowledge based economies. This would be to the benefit of individual students, of universities, and of societies at large, developing into "knowledge creation based".

2. Rationalization

Professor Antoni Kukliński is again calling for a grand research project titled this time "*The Multiple Ego of KBE in Europe*". He distinguishes four groups of "grand actors" in the process of development of KBE in Europe:

— The European Union
— The transnational corporations
— The national governments
— The self-governments of autonomous or semi-autonomous regions.

Honorable and Dear Professor, I know, you will tell me, and above all, you will tell our readers that universities, or more broadly—Institutions of Higher Learning (IHL)—are subsumed by each of the above mentioned "groups of grand actors". Yet, IHL have become so important element of KBE, and their modes of operation have undergone so dramatic changes, that it seams

absolutely indispensable to pay specific attention to those institutions and to their benevolent or malevolent influence on societies and economies at large.

Two groups of factors seem to be of utmost importance when studying the IHL and their role in shaping the KBE in contemporary Europe:

— their historically unparalleled 'numerical' growth,
— the nature of their product, and main characteristics of their function of production.

Numerical growth of the IHL can be exemplified by dramatically growing scholarization rates, rising direct employment figures for both teachers/researchers and auxiliary staff, significant indirect employment creation impact, new innovative venture creation by academic and other intellectual entrepreneurs, new niches of business developed and sustained by constantly growing consumer demand (e.g. restaurants, dormitories, computers, travels, books, cloth, entertainment), expanding capital investments in both academic and auxiliary infrastructure, etc. In some countries, particularly the USA, IHL have become the solid pillars of stability of financial markets, owing their financial muscle to rarely declining numbers of potential tuition payers. In short, it could be claimed that IHL have become one of the most important, if not the most important, segments of contemporary KBE in Europe and elsewhere. As such, IHL have a very specific nature of their product, and main characteristics of their function of production are different from those of the more traditionally oriented producers of consumer and industrial goods.

Traditional industrial firm transforms financial capital. Its social and economic role can be reduced to new material wealth creation. Knowledge, as the substance element of intellectual capital serves as a facilitating factor in the process of transformation of particular forms of financial capital. Within the knowledge dense environment intellectual capital is needed, however, to secure and sustain high efficiency of financial capital transformation. But contrary to the title of the famous book of Nonaka and Takeuchi knowledge itself is rarely created anew within an existing industrial company. It is rather rooted within a given employee, and it is up to the commercial company, or to any other organization, to devise a structure and stimuli conducive to sharing this employee owned knowledge with his/her collegians.[1]

The rooting of intellectual capital originates at the IHL (and at the schools of lower educational level beforehand). The main function of those institutions is transformation of intellectual capital. Their social and economic role can be reduced to new knowledge creation and dissemination. Money, as the substance element of financial capital, serves as a facilitating factor in the process of transformation of particular forms of intellectual capital. It is needed to cover expenses implicated in creation of material environment conducive enough to dissemination of existing knowledge, and to creation of the new one.

Apparently, despite unavoidable faults, failures and limitations, IHL are doing quite well in almost all corners of the world. The number of students is permanently growing in both developed and developing countries, and in economically deprived regions of the world completion of higher education is still perceived as the best way to social and economic advancement, worth scarifying whatever available financial resources. Money is certainly a problem—for various reasons both in the richest and in the poorest countries and regions—but universities and other institutions of higher education have developed many ways to successfully cope with financial constraints and limitations. Also, a growing number of student population results in larger numbers of academic teachers and supplementary staff. Almost around the whole world, the sector of higher education is responsible for a growing share of employment. And these employees are growingly vocal and more effective in presenting and defending their rights and privileges resulting from increasing importance of their social roles of broadly understood educators.

[1] Nonaka Ikujiro, Takeuchi Hirotaka, 1995, The Knowledge—Creating Company, Oxford University Press

Yet, individual IHL, and their whole systems, are quite vulnerable and exposed to imminent crisis caused by historically unparalleled myopia. As improbable as it might seem, most institutions of higher education have overlooked or have dared to neglect the consequences of rapidly changing role of knowledge and its capitalization in the form of social and intellectual capital. Each one of literally hundreds of books and reports addressing phenomenon of knowledge based economy has a chapter or section devoted to the role of higher education and of individual IHL. Yet, these very institutions seem to be ignorant about how much is being done outside their walls, and how very little inside them. Thus, they seem to be unaware of how much of their traditional business might be soon taken away from them by different institutions still appearing much worse positioned to perform it equally well, yet ready and eager to perform it ***hic et nunc***.

3. Justification

Ivory Tower is not Gone

From knowledge creation and dissemination perspective the metaphor of ivory tower seems to be still quite enlightening. Three levels of activity can be distinguished within the academic ivory tower.

At the very top there is a new knowledge creation level—new facts, new discoveries, new laws, new solutions. The carriers of that new knowledge are patents, publications, occasional pronouncements. Those at the top of the tower can see well beyond its walls. It is also possible that they are seen themselves, at least by the few privileged (naturally not students exclusively). The only problem is that IHL have long ago lost monopoly for developing new knowledge. Big industrial and government research centers and even high technology firms (especially in such quickly growing and knowledge intensive fields as information and communication technologies) seem to be much better positioned and endowed to cope with the unknown, and to enrich the existing body of knowledge. However, the culture of the ivory tower might be still in place, and efforts to prove that some groups of university brains are able to provide cutting-edge results of research might be continued not without success. Nonetheless, very few IHL can claim and prove continuous and organized participation in new knowledge creation. There are obviously many more who are home to incidental break-through discoveries and findings. Serendipity also requires previous investments—material, financial, institutional, and human, however. Since they are costly, time consuming, and risky, it seems prudent to assume only few leading universities to engage in discussed here activity.

Somewhere below the top of the tower we find another kind of activity, specific for university and unquestionably still dominated by it. We shall call this activity 'packaging and repackaging of knowledge'. Systematizing would certainly be more exact and more in tune with the language of science. We use another terminology, however, in order to emphasize a concrete end product character of this particular activity. It leads towards creation of textbooks, manuals, procedures and standards of assessment of individual students and of whole institutions.

Those engaged in this kind of highly regarded activity do not necessarily conduct research. Neither are they expected to teach regular courses. But they have to have understanding of both the body of science, and of the nature of teaching processes and methodologies. To the general audience of students (and of their teachers) they are what critics and theater directors are in literature available for the general public. They interpret the meaning of a particular theory or discovery, present that theory within the context of existing body of science, and show implications

for further research, and for practice. Furthermore, it is up to them to decide which particular piece of theory deserves more or less attention and coverage within the teaching process.

The bigger and more diversified the system of higher education is, the more widespread is this prestigious kind of activity. There are simply many packers. We might then expect competition between individual scholars and between whole institutions with regard to their products. But even centralization and homogenization of national systems of higher education does not eliminate rivalry between different products (especially textbooks and manuals) since same content might be presented in different language, manner and context.

Needless to elaborate, the competition we are now discussing is rather asymmetrical. Assuming equal talent and understanding of the subtleties of teaching processes, it is probably proximity to cutting edge research and new knowledge creation which decides the quality of a given product of particular knowledge packer.

Consequently, as might be expected, those few IHL which prove continuous and institutionalized participation in new knowledge creation are also home to new knowledge packaging. There are obviously many more IHL where such packaging is attempted. Since this activity is relatively not expensive and institutionally not risky, it is rather much more widespread than new knowledge creation performed at the top of the ivory tower.

Finally, at the very bottom of the ivory tower, probably least impressive but definitely the most important activity is performed. We shall call this activity 'dissemination of knowledge'. The main forms of dissemination of knowledge are various courses and programs, lectures (both regular, taking place within a given course of studies, and also occasional ones), special thematic presentations (both oral and written), and media appearances.

The activity we are addressing now constitutes the very essence and **raison d'ètre** of any IHL. Unlike with respect to two previously discussed activities—new knowledge creation and knowledge packaging—dissemination of knowledge cannot be absent in any IHL. But paradoxically, in absence of the other two activities, dissemination of knowledge cannot be described by the ivory tower metaphor, which assumes integrity and co- habitation of all three main activities of IHL.

From Ivory Towers for a Few to Plato's Caves for Many

Fully inhabited at all three levels, and animated with all three kinds of mentioned above activities, ivory tower seems a wonderful way to both understand and design university of the þ past. Although clearly separated from its environment, such institution could still listen to and observe environmental changes. From the heights of the tower one could see and reach far. And separation does not necessarily mean absolute closure. Quite to the contrary, universities were traditionally created to serve societal needs of change and modernization. This seemed to be the cornerstone of Wilhelm von Humboldt early XIX century undertaken university reform which started with foundation of University of Berlin. Still, university was designed to have numerically limited student audience and a limited number of competitors, and to offer prevailingly private products (with high marginal cost of any additional student or any new course). Such an elite university could function well through processes of reconciliation of dialectical controversies between simultaneous separation from its immediate environment and openness to new ideas and concepts, stemming from omnipresent research, emanating new ideas and concepts.

Such a closed/open institution when deprived of internal springs of ideas derived from new knowledge creation, and at the mercy of outside suppliers of knowledge packages, immediately looses development related ivory tower characteristics. Devoid of its upper levels, ivory tower becomes a flat barrack behind a high wall. What might be perceived from the outside as still

monumental structure, for those behind the walls resembles a cave. Alike inhabitants of Plato's Cave, both students and their teachers see the world not as it is but as its shadows look. And what they cannot see, they learn about from the books coming from the outside world, and read to them exclusively by the properly called *readers*.

If the view of the world the students learn about is distorted, it is neither individual student perceptions nor limited abilities of reader/ professors, which should be blamed, but rather the very construction of the institution. Ivory tower disappears. What comes is a custody camp separated from environment by a solid wall. Needless to elaborate, so conceived institution can accommodate many more students than disappearing ivory tower. But it is definitely not the only possible alternative to the ivory tower metaphor (or even design model).

A Conducted City Bus Tour

For various reasons and not without exceptions, both briefly sketched above concepts of IHL are fading away. Elite university with a relatively closed student audience and prevailingly private products gives way to mass oriented mega-university with relatively open audience and prevailingly public product. Marginal costs of additional courses or additional students are negligible here, so there are very few if any numerical limitations of the size of student population. There is a quickly growing number of competitors at each of the three discussed above levels of academic activity—new knowledge creation, knowledge packaging and knowledge dissemination. From perspective of the whole national or regional systems of education, this results in more flexibility and innovation. From the point of view of individual student (or his/her parents), it brings confusion and lack of orientation. Different compatibility and quality assurance mechanisms of both internal (within individual IHL), and external (government, professional associations, industry or media) character are designed and introduced to reduce confusion regarding mutual positions of various IHL. With regard to internal structure and delivery system of individual IHL, they might be probably best described by the conducted city bus tour metaphor.

Passengers can board the bus at any of the designated stops. They buy tickets in advance or when boarding the bus for the first time. Together with the ticket they get the map of the city with clearly marked stops. They can leave or enter at their will at any designated stops. They can also complete the whole tour without getting off. Since ticket is valid for the whole day, they can "redo" the tour, either in parts or the whole tour again without interruption. There are no alterations of the itinerary. Also no preferred seat is guaranteed. Neither is money back guaranteed in case of heavy rain, snow, passenger sickness or another disaster.

Once on board, a passenger is guided by a recorded voice in the language of his choice (contingent on availability). The quality of the voice is rather low. But the outside noise makes following the voice extremely difficult anyway. There are no repetitions, although they might be of use since some passengers have problems with understanding and keep nagging their neighbors in hope of help. Needless to say, there is nobody other than your neighbor to address a question to. The driver has one universal answer to all kinds of questions—"*take the next bus please*". This answer he mastered in all possible languages.

What features of contemporary mega-university is this metaphor highlighting? To handle the mass audience of students, university cares more about what it provides for all than about what is provided for the individual one. The courses (what a nice parallel with a tour route!) are run regardless of problems experienced by individual students. It takes probably a long time for eventual changes in course content or delivery mode. Ignoring eventual complains and problems experienced by the few, the university has *'to press on regardless'*, leaving eventually lost or dissatisfied students on their own. In order to survive, they have to find their own way through

a dense web of various programs, departments, advisory services, lines of their often unknown colleagues waiting to see professor coming for his/her office hour fifteen minutes late, and leaving fifteen minutes ahead of time. Those who learn the system, who gain the knowledge how to get the best out of it, survive and flourish. With time, some of them might be even co-opted by the university where they will probably exhibit behavior mode so well known from their own, previous client perspective. Some will fail and end as dropouts. Some, hopefully the fewest, will learn how to work around the system, how to cheat on exams, miss classes, ride on somebody's back, and þ still continue. Finally, the last and probably the biggest group is composed of those who learn not to care, not to expect too much, just to conform and be satisfied with what is provided. They are not necessarily passive individuals. But they are neither rebels nor do they find academic world (as they see it!) attractive enough to devote time to thoroughly study on their own. So instead of investing their time to library studies and to attending extracurricular courses, they enjoy sports, arts, politics, internet, bear and love. Needless to say, some of them work.

Sometimes, after few years with university, the members of just described biggest group of its students will be graduating (probably along the members of the other groups). Will they remember the names of their reader/professors? Will they be able to associate the authors of the books on the shelves of a bookstore with the names of their teachers? Will they have the habit of buying and reading professional literature? Will they ever again visit their old university for just an occasional lecture or two? And will they visit any other IHL for the same purpose?

Suppose there is no positive answer to any of the above questions. So what? Another crowd of freshly arrived tourists gathers at the bus stop. Why to worry about what was before and is now gone? New commencement is just about to start. It is again time to pour old wine into new glasses! After all, is there any other way to successfully cope with constantly growing cohorts of new students?

A Gigantic Switchboard or a Thousands Volume Annotated Biography

Nonaka and Takeuchi were the first to suggest that for an industrial enterprise knowledge creation is the key to gain and sustain competitive advantage. According to them, the essence of (wrongly conceived, as explained above!)) knowledge creation process is transformation of individually possessed tacit knowledge into collectively shared (and modified) explicit knowledge, which is then transformed again into tacit one[2]. In the similar vein, Edvinsson and Malone postulated that corporations start managing their intellectual capital[3]. Leif Edvinsson became the first ever appointed corporate director for intellectual capital at Skandia Corporation. Few years after publication of his seminal book, already rich in practical experience, he observed that the crucial problem in managing intellectual capital is how to handle a creeping conflict between human capital (used by organizations but possessed by individual employees), and structural capital possessed and used by organizations. The main source of structural capital (procedures, recipes, techniques, structures, information, data bases) is employee possessed knowledge and information. Successful initiation of the continuous process of transformation of human into structural capital requires mutual trust, which is the basic element of social capital[4].

So much about the corporate world, and on its involvement in managing processes of creation of new knowledge, and of new intellectual capital. How is all of that related to the IHL, however? Let us repeat what we already observed in the very beginning of this text—most institutions of higher education have overlooked or have dared to neglect the consequences of rapidly changing role of knowledge and of its capitalization in the form of social and intellectual capital.

[2] Nonaka Ikujiro, Takeuchi Hirotaka, 1995, op.cit

[3] Edvinsson Leif, Malone Michael, 1997, Intellectual Capital, Harper Business

[4] ibidem

What should be clear from our previous analysis, and what is probably obvious, the only activity specific for all IHL is knowledge dissemination. This activity is aimed at creation and at enhancement of human potential at each individual (personal) level. Thus an IHL can be perceived as a social mechanism for transfer and transformation of knowledge. That knowledge is of prevailingly explicit, verbalized character. Only transmission of this kind of knowledge can be programmed, planed, formally structured, and even controlled. Some of this knowledge has mainly theoretical character. Some leads towards development (and improvement) of concrete or more general skills. Example of concrete skill might be dexterity in concrete computer program use and applications. Example of more general skills is social flexibility.

Besides new knowledge and skills acquisition (or rather as a result of it) an individual changes his/her attitudes, motivations and even perceptions. These changes greatly affect his/her potential to acquire both explicit and tacit knowledge. Needless to say, they are extremely important elements of his/her human potential. Have universities attempted to measure that human potential and to monitor its changes? Maybe they have, maybe they are very serious about it, maybe they developed quite sophisticated concepts and measurements, maybe they even learned to work with individual students on enhancement of their individual potential. But these significant achievements can be probably observed in þ athletic departments only.

Human potential, say probably most academic leaders, is synonymous with human capital. "What university provides is mere opportunity to learn. Those who know how to use this opportunity, will tremendously erich their human capital. But human capital is individually possessed, and individually managed. It cannot be managed by university".

Such seemingly correct statement is obviously shortsighted, conservative, and dramatically false. Unlike in the corporate life, within IHL there is no imminent conflict between human and structural capital. Human potential, constituting the essence of human capital, is obviously possessed and managed by individual students and alumni. But information about its current, previous, and possible future level, about all past, and possible future modifications, might constitute elements of structural capital of a given IHL. And provided there is a mutual trust, and transparent, mutually acceptable rules concerning gathering and use of all information about individual students and alumni (not an easy assumption, obviously), not even conflict between those two kinds of intellectual capital (human and structural) is not imminent, but their co-existence, reinforcing each other should be expected.

Imagine the most up-to-date polyclinic with the best physicians and most qualified nurses. Imagine you visit it for the first time. Imagine how long it takes for the interview with the nurse and the doctor. Imagine how hesitant is your physician to prescribe a given medicine. How many questions, requests to show results of previous examinations, which you anyway lost somewhere. Imagine your level of dissatisfaction. Imagine how do you feel thinking you might have to go for a surgery there.

Imagine you become a steady patient, you regularly visit different physicians, you have your own record, your own history, you are known by heart (though you do not have to be a cardiac), and by name. Imagine you get seriously sick. How much time will it take now for your doctors to decide what to do? And suppose you get sick far away from your clinic. Suppose you call your doctor. Will he be able and willing to suggest what you should do? Or perhaps you feel so well you forget your regular check-up? Will you feel puzzled receiving a call from your doctor? Or receiving a call from your nurse, suggesting checking-up with the doctor about some newly developed treatment?

It is more than twenty years since General Electric opened a phone Answer Center at Louisville, Kentucky. It was opened to handle client claims, and its only goal was to reduce client dissatisfaction. By the end of the 90-ties, the Center was opened whole day, all year round. 200 GE

representatives were receiving and responding to 15. 000 claims per day from dissatisfied clients. Computer data bank contained descriptions for 2 million problems and their solutions. It was taking only two seconds to match concrete problem with available possible solution. For no-ready solution 12 on-site experts with minimum 5 years experience in handling client complains were constantly available. Four on-site computer programmers kept up-dating the data bank with new problems and new solutions. Initially the Center was used exclusively to handle client complaints. Today it is also used for employee training and orientation, and in new product development[5].

Technically it is quite easy to imagine that each student entering university (at whatever program, whatever level, and for whatever time period) receives one record where all information about his/her activities and achievements is stored. By the same token his/her human potential (knowledge, skills, attitudes, perceptions, motivations) is continuously measured and assessed with results fed into the data bank, but also—and first of all—with counseling and guidance following. It is up to each individual who leaves university as a graduate, dropout, or as a transferee to another IHL to continue information exchange with his/her original data bank. This continuance enables not only updating information about each person who whenever studied at a given IHL but also permanently enlarges and enriches potential network which can be used by concrete university for upgrading its programs and courses, and also for matching potential needs of employers, alumni, and current students. Thus university might become a *sui generis* 'switchboard' connecting and matching possible partners in educational, political, social or business activities.

Everything suggested above is probably much easier to implement technologically than socially. Absolutely indispensable is trust, transparency and assurance that no information contained in the *"Thousands Volume Annotated Biography"* will be made available to anybody without agreement of involved person. With constantly growing number of persons involved, that trust, which is very difficult to achieve, might easily disappear. So it would probably take rather long time for such a system to be operational. But probably it could be developed gradually, with special attention to necessary feedbacks and quick reactions to finding educational activities of university dissatisfactory for students, parents, employers or other clients. Quick reactions and feedbacks would have to constitute the very basis of the system since its role would not be that of a historical registry, but rather a monitoring one, absolutely indispensable in knowledge creation and dissemination.

This graduate build-up of the system would probably make its client friendly and cooperative. With time, while completely operational, the system would not only create additional employment, but would first of all greatly enhance both efficiency and effectiveness of human capital formation, and by the same token would place IHL at the very center of new phenomenon which Leif Edvinsson prophetically *calls Societyentrepreneurship*[6].

Based on networks filled with trust and understanding, and clustered around the university all members of the cluster have some experience with, such a society would probably provide for much less risk and much more opportunity to enterprise.

4. Proclamation

Institutions of Higher Learning (IHL) are "sleeping giants" of the emerging global human capital (HC) market. Giants, because they are the major creators of HC. Sleeping, because they

[5] Hauseman R.C., Goodman J.P, 1999, Leading with Knowledge

[6] Oral communication

are not conscious of imminent changes just about to take place on the human competencies market.

In modern times, IHL have always been the largest producers of HC. Greatly increasing scholarization rates, and proliferation of new kinds of postgraduate studies make IHL undisputable leaders of human competencies creation. Strangely enough, they keep very low profile as HC providers. In particular:

— they do not keep track of specific competencies of their alumni,
— they do not advise those alumni how, when and how to replenish their HC,
— they seldom act as advisors to employers, recommending not only specific alumni for particular jobs, but also specific learning menu for specific alumni in specific positions.

The reasons for such renunciation of growingly important market functions are various. Lack of tradition, and fear of gap of trust are just the simplest to realize. But the most important ones seem to be lack of imagination, deficit of knowledge concerning future market and societal changes, and fear of unknown. Still most striking reason of negligence to act seems to be underestimation of potential of information technologies, and myopia with regard to their place on future market of HC.

As on any other market, producers of HC are just one player. The other one are users of HC. Strangely enough, IHL are both producers and users of HC. And even more strangely, their role of users of HC is continually growing (alongside growing scholarization rates). But this "user" role can grow at much higher rates even, provided IHL realize there are other important roles to be played on this market:

— packaging HC,
— servicing (renewing) HC,
— promoting HC,
— investing HC, etc.

If not performed by the IHL, these important functions will be taken by other specialized institutions—headhunters, trainers, and other middlemen, quite often at higher cost, less competence, and with missing feedback for improvement of HC creation processes taking place within the IHL.

In short, the main reasons for IHL not assuming more active role on the nascent HC market are lack of knowledge, short-sightness, and lack of tradition. All of this translates into significant knowledge gap.

In order to gain necessary knowledge, extensive and intensive research should be undertaken. This pioneering research should be closely linked with experimental applications, thus following Gibbons suggested Mode2 (research performed within the context of application

The first two parallel steps should be following:

— developing questionnaires measuring the level of particular skills and competencies,

and applying them to individual students from the very beginning of their studies to graduation,

— establishing individual records for each particular student.

Such longitudinally conceived study should result in constantly growing data bank, allowing following actions:

— changes in particular modules of instruction leading towards specific competencies (possibly in consultation with potential employers),
— modifications in educational mix offered to particular students (make-ups, refreshers, electives),
— guidance and placement of alumni,
— shadowing and advising alumni concerning new knowledge acquisition (students as repeated customers), and new job availability,

— advising employers concerning potentially available employees, and possible further educational back-up.

Most probably a plethora of new research avenues will open immediately henceforth. But it seems quite premature to think about them right now. The most important thing at this very moment seems to be taking two first steps. CARPE DIEM! Lest unique opportunities be not vanished together with (temporarily?) lost Ego of Hidden Masters.

ANTONI KUKLIŃSKI

UNIVERSITIES DRIVING REGIONAL DEVELOPMENT
The Challenges of The XXI Century

I. The New Paradigm

In the path-breaking publication of the European Commission[1] we find the following formulation:

"Europe's leaders already acknowledge that the transition towards a knowledge-based economy involves a fundamental structural change, and that all the challenges facing Europe need to be reconsidered in the light of this new paradigm."

To our mind—the construction of this new paradigm can be interpreted as a sequence of three following assumptions:

Primo—knowledge is changing itself into an integrated driving force of the development of the economy and society. The scope and scale of this process is unprecedented in historical experiences.

Secundo—we see a powerful virtuous circle constructing the bridge mechanisms and the mechanisms of mutual enforcement linking the processes of the development of the knowledge based economy and the knowledge based society.

Tertio—the new paradigm will transform itself into a material power creating the strong Europe of the XXI century[2]. In this transformation an important role is allocated to the mechanisms of integration of spontaneous and guided development.

In the already quoted publication we read[3]:

"In other words, while there is reason to be optimistic about the huge potential benefits from developing human resources in combination with new technologies and new forms of organizations, one should, however, be aware that the knowledge—based society may not be sustainable if left to itself. Its effects on multiple fields must be dealt with through a multi-dimensional and combined effort at the European, national and regional level. Moreover, in different areas Europe is facing great challenges and also seems to be ill-prepared to adapt

[1] Third European Report on Science and Technology. Indicators—2003. Towards a knowledge economy. European Commission 2003, Brussels, p. 1.

[2] A. Kukliński, B. Skuza (eds) Europe in the perspective of global change. Polish Association for the Club of Rome. Warsaw, 2003. (compare Annex One)

[3] Third European Report on Science and Technology ... op.cit., p. 4.

successfully to the rapidly changing landscape. Demographic, social and economic challenges need to be reconsidered in the light of this fundamental transition."

In this context we should notice "*the knowledge economy growth into knowledge society*" and vice versa. The observation of P.A. David and D. Foray[4] is especially interesting:

"The knowledge economy's growth into the knowledge society hinges on the proliferation of knowledge-intensive communities."

The challenge of the new paradigm and the challenge of structural transformation is a grand dilemma not only for Europe but also of the European Union[5].

The Conference in Liege should be seen in the broad substantial and institutional framework of a grand scheme of European activities and policies contributing to the construction and development of the New Paradigm of Europe of the XXI century.

In this context the formulation—Universities driving[6] regional development—is related to the double challenge:

— primo—for the European Regions
— secundo—for the European Universities

The double challenge is expressing well the demand side of the equation (the region) and the supply side (the University).

II. The region

It would be very interesting and instructive to find out how numerous and strong is the community of European Regions—which are recognizing the key role of the University in regional development.

I would like to present a hypothesis that the affirmative answer will be given by regions displaying the following characteristic features[7]:

1) a globally minded region seeing the transformation of European space in global context, and recognize itself as a direct actor of the global scene,
2) a region dominated by the "catching up" psychology not being trapped by the inertia of "lagging behind" psychology,
3) a region where the knowledge intensive communities[8] are a growing phenomenon leading to the recognition of knowledge based economy and society—as the main driving forces of regional development,
4) a region where the regional elite[9] is able to design and implement consecutive visions of the strategic choices leading to the durable development of the region in long term perspective.

Naturally this list of features can be formulated in different ways. There is no doubt however that only a minority of European regions (let us say 25%) will recognize the University as a real

[4] Paul A. David, Dominique Foray, An Introduction to the economy of the knowledge society. .I.S.S.J. no 171, March 2002.

Compare also: K. Muller, KBS and its socio-cultural pattern. The situation of post socialistic countries (in:) A. Kukliński (ed.) The Knowledge based economy. Warsaw 2000.

[5] Compare: A. Kukliński, The First Pillar of the European Union, (in:) A. Kukliński, B. Skuza (eds) Europe in the perspective of global change. Warszawa, 2003.

[6] Naturally in practical terms even in best conditions the University will be only a co-driver and never a solo driver.

[7] Compare: A. Kukliński, Towards a new model of regional policy (in:) "Studia Regionalne i Lokalne", Nr 4,2003, Warsaw.

[8] Compare: P.A. David and D. Foray, op.cit.

[9] Compare: A. Kukliński, K. Olejniczak, The regional elites (in:) T. Zarycki, G. Kolankiewicz (eds) Regional Issues in Polish Politics University College, London 2003.

or potential driving force of regional development. This minority will change itself into a majority when the New paradigm will change itself from a noble goal into a strong reality.

III. The University in Millennial Perspective—the four traditions

In the almost millennial tradition of the European University we can indicate four splendid chapters:

1) The chapter of the medieval University establishing this institution as an characteristic feature of European civilization. The University to the present day should be seen as a Universitas of magistrorum et scholarum. The genius loci of the medieval university is an inspiration for the genius loci of the XXI century.
2) The chapter of the elitist and liberal university of the XIX century. In this time the European University was the world leader educating the global elite[10].
3) The chapter of the democratic university emerging from the golden time of welfare state in Europe.
4) The chapter of the entrepreneurial university[11] of the last decades of the XX century being a response to the challenges of globalization and the crisis of the welfare state (compare Annex Two)

IV. The typology of Universities

According to the recent estimation[12] there are about 4.000 higher education establishments in Europe as a whole attended by over 12,5 million students. This is a grand galaxy of institutions representing different levels and capacities of the academic performance.

From the point of view represented in this paper we accept the following criteria of typology:

— primo—the spatial dimensions in the activity of the University
— secundo—the main functions in this activity

The Universities are multidimensional both in spatial and in functional perspective. The *diferentia specifica* of each University is expressed in the differences in the relative power and weakness of each dimension and each function.

From the point of view of this paper let us consider the question in what conditions—the regional dimension—is the leading dimension and in what conditions the regional dimension is only a supplementing dimension?

[10] A. Kukliński, The European University in the global landscape of the XXI century (in:) Science and Education in Transition—An International Expert Meeting, Vienna 1998, Budapest 1999.

[11] B. Clark, Creating entrepreneurial universities, London, Pergamon 1998.

[12] The role of Universities in the Europe of Knowledge Communication from the Commission Brussels 2003, Com (2003), 58 final.

Table 1

The typology of Universities

Spatial dimensions	The creation of			
	Scientific knowledge	technological knowledge	Innovation	Human capital
Local				
Regional				
National				
European				
Global				

V. The region and the regional University in the European landscape of the XXI century

In the development of strong and dynamic Europe a very important role will be performed by the growing galaxy of globally minded competitive and innovative regions. The expansion of this galaxy is determined by two processes:

1) the constant transformation of some strong regions into stronger regions. The global competitive scene is pressing the strong region to be stronger or to face the 'verdict' to join the ranks of weak regions,
2) the constant transformation of some weak regions into strong regions as successful actors of the global scene. The global success of Europe of the XXI century will be achieved inter alia via these two processes and the quality of regional performance.

Since these processes of improvement are taking place in the global environment of knowledge based economy and society—the regional Universities must be seen as an innovative institution upgrading the regional scene.

The regional University is acting in four fields which are upgrading the regional scene:

1) **the development of knowledge and innovation—upgrading the competitive performance of the enterprise,**
2) **the development of human capital via the education of open minded innovative personalities,**
3) **the development of social capital via the promotion of the climate of trust linking different actors of the regional scene,**
4) **the development of the innovative and creative identity of the given region.**

The regional University should be seen also as a scene of creative interaction of four communities which are responsible for te effective performance of the given region:

1) the Business Community
2) the R and D Community
3) the Governance Community
4) the Community of Education and Culture

For the clarifying of presentation let me outline the following table

Table 2

The Regional University, Functions and Communities

Functions The development of	Communities			
	Business	Governance	R&D	Edeucation and Culture
Knowledge and innovation				
Human Capital				
Social Capital				
Regional Identity				

The Regional University is facing two dilemmas:
— primo—the democratic versus elitist university
— secundo—the conventional versus entrepreneurial university

VI. The empirical perspective

The conceptual framework of this paper can be seen in a much more comprehensive empirical framework presented in two publications. The first one is a special issue of the well known UNESCO Journal, Higher Education in Europe[13]. The second one is the excellent paper published in Regional Studies[14].

In the final version of my contribution I will present the most important element of these two publications.

VII. The research priorities

To my mind the most important type of regional university is the university described by J. Boucher et alia[15]—"as single player university in peripheral regions". We need a comprehensive

[13] Higher Education in Europe ... No 3/2003, UNESCO Cepes. New Higher Education Institutions and Their Role in Regional Development.

Compare especially the papers of H. Lönnberg, F. Sole Parrelada, K. Pawłowski and A. Kukliński.

[14] G. Boucher, Ch. Conwayand E. Van Der Meer, Tiers of Engagement by Universities in their Region's Development. Regional Studies, December 2003, Great Britain.

This paper is presenting the findings of a research project on the role of Universities in regional development draving the evidence from 14 regions in seven European countries. This project wasimplemented in the context of the EU founded Forth Framework Programme.

[15] G. Boucher et alia, op.cit., p. 892.

research programme analyzing the performance of 100–200 regional universities of this type. The majority of these regional universities are located in the huge European periphery incorporated recently into the European Union.

Warszawa, Żoliborz
March 20th 2004.

Annex One

The fundamental idea of the University Some reflections of Jaroslav Pelikan[16]

I. The storm breaking upon the university: the university in crisis

The title of this section is derived from the title of Chapter 2 of "The Idea of University" by Jaroslav Pelikan (1992). His observation (p. 11) about the history and the contemporary situation of the university is worth quoting:

"The 'storm breaking upon the university from the North' was the utilitarian attack on the traditional Oxford curriculum, to which Newman responded with his insistence that knowledge is an end in itself. But there is a storm breaking upon the university again, and this time from north, south, east, and west. A critical reexamination of the idea of the university—not simply of John Newman's idea of it, or of someone else's idea of it, but of the idea itself—has become an urgent necessity."

The present storm breaking upon the university is much stronger than the storm observed 150 years ago by John Henry Cardinal Newman. The present utilitarian attack can destroy the "dignity of science" (Kukliński, 1996) which is the foundation of the idea of the university. In the evaluation of the present utilitarian attack, it is necessary to keep in mind the distinction between the short-term and the long-term utility. The long-term perspective should never be lost in the evaluation of the mechanism of the development of the university.

Again, a quotation from the words of Jaroslav Pelikan is in order (1992, p.34):

"Yet today it is necessary to sharpen, more than Newman did, the polemical point that utilitarianism is a threat to utility, and that therefore a rigid application of the utilitarian criterion could deprive the next generation of the very means it will need for the tasks that it will face, which will not be the tasks that this generation faces and which therefore cannot be dealt with by those particular instrumentalities that this generation has defined as 'useful'."

II. The business of a university

Stressing the dangers related to a narrow-minded utilitarian approach, it is necessary to recognize the fact that the university is not only the alma mater but also a smaller or larger business corporation.

The basic dilemma in this field is well defined by the same author (Pelikan, 1992, p. 71):

"It is, of course, a play on words, but also far more than that, to note, in introducing a discussion of the business of the university, that the university is business, and big business. Each year the debates over the budget for higher education in various countries and in individual states make it clear all over the world that the university must be included in the catalogue of major industries in any modern society, involving a significant percentage of its income and expenditure and occupying an important place in the service (or the "not-for-profit") sector of its economy. The most successful leaders of modern universities have been those who have come to their task from the "business" of teaching and research, but have then learned to administer the university as "business" without being overwhelmed by it."

So, it is necessary to recognize that the university is a business, but one should avoid being overwhelmed by this fact and pushed into narrow utilitarian approaches that world, in the long run, destroy the idea of the university.

[16] J. Pelikan, The idea of the University. Yale University Press, 1992. Reproduced from: A. Kukliński, The role of university in stimulating regional development and educating global elites in Higher Education in Europe, op.cit.

Annex Two

RECiFER
Research Centre for European Regions
Nowy Sącz, Poland
Memorandum

I.

The Region will perform an active role in Europe of the XXI century as the main pattern stimulating the development of knowledge based economy and society. In this context we will find a pressing demand to change the scale, scope and intensity of innovative studies analyzing the performance of European Regions.

These studies should try to outline a new paradigm as a set of new questions and new answers to those questions.

Perhaps the role of the locomotive in the development of the new paradigm could be performed by RECIFER having strong links of cooperation with the European Union, OECD and the World Bank. Poland could be seen as a good choice for the location of this Centre.

II.

The mission of RECiFER is related to the design and implementation of the following activities:

1) testing the hypothesis that the main element of regional dynamics is the creative interaction of the KBE and KBS,
2) testing the hypothesis that the organic model of regional development is the best choice of the XXI century,
3) testing the hypothesis that the replacement of the lagging behind psychology by the catching up psychology is the main problem of regional policies in Europe,
4) testing the hypothesis that the regional elite is an important factor of the regions success or failure,
5) testing the hypothesis that the main problem of European space from Atlantic to the Urals is the centre periphery gap. The development of KBE and KBS is the main historical vehicle to diminish or even eliminate this gap in longer perspective.

III.

These five hypotheses would be tested in:

— *primo*—general studies covering the totality of the European Space—from Atlantic to the Urals,
— *secundo*—monographic in depth studies analyzing the performance of 100 well selected regions in Europe. These regions will be transformed into *sui generis* laboratories of economic, political, social and cultural change seen as an endogenous organic processes.

The RECIFER will create and develop an efficient information system covering not only the EU but also the totality of Europe from Atlantic to the Urals. From this point of view the location of Centre close to the Russian and Ukrainian scene might be a great advantage.

IV.

The knowledge based economy and society create a new paradigm of the development of Europe of the XXI century. The region is the best framework for analysis, monitoring and foresight of KBE and KBS in Europe.

We need not only the analytical power but also the intellectual imagination to analyze the regional dimension in the grand transformation of Europe of the XXI century.

I am convinced that this analytical power and intellectual imagination will be developed by the growing communities of persons and institutes promoting the transdisciplinary field of regional studies enriched by forty years of outstanding experiences. RECiFER will be a new member and humble servant of this community deeply involved in intellectual and pragmatic processes which are the driving forces in the emergence and development of a new paradigm in the studies of European Regions functioning in the framework of the global mega space of the XXI century.

Brussels, January 24th 2004.

KRZYSZTOF PORWIT

COMMENTS TO KUKLIŃSKI'S PAPER "Universities driving Regional Development"

I am sharing most of opinions and suggestions expressed in this paper—considering them as inspirations for farther discussion as well as for more research (Particularly welcome is an idea for a reserch center as outlined in Annex One).

In my comments I am trying to indicate several issues which raise doubts or seem controversial. They refer to the main substantive fields touched in Kukliński's paper i.e. in part I —to some issues of interdependence between presumable merits of a knowledge-based economy [KBE] and the desired features of regional development in Europe whereas in part II—to the roles which—in that context—may be performed by universities.

I. Knowledge-based economy and regional development

(1) I am afraid that the opening section of the paper may lead to an interpretation, which will be too optimistic, or even misleading, in its implications for the practice. It seems certainly justified and desirable to emphasize a crucial role of knowledge as the source of factors likely to enhance development and progress in economic and societal matters but new ways of enhancement implicit in the notion of KBE can gain their validity only within a specific set of other features of economic and social matters. I prefer to remember that an essential role of human capital[1] in these matters was already acknowledged much earlier, although without wider attributes included later into the notion of KBE. The contents of a KBE are composed of various elements, but those typical for a new model coexist in any real case with others which in many aspects are still reflecting the influence of somewhat older features (from "older worldviews"). The latter are not yet tailored according to modern fashions of flexibility (imposed by ubiquity and speed of changes) but they exist as remnants of approaches which used to be more concerned with conditions favourable for desirable performance of labour or of human capital. These changes in worldviews, viewpoints, prioritiies, and in models and descriptions, can be seen as symptoms of adaptation to important changes in technologies and in challenges facing economies and societies, especially under impacts of globalization. The viewpoint and language of KBE correspond to historically newest and relatively most complex real conditions and, at the same time, they reflect relatively strongest potential available now in most developed economies (such as most of OECD members). However, we should try to work out some ways of linkage and coexistence between contemporary

[1] Still earlier, the factors of human labour, its quality and productivity were considered as main and ultimate sources of growing abilities to provide decent subsistance and hopefully welfare for the mankind.

global worldview, its KBE counterpart and a variety of sub-worlds with respectively differing levels of development (i.e. also with historically earlier features of labour—human capital—KBE arrangements)[2]. Similar diversity can be seen even among some regions of countries (in respect to some relatively backward parts of more developed countries and—on the other hand—to leading regions of generally less developed countries) Anyway—one should remember that we are not entitled to count on a direct and simple "transplantation" of KBE devices from leading areas to regions relatively backward . We cannot asume a mechanistic relationship as if more "inputs" of knowledge would necessarily produce more "outputs" of success (in terms of more desirable effects identified with economic and social indicators of development and welfare).

In another perspective one may note that reminders of merits expected with KBE and its desirable effects would not be convincing as long as one doubts in rightness of the criteria of desirability (e.g. if they are supposed to derive value only, or above all, from commercial premises and to be expressed primarily in money terms). Transplanting operations are also likely to fail in practice as long as there is not enough attention for preventive activities and remedies which would be considered feasible in defence against most relevant opposing forces and obstacles. Arguments in favour of KBE seem too shallow if considered mainly as means to convince politicians and public administrators , i.e. to create more favourable climate for more ample allocations of public funds to KBE promoting projects. The practice usually does not change in response to appeals but it rather depends on and follows various impulses and processes of wider scope, which take place in human minds and societal relations[3]. Thus it seems that wishing to obtain practically feasible effectiveness of endeavours aimed at KBE promotion one should be aware of numerous parallel conditions, which usually reflect impacts of exogenous forces as well as many aspects of historical experiences (which impose symptoms of *path dependence*) and also pertain to qualitative features of accumulated assets (particularly in terms of non-tangible capital of the kinds called not only "human" but also "social" and "institutional") Relevant are also the terms of some social consequences of necessary transformations (or reconstructions) of these and other assets, which are an aftermath of earlier stagnation or earlier patterns of mis-development. and at present become useless or even harmful

(2) The term "New Paradigm" (as a title of the initial section) seems somewhat ambigous, in particular when it refers to suggestions for presumably welcome interplay between KBE and something which at present is nothing more than a vision of a future "knowledge based society" (KBS). Questions arise where to look[4] for indications what can be considered as a comparable

[2] The following excerpt from the initial section (Chapter 1, p.1) of *Third European Report on Science & Technology Indicators 2003. Towards a Knowledge-based Economy*, European Commission, Luxembourg 2003 indicates at main characteristics of knowledge at present in comparison with the past : *"Of course knowledge per se is not a new asset; it has always been a basis for human activity. However, what is radically new is the pace of its creation, accumulation and diffusion resulting in economies and societies following a new paradigm. Working and living conditions are being redefined; markets and institutions are being redesigned under new rules and enhanced possibilities for the exchange of information. Moreover, knowledge is not only becoming the main source of wealth for people, businesses and nations, but also the main source of inequalities between them. In other words, while knowledge is the key to increased competitiveness, it could also lead to a reduction in social cohesion and increassing economic disparity between regions, countries and continents".*

[3] Let me quote excerpts from a comment in Edward Elgar Publishing Ltd catalogue *Politics and Public Policy 2004* related to a book of Australian authors D.Rooney, G.Hearn, T. Mandeville and R. Jones on*Public Policy in Knowledge-Based Economies. Foundations and Frameworks*, EE 2003 which read: *Knowledge is a product of human social systems and, therefore, the foundations of the knowledge-based economy are social and cultural. Communication is central to knowledge creation and diffusion and <Public Policy in Knowledge-Based Economy> highlights specific socal and cultural conditions that can enhance the communication, use and creation of knowledge in a society.*

[4] Inspirations and reference planes can be found—for instance—in the studies of Nobel Prize 2001 winners Joseph E. Stiglitz and George Ackerlof, whose main thoughts were included in the articles : J.E.Stiglitz *"information and the Change in the Paradigm in Economics"* in American Economic Review. 2002. vol. 92, nr 3 (June), G.Ackerlof

paradigm presently existing for that interplay (and for each of its both sides i.e. for economic and social sub-systems) and which of its features are supposed to be replaced or transformed on a suggested way to a reign of knowledge? In my opinion a warning should be added that a belief in KBE-KBS approach, as a way favourable for mankind's future, seems too one-sided without certain reservations. The latter should remind that practically feasible effects from increased knowledge intensity in human activities (economic, social, political etc) are very much dependent on qualitative features in their institutional foundations (as "rules of the game") and still deeper—in the informal branch of institutions (behavioural ethics) and their axiological base.

Is it justified to expect an optimistic vision of a presumably "virtuous circle" which will consist of mutually reinforcing improvements in knowledge intensive economies and societies? The expectations were ambitious—as a picture of Europe 2010 was assumed to show *"the most most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"* (cited by Kukliński, p.1) but unfortunately that picture hardly corresponds to a realistic assessment of the situation prevailing in Europe now and in a foreseeable future (also in the European Union, before and after the enlargement)[5].

This vision was assumed as feasible within Lisbon strategy (in 2000) [6] but it was accompanied by many indications of difficulties, obstacles and challenges which were already visible or likely to arise. According to an assessment in 2003 respective programmes (to implement the vision) were set to launch ten kinds of actions (*Third European Report*...[*op.cit.* pp 20–21), which were listed under three headings:

(i) Further consolidation and unification of the economic environment (mainly—quality of markets and of public finances),
(ii) Stimulating the creation, absorption, diffusion and exploitation of knowledge (mainly—promotion of research & innovation, education and forerunners of knowledge society, encouraging innovative business)
(iii) Improvements in working conditions, in social protection and cohesion, i.e. active employment policies, in promotion of information society, in striving for social inclusion (as a remedy to the ailment of social exclusion).

The chances to reach the goals of the vision were clearly dependent on successes in implementing the aforementioned remedial actions. Otherwise essays to reach the vision were bound to encounter too serious obstacles with resulting failures in these features of KBE which are crucial for societal welfare and peace. The projects to develop KBE will resemble then a case

" *Behavioural Macroeconomics and Macroeconomic Behaviour*" in American Economic Review—*ibidem.* Examples of other approaches can be found in the stream of evolutionary and institutional approaches in economics which were presented and discussed by Andrzej Wojtyna *"Nowe kierunki badań nad rolą instytucji we wzroście i transformacji" (New directions of research on the role of institutions in growth and transformation)* in Gospodarka Narodowa (National Economy) 2002. nr 10 (134). The last metioned contribution refers mainly to G.Roland *Transition and Economics, Politics, Markets and Firms* The MIT Press, Cambridge Mass. 2000, and to D. Rodrik *Development Strategies for the 21th Century* in Pleskovic B, Stern N. eds *Annual World Bank Conference on Development Economics 2000* The World Bank, Washington DC 2001.

[5] Important observations and conclusions concerned with Polish transformation (after 1989) and with some relevant problems "on the eve of EU accesion" have been presented lately in a seventh volume in Friedrich Ebert Stiftung series "EU—monitoring" *"On Course? Poland on the Eve of EU Accesion"* eds. Mirosława Marody and Jerzy Wilkin, Kraków 2004. Attention has been concentrated there in particular on the qualitative features of human capital, not only from the viewpoint of professional qualifications but also with respect to dependence of the effects on the quality of social capital. (chapter II, pp 69–120)

[6] Ambitious goals set within Lisbon (2000) strategy were based on the assumptions of gradual striving to overcome numerous obstacles and stand-up to difficult challenges (as discussed in Chapter 1 *Facing the Challenges of the 21st Century* in*Third European Report op.cit.* (pp.1–36). Apparently these tasks have been much more difficult than expected.

of ideological wishful thinking—with small chance of success and only with a partly understandable justification that ambitious goals (set through the vision) would at least provide a favourable climate in European countries (and nations) to strive for a stronger competitive position, nearer to the top of global ratings.

[It seems useful to remember that there are some merits in teleology expressed by ideological promises[7] but also some well known dangers, which follow from ommision of inevitable dark sides in a given ideology as well as from a neglect of serious counteracting forces and obstacles which prevent desirable features to materialize. At any rate—it seems evident that all future oriented studies (foresights, visions etc) are likely to suffer if there are no steps taken to identify main opposite forces, to reflect how to tackle them and to envisage the ways and means, feasibility chances for some preventive and remedial actions]

(3) Comments offered above seem justified in view of diagnostic statements, which are cited in Kukliński's paper [(Annex One, part VII, pp. 11–12)] where we have a description of *"The dramatic crisis of Europe"* with specific symptoms of seven ailments[8]. One of them is directly concerned with economic matters and it reads that : *" Europe is losing competitive advantage in the development of knowledge-based economy"* (i.e. contrary to the task of gaining advantage, as it was supposed to happen according to the goals set (in March 2000) by the Lisbon strategy)[9].

Other fields (besides economic) diagnosed to be in a state of crisis are the following: **demographic** (with many sad consequences of Europe being " a dying continent"), scientific, cultural, military, concerned with European governance and with European identity.

It seems obvious that we have here a wide spectrum of observations which are indicating at ailments of various nature. They are related mainly to the issues which are subjects of scientific research within human and social branches of science.. The latter are considered as "soft" , less universal and decisive, not so precise as "hard" sciences as potential sources of knowledge. Nevertheless they are certainly helpful in our essays to identify the roots of societal crises and to alleviate resulting tensions—especially if we keep in mind the consequences of that "softness". They are also better fit for a strife of improvement in these actions foreseen by Lisbon strategy which were under headings "further consolidation and unification of the economic environment" and "better working conditions, better social protection and cohesion" (*Third European Report...*, *op.cit.* p.21)

In this context I would venture a hypothesis according to which it would not be justified to maintain that more successes in the development of KBE would allow to check the above mentioned ailments or to implement more effective remedies. It is possible to assume that greater knowledge intensity would cause some increments in rationality of manifold choices, by making respective variants clearer and more distinct, and respective procedures—more transparent. However, other arguments must indicate that the practice consists also of frequent cases of negligence, of irrationality or of fraudelent attitudes, which can even mean that knowledge is misused as a way to reach goals intrinsically evil. At any rate there are sufficient reasons to argue that the practice of making choices (decisions) is determined not only by an extent of knowledge but also by a hierarchy of accepted values and their interpretations, by specific preferences and motivations Consequently—*ex ante* one cannot be sure what criteria of choice and what aims will determine all respective kinds of processes alongside of their Increasing knowledge intensity.

[7] Refering to the challenges and obstacles which were indicated in the *Third European Report* (op.cit. ., see footnote 2) I venture this general comment as an advice to concentrate in presently proposed research activities not on extensions of distant goals but rather on overcoming of obstacles, as seen through shortcomings in the recent practice and through concepts, how to tackle them more effectively.

[8] Compare: A. Kukliński, B. Skuza (eds) Europe in the perspective of global change, Warsaw 2003, p.511.

[9] Similar critical tones—although slightly less explicit—can be noticed in the *Third European Report* (*op.cit...* *"Conclusions"* p.31)

One can only use various indirect ways of guessing about the nature of choices made in specific conditions and under specific influences. In this context we can see some relevance of increments in knowledge intensity (in the sense used in notions of Knowledge-based Economy and Society).This is an additional aspect of relevance (besides those aspects which refer to professional qualifications of people active in a variety of their roles in society); it is related to specific conditions which may influence decision making (or in simpler terms—making choices)[10].

(4) I suppose that the lines of thoughts in my comments presented above may serve as a good starting point for certain suggestions concerned with additional points which—in my opinion—deserve attention in the approach to the problematique outlined by A. Kukliński in sections II and V—concerned with the prospective positions of regions and regional universities "in the European landscape of the XXI century". (I am presenting here only short outlines of these suggestions—as possible topics for future research).

(i) In my opinion on should try to "upgrade" the role of regions and regional approaches to development within the whole structure of prospective studies on the future of Europe (in the world of to-day and of to-morrow). Obviousely this would mean that respective diagnostic research will be useful, in particular oriented on existing and potential development factors. Regional approach and viewpoint seem to be of crucial importance in consideration not only of the issues subdued to the aims of gaining more competitive advantage in global markets (mainly in respective spatially conditioned infrastructural arrangement) but also (or even—in particular) the issues which may serve the aims of improving social cohesion and social inclusion by means of strengthening regional markets and local suppliers as well as by means of paying more attention by businesses to local actors as so-called stake-holders having mutually common interests with firms—also larger and operating on various markets. Successes in attaining such regionally oriented goals may seem mutually exclusive (either—or) to goals oriented globally, but in fact there are strong opposite arguments, valid in a longer perspective. Without solid foundations in regional success the global position of a larger (national country) economy would become endangered. In other words processes oriented towards both kinds of goals may assist each other (as complementary and producing extra effects, valuable from a societal perspective). Unfortunately there are many examples of serious obstacles and counteracting forces, which are caused either by a "foot-lose" attitude of globally oriented businesses prefering mobility and flexibility (without any concern for respective regional stakeholders) or by local "lagging behind" tactics to get public support i.e. by unsufficient motivation to get actively engaged in "catching up" or else—by a too strong competition (often—pressure) of global businesses in activities to win local markets etc. Altogether—there are valid arguments that in such circumstances some consciously prepared and concerted actions are useful (public and private alike) for essays to promote development.

Nevertheless—such projects have proved more feasible if the earlier mentioned obstacles are not yet too strong and universally prevailing (the point is that preparing and setting such project in motion need to have something of a "critical mass" of available civic, entrepreneurial,. popular and political support).

(ii) In that context—the next suggestion indicates at evidently valuable experiences which have been already gained in the field of "Regional Foresight" projects (as described in documents of

[10] This context was indirectly discussed by Richard G.Lipsey (*Sources of Continued Long-run Economic Dynamism in the 21st Century* (pp 33–76) in *The Future of the Global Economy. Towards a Long Boom?* OECD 1999.I have in mind an emphasis placed by the author on enhanced abilities to disentangle the notion of production function, which may be considered as one of the hopes to obtain radically more effective economics by replacing a "black box" assumption through more complex information structures. Too much optimism in this hope was due perhaps to an approach concentrating on technological knowledge without sufficient interest in other aspects (such as above mentioned values in practically taken criteria of choice)

European Commission) [11], as a useful background and outline for regional development activities. Its important feature is reflected in endeavours to abstain from paper-work wishful thinking but to concentrate on feasible actions and contributions, in particular—informations which help to specify the substance of a "critical mass" of participatory support for development as well as the nature of the roles offered by particular participants.

Interesting hints come also from a section with warnings about conditions (prevailing in a given region) which should persuade to abandon an idea to engage in foresighting (e.g. too strong doubts in chances of feasibility, insufficient local support, probabilty of persistent quarrels between potential participants with very different opinions and preferences). Besides—foresighting is advisable only in a climate which seems promising for longer lasting continuous efforts; it does not make sense to connect this tool with occasional isolated short term attempts.

Wishing to identify quality of existing conditions it is advisable to find out (as far as it is posible) the features which characterise specific aspects contributing and summing up to diagnose of institutions and of Social Capital in a given region.

— *Institutional capital*—the capacity of the formal institutions in a region to concentrate on problem solving, capacity to act. speed in decision making, organisational flexibility and intelligence and inter-organisational relations
— *Cultural capital*—the heritage of traditions, values and beliefs, language, social relations etc
— *Symbolic capital*—the potential to mobilise energies to the task of region building, generate self-references, buil corporate teritorial images
— *Psychosocial capital*—a key element of which is trust (in the community and in its development potential, and in enabling cooperation in setting up groups and associations
— *Cognitive capital*—the collective know-how (as opposed to individuals' human capital), much of which resides in the knowledge infrastructure (universities, research centres) and firms [12]

(iii) My third suggestion reminds that our present topics will have to be analysed in ways which take into acccount various far reaching and strong ties which connect all discussed aspects of regional development activities with their environment, conceived in a wide sense of various external conditions and exogenous influences. I have in mind here not only obvious issues concerned with dependence of regional life (and its future) on manifold exogenous impacts, constraints and enhancing factors [13] which are already sufficiently identified and described . Assuming that such issues are included into a generally accessible knowledge I think that we are obliged to keep track with implications of new symptoms .This leads however to farther reaching suppositions that there are already certain problems of serious nature, which are continuousely arising as sources of conflicts (in societal and cultural matters, being potentially fatally dangerous for mankind).

In assessments of socio-economic matters there are ever arising conflicts between criteria of rationality taken from a perspective of monetary global arrangements and values, and—on the

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[11] I am refering to *"Practical Guide to Regional Foresight in the United Kingdom"* eds. Ian Miles and Michael Keenan, PREST, University of Manchester, published by European Commision DG RTD, Directorate K. Brussels—Luxembourg 2002. The contents of this book refer not only to experiences from several regions in the UK but also from regions of other countries :Finland, France, Spain as well as "Baltic String" (including areas from Denmark–Sweden–Germany). The limited framework of this text does not permit to devote now much space to these experiences but I hope their usefulness will be discussed else where , what will assist relatively less advanced regions to prepare conditions for take-off attempts.

[12] see *Practical Guide... op.cit.* p. 31—the text cited from conference papers—OECD Seminar at the Institute for Regional Development, University of Seville—1999

[13] As examples we have here the ties of regional endeavours with various actions envisaged in European Commission strategies and projects, as well as those led by governments of respective countries,

other hand—other criteria of rationality concerned with mitigating discrepancies in human quality of life (as measured by respective indicators)[14].

There are diverging views whether the quality of democracy and its chances to survive (not to degenerate into totalitarian plagues) depends on the role of humanistic values in the nature of institutional order, and interpretations of such values (in particular of "liberty" and "justice" as well as implications of human rights)—or the assesment should be quite opposite—that value-loaded criteria would increase dangers?

In a more general approach—one can meet various assessments of present "modern" and "postmodern" tendencies in societal sciences. Can we assume that human civilization develops into ever improving mutations? or it is facing dangers of doom, unless some forces of revival appear?. These seemingly too general and vague issues exert serious impacts on numerous aspects of every day life (among others—the humanistic sense of redefining and of redesigning which is mentioned in citation used in footnote.(2). In my opinion much more attention in academic discussion should be devoted to approaches and arguments linked to wider foundations which are not limited to atheistic understanding of science and knowledge.[15]

II. Few words on potential roles of universities

(**1**) It seems to me that in deliberations on a vision of future European universities one should not forget about the areas for potential concern in Universities which are related to the issues presented in particular in section (4) above.

(**2**) A. Kukliński's paper discusses these roles of universities, which are expected to generate growingly important contributions to regional development. It is assumed that such contributions will provide adequately sound endogenous motive power forces for development . These forces will have solid roots if a sufficiently strong knowledge-base prevails. There seems to be an implicit assumption that knowledge-based, largely endogenous, development drivers will suffice independently from exogenous conditions and will be effective notwithstanding some obstacles which may be caused by global impacts and challenges. I think that more attention should go towards some exogenous factors which either help or impede to get effects of knowledge-based development forces.

Less developed European countries (and regions) encounter such impedements which are caused by manifold circumstances which are considered unfavourable by potential investors, entrepreneurs or other decision makers, who otherwise could be engaged in innnovatory, knowledge-intensive development projects. On the one hand it happens that potentially available endogenous resources (in poorer regions) are directed towards other aims, either politically more urgent or financially more promising. Although such decisions are less effective from the viewpoint of future regional development, they are often preferable for politicians responsible for decisions. On the other hand there are cases of conflicts (in aims) between general criteria of policy adopted by the European Union in the field of assistance offered to poorer regions (by wealthier ones) and the criteria of business according to which the stronger firms (from richer regions) are likely to abstain from any activities which would create their own competitors in poorer regions (or would otherwise decrease their sales there).

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[14] These issues are tackled e.g. in studies of Amartya Sen and their symptoms are visible quite often in many notes and reports published in "*The Economist*"

[15] I am sharing the views which were lately presented by J.H.H. Weiler in a book the title of which (in Italian) is "Un Europa cristiana. Un saggio explorativo", Polish language edition was published by "W drodze", Poznań 2003)

Nevertheless, in general there are no reasons to doubt that development forces go together with intensive demand for knowledge. This means also that development is associated with stronger expectations for adequate supply of knowledge coming from various units in a knowledge-producing sector. In most cases that sectors abilities depend to a large extent on universities so the quality and strength of the latter certainly matters. However, one may wonder whether promotions extended to universities and to other parts of the knowledge sector can be seen as a decisive impulse for development; it may serve rather as an important complementary factor which makes development stronger.

Altogether—these arguments are certainly backing a view that universities and their contributions to knowledge production and dissemination are potentially growing in importance. Does it justify suggestions that wishing to promote development one should think, how to improve systemic arrangements to match corresponding increments in demand and supply of knowledge (with adequate quality of knowledge contributions).? The notions of matching demand and supply are useful in general arguments as a metaphor, but this does not mean that this can be directly implemented through respective programmes and policies. I think that we are dealing here with an interplay of forces where the tasks of harmonization prove exceptionally difficult because neither a logic of market nor of direct balancing accounts can sufffice (as in plans used by public administration).

(3) I am sharing the views expressed in Annex Two—in particular a warning that *"The present utilitarian attack can destroy the <dignity of science> (Kukliński, 1996) which is the foundation of the idea of the university..."*. I am arguing—however—for more emphasis on reminding, that if one wants to defend "dignity of science" then attention must be concentrated on keeping an institutional order, first of all—such behavioural rules in human interactions which honour **personal dignity** of every human being. This is the crucial condition for decreasing pathologies and distortions in social and economic aspects of an institutional order. Various symptoms of disorder which prevail in institutional matters are particularly detrimental to such fields of economic and social activities where the qualitative effects are heavily depending on mutual trust among people involved (in particular—because of relatively long lasting processes, with wider lags [time intervals] between inputs and outputs, contracts and their effects etc). This seems particularly relevant as far as

the long-term perspective is crucial in opinions on university's prospects (this is emphasized in Kukliński's paper).

At the same time, however, I am inclined to be cautious in accepting the view that an entrepreneurial university is inevitably the best response to contemporary challenges. This notion and approach may be accepted if meant to imply sufficiently professional qualities in all organisational and managerial aspects, but without forgetting basic public (and common good) relevance of universities functions.

Consequently, I am afraid that business—like foundations may lead to various conflicts with assumptions of a public mission (compatible rather with a non-profit type of activity, with an open range for private sources of financing).

Part Three

The Dynamism of European Regions

JEAN-MARIE ROUSSEAU

CONSTRUCTING XXIST CENTURY'S ECONOMIES BY RESHAPING THE EUROPEAN SOCIETY

The European Union of 2004 I hereby intend to foresee within this new century is one of the most prosperous regions of the world. It hosts by far the greatest concentration of economic command functions world-wide which are central both to the prosperity of its diverse territories (regions, cities and networked urban and rural areas) and to Europe as a whole. European Union is also endowed with enviable regional diversity as it comprises many types of cities and numerous urban and rural regions with very different individual characteristics and socio-economic functions. This regional diversity offers an important asset in terms of competitiveness.

However, at the moment, information technology already allows nearly borderless communications, exchanges of knowledge and collaboration, regardless of location. New opportunities are opening up and new threats are being created. As the economy grows everywhere, there is more and more a constant risk of socio-economic conflicts and also strong connections to technological development and social structures worldwide. Expansion in China and other heavily populated and emerging countries will also accelerate the use of finite natural resources, thereby boosting prices.

Globalisation implies mutual dependence among countries. The world's economies are bound together by trade, investments, financial flows and well-educated people, who are more mobile than ever. Meanwhile there is regional and sectorial specialisation, based on local and regional conditions, history and competencies. Entering a new era, Europe should wonder how its future should be foreseen.

Stopping delocalisation and/or Catching up with high attractive economies?

On the one hand, European countries gradually stop manufacturing less sophisticated goods (clothing, shoes, etc.), which are now largely produced in developing countries, especially in Asia and particularly in China. The European countries are therefore seriously threatened by this growth. The big worry used to be the relocation of jobs abroad. The fact is that, throughout the West, there are fears that China will be the main provider of high-tech services, not to mention the rapidly developing nations increasingly competing with the old industrialised countries. The race to cut prices, partly in response to pressures from big retailers, which means that it is more and more difficult for Europe to decide between productivity and job creation. In order to create wealth and jobs, it is essential to take advantage of expanding markets and to develop new products and services.

On the other hand, although the standard of living of Europeans gradually caught up with that of the Americans in the three decades after World War II, namely "*Les Trente Glorieuses*", it appears that the trend has dipped since the 1980s. Economic growth has continued in the United States, despite events such as the high-tech bubble and September 11th. It became worthwhile to observe the different paths taken by the two major Western blocs, by disentangling the reasons normally given to explain the poor results achieved in Europe: inflation, high interest rates, less flexible markets, industrial decline... In this view, the key to economic recovery in Europe is in knowledge investments and in the way that innovations are achieved and implemented. What matters most now is to give priority to innovations in products rather than in processes, i.e. attempting to improve or copy innovations in existing products.

However, in 2002, per capita GDP in the European Union was roughly 25% below that of the US. In many Western European countries, hourly productivity rates are very high, but working hours and the employment rates are particularly low, while the demographic decline further deteriorates this phenomenon.

While these observations provide an intriguing point of departure, it is not enough to say that capitalism is a constructed system. As Polanyi[1] famously put it in 1957, "*the human economy is embedded and enmeshed in institutions, economic and noneconomic. The inclusion of the non-economic is vital... The study of the shifting place occupied by the economy in society is therefore no other than the study of the manner in which the economic process is instituted at the different times and places.*" Nonetheless, this temptation to make our economies as competitive as those of other leading world powers might be causing the more prosperous EU regions to cast off the ballast of the other regions that they feel are dragging along with them.

In the very end, it seems that the best way of achieving sustainable development involves a commitment from all parts of the societal spectrum within the territories which cover the European area. According to Brundtland[2], the pursuit of sustainable development is defined as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". Thus, it is understood in the context of spatial development, meaning in particular, reconciling the social and economic claims for spatial development with the area's cultural functions through efficient complementarities between places.

Complementarities for Europe mean that cities, towns and rural areas should make the best use of their joint assets to improve the attractiveness and coherence of territories overall. They should not focus solely on economic competition but should also embrace culture, education and knowledge, and social infrastructure. With this in mind, the European Commission sees a possibility of playing a decisive role without needing to wade in heavy- handedly at local level or to impose an administrative straightjacket, but by trying to attain a development destined to last.

For every complex problem, there is a solution that is simple, neat and... wrong! Although the Commission's strategy mainly consists of strengthening the competitiveness of the EU economy at an interregional level, it is no less concerned to improve the performance of the less-favoured regions. The Union has its eye constantly on the goal of economic and social cohesion without ever neglecting to ensure, or giving up hope of ensuring, that the results will be lasting.

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[1] Polanyi K., 1957, *The economy as instituted process. In Trade and market in the early empires: Economies in history and theory*, eds. K. Polanyi, C. M. Arensberg and H. W. Pearson, New York: Free Press

[2] *United Nations*' Report, WCED, 1987

Creating the future together

Nevertheless, complexity is no reason to give up the ambition of long-term, strategic thinking—on the contrary, such thinking is becoming more and more necessary. The most important players must participate and need to be given opportunities to influence tangible decision-making processes.

Of key importance is that the vision and the goals will fit together with what and how much is at stake, and, at least, what changes will be needed. These factors are vital to ensure its credibility. It is thus important to discuss how the task of drafting such a vision might take place. There is a need to adopt a more long-term style of thinking about fundamental issues concerning what society the European citizens want to build so, the fields to be prospected conduct to make active, intelligent long-term choices.

Social action is embedded in ongoing and multiple networks of interpersonal relationships, rather than being carried out by narrowly rational, atomised actors. An enduring concern with networks represents one of the central threads of the new economic sociology. Even though, it is often unclear whether networks represent a method, a metaphor, or a micro-sociological theory.

On many previous papers[3], I personally tried to focus on the importance of societal relations and the value of local exchanges in economic development by claiming that the best way of achieving sustainable development involves a commitment from all parts of the social spectrum and that less favoured regions should find their own way forward away from a technological determinism paradigm.

Thus, in order to sustain my claim, I utilised, among others, recent EU data from the "Innovation Scoreboard" (DG *ENTREPRISE* of the European Commission) combined with an *OECD* confidence index to make comparisons between Ireland's and the Portugal's performances with the Structural funds and established a causal link between innovation capacity, R&D investments and divers components of social (dare we say "societal"?) capital. In fact, this concept of social capital deserves more detailed exploration? It is still not very clear in what sense it is used here and there, since it is no one single meaning of it that everyone agrees on. However, the climate of confidence among local partners often comes down to the possibility which individuals have of weaving relationships and spinning contracts at their own pace, of finding their own dignity thereby and of mutually bestowing credibility on their political, public and private institutions. Thus, by ploughing over and cultivating a broad field of exchanges and partnerships, this social capital which boosts confidence and mutual trust among local actors seems most suited to bringing effective solutions to local problems.

The way forward for less favoured regions is away from an "assisted" mentality which gives priority to policies based on traditional physical infrastructures towards innovation promotion policies based on intangibles which focus on building social capital in the form of a) an ability to internalise a regional strategy and renewal or revival of local identity, b) a capacity to coordinate, participate and link up the threads of interrelationships and of interactive and smart connections, and c) acceptance of a culture aimed at reinforcing human capital , investing in knowledge and the thirst for creativity in each and every firm.

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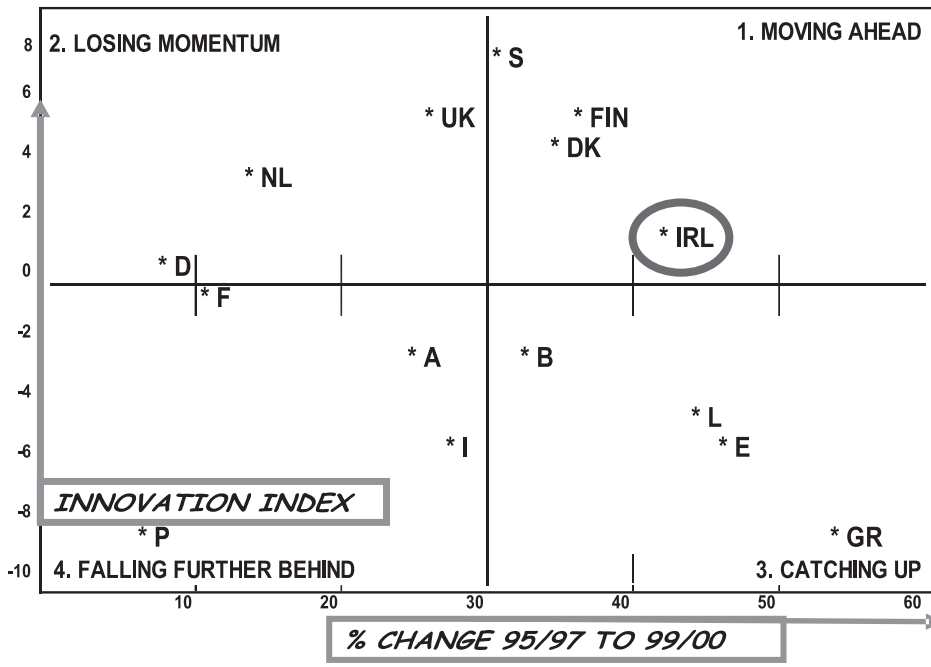
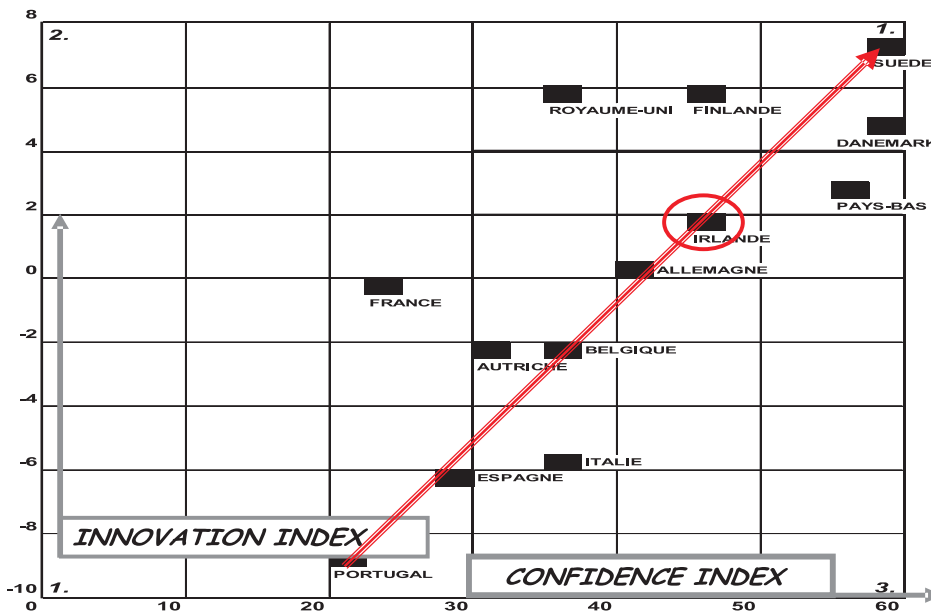
[3] Rousseau Jean-Marie, *The social dimension: an essential factor in sustainable regional development*, in *Social Capital, innovation and regional development, The Ostuni Consensus*, 2004;

Rousseau Jean-Marie, *Environnement, développement et dimension sociale, Société de la connaissance*, in *ACCES International* 2003;

Landabaso Mikel & Rousseau Jean-Marie, *Collectivités et dimensions mondiales, Les étapes décisives*, in *ACCES International* 2002:

Jerme André & Rousseau Jean-Marie, *Nouveaux comportements, nouvelles opportunités : les leviers essentiels, Illustrer les territoires, défendre l'emploi*, in *ACCES International* 2002;





At this stage, it is likely useful to refer to the needs for further devolving responsibilities for economic development to the local and regional levels, improving regional governance and institutional capacities, promoting innovation policies with a special focus on SMEs and entrepreneurship and cultivating "the resource of resources: people" in order to play an active part in the "new geography of talents" in the making.

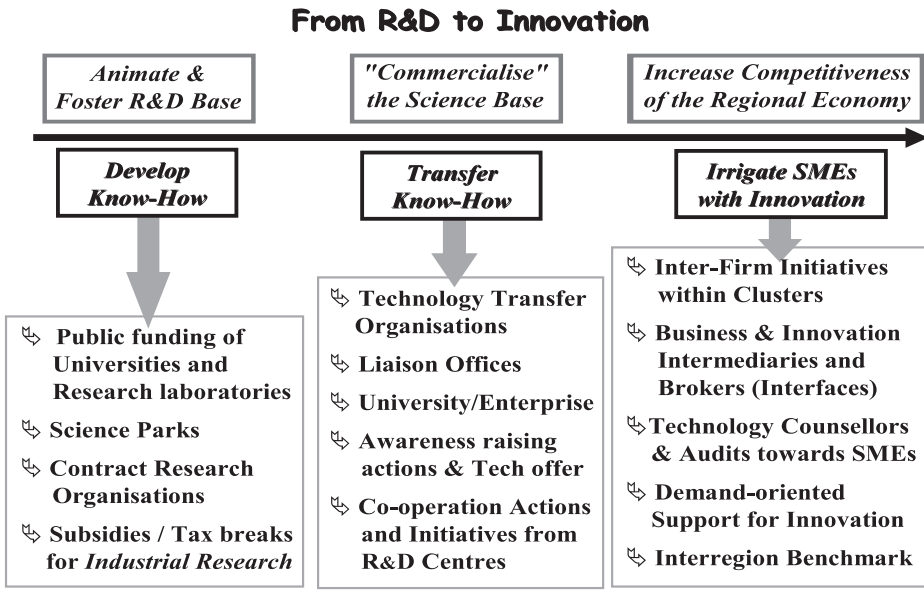
Developing High-Technology Communities

Most of the regions face major, momentous changes created both by domestic and international driving forces—economic, technological and societal. A large number of powerful trends and driving forces will affect us all—opportunities as well as new risks and threats—that it cannot influenced more that marginally, by adapting to them.

To an increasing extent, we are leaving the old industrial society behind us and are entering a society based more on information, knowledge and expertise. Globalisation comes with increased competition for this knowledge. Enormous investments are being made in educational systems and in other knowledge-related programmes around the world. Each region must compare itself, compete and collaborate with the best environments, regardless of where in the world they are located.

It seems essential to assist business leaders, university heads, economic developers and other key community players to better understand some of the processes involved in developing a supportive environment to grow small, high-technology businesses. All the growing technology clusters are small firms, and except for a few major companies, technology firms and small firms are synonymous. The success of regions' ability to create and expand high-technology businesses is due to multiple factors that include:

- a rich research and development base,
- active university promotion of science and technology to local businesses,
- availability of a skilled workforce, an involved business community,
- and improving public support.



In addition, the strategic effort of the region may result in better networking among business leaders, a closer working relationship between the universities and the business community, and improved communication between the public, academic, and private sectors.

The public authorities, in co-operation with universities and companies, implement programmes aimed at promoting science and technology in schools and disseminating technological know-how.

One ingredient of the region's success is the inclusive cooperative spirit of these industry organisations.

- ***Lessons for any Community***

Although most communities cannot recreate the beauty and climate of Californian or Mediterranean regions, there are some elements which has contributed to the region's economic turnaround which communities can learn from and apply to their own environment.

- **Networking of technology firms appear to help develop and maintain small, technology suppliers in the region.**

Technology luncheons, award events, and other opportunities for firms to interact, offer an opportunity for service providers to create a relationship with growing technology firms and to better understand their needs for further support and development.

- **Small firms, in business services and technology, are the driving forces of the region's economic turnaround.**

Small firms stand for almost all the new jobs created. The region's economic landscape is being reshaped by a committed and cohesive private sector, a rich research base that involves university-collaboration, and an active community leadership.

New attitudes and shifting values

Foresight in any technology domain has often to struggle with the so-called "Zeitgeist" dilemma, i.e. being a prisoner of the spirit of the time and "*believing that the big issues or technologies of today will also be big tomorrow*". It is the extrapolation that what is "hot" today will remain so in the future. But, as seen above, the influencing factors are of social, economic, political or technological origin and it becomes crucial to understand the nature of these critical factors. Such relationships and dependency between different factors is complex, while the factors are of different nature and often difficult to link. Even if the US is nowadays outperforming European countries as regards many indicators, the present "*American hegemony is also threatened by a decline, as the EU and Asia are catching up in the pursuit of excellence*", as recently stated *US National Science Foundation*[4]. Thus, we should say that this European knowledge society is able to foster economic growth, but on two conditions:

- first, people must be farsighted and bold to anticipate changes, (perhaps) even to create them, rather than merely putting-up with them;
- next, people must look beyond technology.

When futurists miss important trends, this is partly because they do not take into account changes in values. Attempts to rectify this problem achieve only limited success. Shifting values may be the result of changes in demographics or in the spirit of the times. Foresights must be drafted in a dialogue with many different groups in order to provide a reasonable picture of how the future will look. It is easier to analyse changes in attitudes and behaviour than values. Such changes can be tracked in patterns of consumption, education and lifestyle.

Public institutions also clearly influence the values and attitudes of a population. In some countries, this discussion unfortunately deals most often with the impact of the tax system on people's incentives to work; get an education and run a business. There are also studies that show that in those countries conditions stimulate creativity and problem-solving.

Territorial dynamism, which is increasingly being attributed to a certain kind of *social capital*, while new, is certainly not a panacea, but is starting to give particular significance to those

[4] *Science and Engineering Indicators 2004*

regions that are able to seize on the reserves of competitiveness in their business sectors and, what is more, the attractions of their area. The climate of confidence[5] among local partners often comes down to the possibility which individuals have of weaving relationships and spinning contracts at their own pace, of finding their own dignity thereby and of mutually bestowing credibility on their political, public and private institutions. By ploughing over and cultivating a broad field of exchanges and partnerships, this social capital which boosts confidence and mutual trust among local actors seems most suited to bringing effective solutions to local problems. According to Annalee Saxenian[6], *Silicon Valley* has had a regional network-based industrial system that promoted collective learning and flexible adjustment among producers and encouraged experimentation and entrepreneurship. We must admit that functional boundaries within firms are porous in a network system, as are the boundaries between firms themselves and between firms and universities.

While Saxenian's comparative analyses of *Route 128* and *Silicon Valley* have delved deeply into the regional roots of industrial practice, new economic sociologists tend to boil down such effects to network contexts. So, the Californian case speaks to Granovetter[7] (2002) as an account of "*an extraordinary amount of trust among companies and individuals who are nominally in competition with one another*." The Boston case, in contrast, is read as a representation of another type of network relations: here, the absence of trust is associated with the regional economic malaise. While there is extensive discussion of networks in *Regional advantage*, Saxenian's account did not rest on such narrow foundations—it is a "thicker" economic geography than Granovetter's reading would suggest. Her multifaceted interrogation of regional production cultures drew attention to what Michael Storper[8] has called their "super-additive" properties, the social "glue" that holds together these mesoinstitutional systems beyond the bare bones of network architectures.

Meanwhile, the overall goal of a territory is to be a genuine community site, which allows all the partners as much to learn from others, as to learn together. The business climate fosters the creation, dissemination and adoption of knowledge (either codified or tacit) and increases the local competitiveness. While business must be conducted at a higher and higher spread and a faster and faster speediness, no technology could supplant the face-to-face contact on a regular and routine basis. Thus there is a high necessity of proximity, as well as a climate of confidence and trust.

The 'digital' takes over from the 'societal' order?

The information society has only emerged over the past decade, but over the coming fifty years it should expand and find its way into most areas of economic, social and cultural life. This in turn can have substantial implications on land use changes, the need for transport and mobility of individuals whilst most probably increasing the need for goods distribution; and potentially dramatic socio-economic shifts. Although there is not enough evidence yet, the broad use of IT technologies is expected to have a polarising effect on territorial development.

[5] According to James Coleman, *social capital* can be thought of as all the links (bilateral contacts, diverse connections, networks, etc.) that individuals, entities or groups maintain with their environment, inside a given territory. This involves confidence and reciprocity among the socio-economic components and brings different people into contact in an 'exchange space'.

[6] *Regional Advantage*, 1994, Harvard university Press, London

[7] Granovetter M., 2002, *A theoretical agenda for economic sociology*. In *The new economic sociology: Developments in an emerging field*, eds. M.F. Guillién, R. Collins, P. England and M. Meyer, New York: Russel Sage

[8] Storper Michael, 1997, *The regional world*, New York: Russel Sage.

However, a large number of objections and arguments remain to be overcome regarding the exact impact of human and social factors on consolidating the growth and progress brought about by the emergence of the information society. At the same time, some are appealing to the appearance and multiplication of "clusters" to support their thesis that our culture is "going digital" in step with the globalisation of the economy.

The name *'Silicon Valley'* is resonant with echoes of information technology, electronics and the Internet, with planetary trade optimised in a globalised economy, and is felt to have become the very model of its kind, a genuine paragon of the prosperity and attractiveness attainable by a successful region. A recent myth has it that the virtual world has transcended all geographical barriers[9] a little as though the idea of "digital" is increasingly in opposition to and independent of the societal constraints holding back people themselves.

Even today, a century after Alfred Marshall, many economists continue to predict the ephemeral nature of societal concentrations and the impending abolition of distance. However, without denying the benefits of its digital element, the continued presence of the local and social dimension in this particular context reflects essentially a network-style structure. Everything in *Silicon Valley*, from the blossoming of inspired ideas to the phenomenal amassing of wealth, has contributed to causing the transformation of societal networks into digital ones.

But in the end the success of *Silicon Valley*, according to John Seely Brown and Paul Duguid[10], "*needs to be understood not at the level of the individual participants, but at the level of their joint interactions.*" The two economists find that the Valley is above all "*an interdependent ecology built around a particularly responsive kind of knowledge.*" It cannot be, they say, simply "*an entirely self-organised ecology of micro-organisms running wild.*"

This suggests the conclusion that *Silicon Valley*, although it has capitalised on cultivating the more or less spontaneous outgrowths provided by the 'invisible hand' of the market, has benefited just as much from the 'visible hand' of local government and institutions... The institutional environment in which businesses are swimming doubtless owes its ability to achieve major commercial and economic performance as much to the capacity of self-organisation as it does to the judicious political choices by the regional public authorities and local intermediate bodies.

Why do we essentially talk about a Learning Economy and a Knowledge Society?

Introducing advanced technologies can only take place successfully when it is accompanied by organisational change and competence-building among employees. The key to economic performance is to promote learning at different levels of the economy. We found that firms that introduced ICT without combining it with investments in the training of employees, with change in management and with change in work organisation got a negative effect on productivity growth that lasted several years.

Paradoxically it may be argued that as long as the economy remains new it will be much more difficult to obtain productivity growth than in an old economy. It is adequate to call the current era for 'a learning economy'. What is at stake is the capacity of people, organisations, networks and regions to learn. Learning to cope with and use the full potential of the new technologies is, in a sense, to transform them from being new to being old.

[9] Kevin Morgan, "*The exaggerated death of geography: localised learning, innovation and uneven development*", I.R.E. Conference at Stratford-upon-Avon, June 2002.

[10] John Seely Brown & Paul Duguid, "*Local Knowledge: Innovation in the Networked Age*", 2002.

At the bottom of the skill pyramid, the easy access to a 'hidden' reserve of nonemployed illegal immigrant workers has made non-inflationary expansion possible in the service sector. At the top of the skill pyramid, the unique position of the USuniversity system has attracted bright and hard working young people from all over the world to science and engineering studies.

Understood on a broad context, innovativeness is not restricted to high-tech industries alone but can also be achieved by traditional low-tech sectors. Due to their small size, SMEs often innovate through interaction with other firms and universities and research institutes (i.e. systems of innovation). SMEs that innovate through sciencedriven R&D (e.g. in biotech) tend to collaborate with partners across the world in search for new and unique knowledge.

SMEs innovating through engineering based user-producer learning tend to collaborate with nearby partner. Here, innovation often involves the application of existing knowledge or new combinations of knowledge. Through vertical collaboration firms co-operate with suppliers and customers throughout the value chain. Through horizontal collaboration firms develop co-operative arrangements with competitors.

A poor capacity to absorb innovation supply

In the light of these shared weaknesses, essentially with matters related to SMEs, it seems useful to point out the major role of the SMEs in the comparative landscapes of the United States and Europe.

Actually, the Europe's largest weakness compared to the USA would be lying at the door of SMEs, while increasing the innovative assets of such a category is the key to qualitative growth and new jobs. If you compare large European and American companies, you will be struck by that the amount of research they do is more or less equivalent. However, in the case of SMEs, the ratio is 1 to 3, sometimes 1 to 8 (depending on the indicators), i.e. American SMEs (which account for only 45% of US's GDP) have an average between 3 to 8 times more resources available for R&D than their European competitors (whereby SMEs account for 65% of GDP).

Europe urgently needs to launch new initiatives to turn its SMEs into high-innovation companies! For increasing the European competitiveness of its economy, regions have to find out the way to irrigate these broad fields with innovation. And this remark conducts to wonder about the capacity of such fields to absorb a potential advantage of irrigation.

That is precisely the point that Dr Luc Soete[11] stressed by noticing how far Europe's lower growth and its innovation deficit can, to a large extent, be attributed to the under-performance of SMEs and their poor capacity to absorb innovation supply.

The "*STRAT-ETAN Expert group*", in association with DG *Research* at the European Commission, compared each of the 15 European (EU) countries and the US within a scoreboard of four axes (each one defined by three relevant indicators):

- "*Research capacity*" (Scientists and Engineering Graduates as a percentage of working population, Public investments in R&D as a percentage of GDP, Number of Publications per million population);
- "*Technological and Innovative performance*" (Business expenditures in R&D as a percentage of GDP, Number of Patents per capita, Innovation expenditures as a percentage of total sales);
- "*Human capital*" (Percentage of GDP spent in Education, Percentage of Working population with Third level degrees, Participation in Life Long Learning);

[11] *Benchmarking national research policies: The impact of RTD on Competitiveness and Employment*, STRATA-ETAN Expert group, Prof. Dr Luc Soete—MERIT Institute—Maastricht

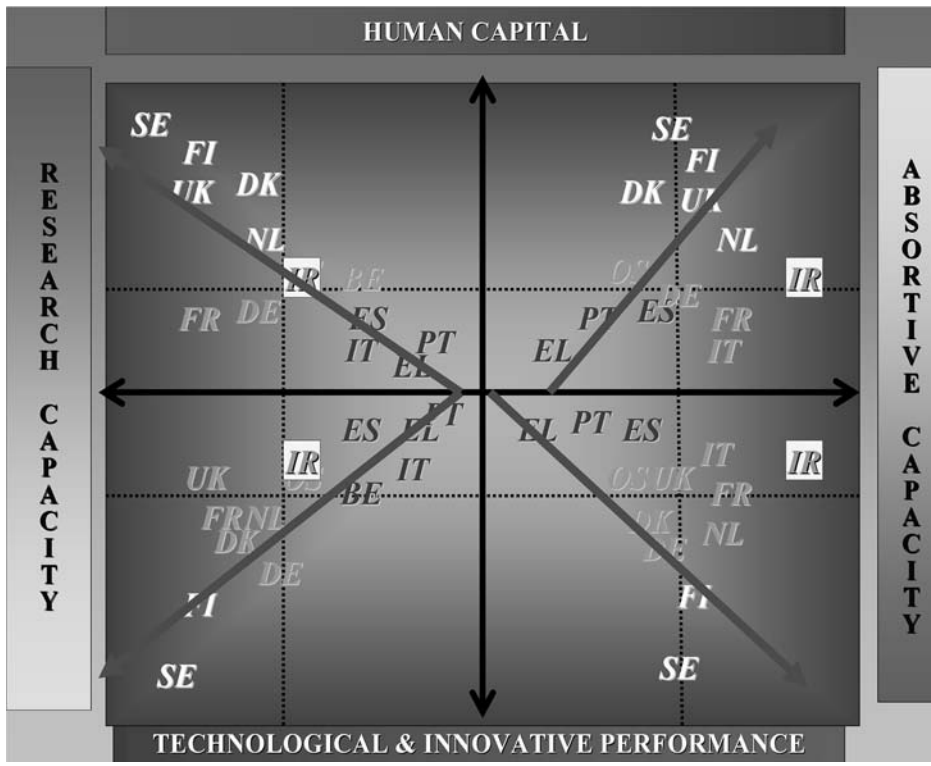
- "*Absorptive capacity*" (Weighed average of Sales of New-to-market products as a capacity to adjust to technical change, Labour Productivity based on Worked hours as a percentage of GDP, Relative Trade performance in High Tech Goods).

Using these proxies, the expert group attempts to link in four bilateral diagrams the performances of each country. What first emerges quite clearly is a series of substantial performance gaps between Northern Europe and Southern Europe in "*Human capital*", "*Research capacity*" (more specific to public efforts) and the private "*Technological and Innovative performance*".

However, quite strikingly, it is member states' "*Absorptive capacity*" which seems to not "fit the bill" with little relationship towards either "*Technological and Innovative performance*", nor towards "*Human capital*". Since we knew that top regions achieve a really competitive advantage by a high capacity to create and absorb new knowledge, this study demonstrates that the crucial factor, in addition to the first three ones, seems to be the "*Absorptive capacity*" whereby the US and Ireland outperform the other countries.

Trust, as a cornerstone for regional promotion of innovation

Understanding innovation as interactive learning implies that co-operation is necessary for the competitiveness of SMEs. It is defined as features of societal organisation, such as networks, norms and trust that facilitate action and co-operation for mutual benefit. SMEs tend to have little management resources and may thus undervalue participation. This involves a conflict between



individual short term firm interest and the collective long-term interest. Another way of building social capital is through participatory, bottom-up policy making.

Successful co-operation in innovation requires a fine-tuned and difficult to achieve match between academic knowledge and the concrete practice of SMEs. Policy makers need to recognise the overall key importance of education for SME innovation. Measures could be taken to target regional education to the skills and knowledge which SMEs need by. In a learning economy, initial education more than ever needs to be supplemented by the continuous training of employees.

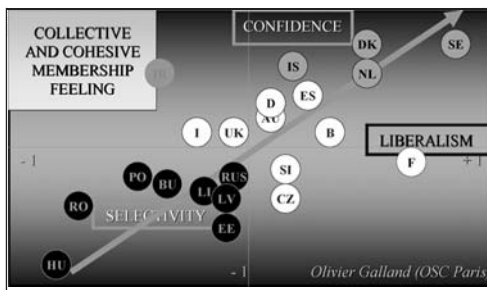
Does Europe really act for entering into the Creative Age?

Policies attaching special interest to improving the social climate should always be preferred to the seedy and deleterious use of those smoke-and-mirror devices we call tax relief, or to utility endowments which more or less amount to real estate. A proper collective intelligence, accompanied by a search for consensus through wide-ranging consultation of local actors, is the precondition for success at every step. In our modern democracies, the commitment of the regional public authorities to motivating local actors for socio-economic development should take the form of supporting and backing the local institutions. Action in this form by the Community and national authorities should begin, in a spirit of subsidiarity encouraging local contributions, by freeing the regions and their local authorities from direct intervention and interference from outside. Such an approach will come from a renewal of confidence to which the European Commission can fully subscribe based on new strategies emerging from the regional level, and designed to:

- support the public authorities and the local people in their desire to proceed to internalise their own development and start a process leading clearly to a recovery of local identity;
- generalise the expansion and dissemination of intelligent and interactive connections within regions, with a view to spreading the knowledge-based economy into local businesses—in particular SMEs—while at the same time avoiding "*cathedrals in the desert*" caused by too many local "*fiefs*" and institutions with no link to the local context;
- provide a real impetus to promoting a culture open to entrepreneurship, i.e. a culture deliberately looking towards knowledge and preparing for the future by turning this knowledge to account. A recent report[12] written by R. Florida and Irene Tinagli extended these concepts originally developed for the US ("*The Rise of the Creative Class*") to the European context. It explores trends in creativity and economic growth in 14 EU states compared with the US, by providing new data on the extent of the so-called *Creative Class*. With a new composite of measures of overall competitiveness performance—the *Euro-Creativity Index*, based itself on three types ("*3T*") of performance: *Technology*, *Talent* and *Tolerance*.

Although it is demonstrated that the US has the highest percentage of its national workforce employed in the creative class and Ireland has seen far and away the greatest growth in creative occupations, these last two countries are among the badly performing in the final ranking. This seems essentially due to the fact that such a benchmarking statement takes into account (within its "*3T*" assessment), the *Tolerance* criteria. However, since *Technology* and *Talent* were up to now criteria we are familiar with, *Tolerance*, more related to permissiveness and new moral values, could be more debatable criteria.

As Olivier Galland[13] yet showed, if it is true that *trust* and *permissiveness* can go together, this openness is selective and may be combined with a decline on social integration.



Confidence vs Permissiveness

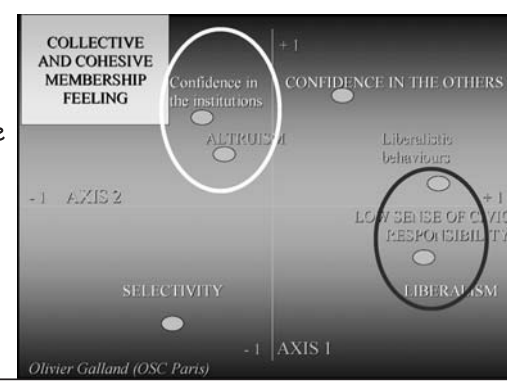
. Two countries have a distinctive feature:

. ***Ireland***, for its high degree of moral values and its strong social integration;

. ***France***, posting major permissiveness, with a rather low degree of confidence.

❖ If ***Confidence*** and ***Permissiveness*** can go together, this apparent "opening" poses problem, especially among the young people in terms of ***social integration***.

❖ The disparities, observed about various degrees of ***altruism*** and of ***confidence in the institutions,*** introduce an ***integration*** dimension.



[12] *Europe in the Creative Age*, Richard Florida and Irene Tinagli, February 2004

[13] *Les dimensions de la confiance*, *Futuribles* no 277, juillet–aoþt 2002

This sociologist also stated that the discrepancies between different degrees of *altruism* and *confidence in institutions* account for the dimension of integration and the anomie phenomenon described by Durkeim. Considering these three dimensions of *confidence*, namely "*trust the other*", "*trust the institutions*" and "*altruism*" (sharing common values), he can distinguish from the other countries particularly standing out:

- Ireland for its high moral standards and high level of social integration (societal identity and sharing values),
- France which is permissive with an exceptionally low level of trust.

After Durkheim[14], it has been argued that sociological arguments are those which, by definition, are not reducible to such individualistic bases, since they relate to those "social facts" that necessarily adhere to collective, group, or associational entities. The domain of sociological inquiry is correspondingly defined as those "*ways of acting, thinking, and feeling that are social in the sense that 'their sources is not in the individual, their substratum can be no other than society'*" (Durkheim, 1938).

Methodological considerations aside, the concern remains that the networks-andembeddedness paradigm seems to tend itself to soft-focus treatments of capitalism, in which the roles of power and inequality are not so much denied but gently sidelined through the privileging of the horizontal relations of trust, reciprocity, and associativity.

So, retaining the "*3T*" principle of R. Florida and I. Tinagli as relevant, we should be tempted to just replace the last "*T*" of "*Tolerance*" by a "*T*" of "*Trust*", composed with three measurable and credible indicators, namely:

- "*Trust*", from OECD survey,
- "*Absorptive capacity*" of Dr Luc Soete and
- "*Altruism*" of Olivier Galland.

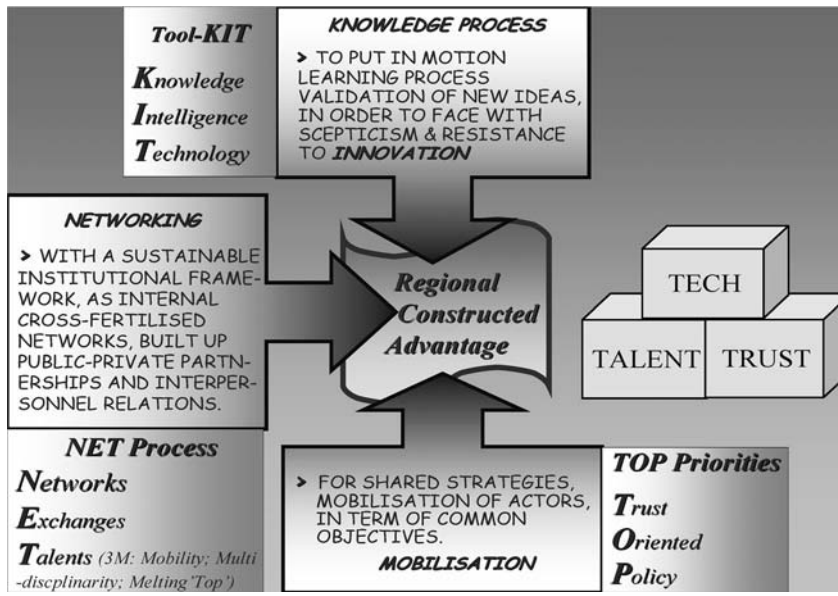
This benchmarking exercise is not intended to just compare regions, but should help the regions to help themselves in constructing a real advantage with respect to its own identity, namely the ***Regional Constructed Advantage***:

- with the *Technology* side, they will have a ***Tool-KIT*** (*Knowledge, Intelligence, Technology*),
- while with the *Talent* side, they benefit from a ***NET-Process*** (*Networks, Exchange* and *Talent*, specifically reinforced by the *3M* force: mobility, multi-disciplinarity and "melting-top")
- and with the *Trust* side, they organise a ***Top-Priorities*** schedule (*Trust Oriented Policy*).

Under this process, the convergence of a co-ordinated regional policy should lead to the emergence of a building Innovation capacity, while the economic landscape will be reshaped by an active community leadership and a committed and cohesive private sector.

Today, European regions, whatever are they, wherever they come from, either wealthy and dynamic regions or lagging behind regions, either from western member states or eastern new members, all these regions may not realise how extraordinarily fortunate they are. They are lucky in that the key resources needed today to promote growth are no longer essentially physical, material or financial. These resources are intangible in that they relate to the capacity to stimulate knowledge and creativity, that is to say what we recognised above as factors underlying *Technology* tools, *Talent* motions and *Trust* behaviours. These assets of creativity are extremely volatile and any attempt to capture them, any constraints may cause evaporation and endings-up by killing them altogether. Freedom to think and expression of one's difference are prerequisites for creativity in all fields. Beyond a certain level of technical competence, among the critical conditions for growth are respect for people and the practice of democracy. The critical significance of intangible resources generated by human beings give all the regions a huge opportunity since their potential wealth lies in their institutions, enterprises and citizens.

[14] Durkheim Emile, 1938, *The rules of sociological method*, Chicago: University of Chicago Press.



Could Knowledge either reshape the European society or fit with the society?

Many people have a strong interest in pursuing constructive dialogue about the future, and naturally they also do so. One challenge is to further broaden people's involvement in this dialogue. Recently, debate on how we should generate growth has moved into the foreground, and the issue is now being widely discussed.

Growth is not an objective in itself, but a means for achieving something else. In current discussion of growth, regions are often portrayed either as pacesetting places that just intend to top the international ranging lists on knowledge intensity, innovative talent and prosperity or as places in decline that are losing the race for economic growth with competing other regions. Many decision makers discuss Education and R&D investments in economic terms and wonder why they do not lead to faster growth. "*Education costs money*", Sir Claus Moser, the celebrated British statistician, once said. "*But then so does ignorance*". Human resources are not always and everywhere being used at their full potential and a broad sense of commitment in our society must be created.

Business with high value-added and complex, knowledge-intensive activity have to be located all over the European union with good development conditions including strong knowledge environments, a good business climate, good availability of skilled labour and a good living environment. While the pace of social change is accelerating within Europe, the built environment and physical infrastructure are ageing. There is a need of concentration of resources and fresh thinking to renew the infrastructure area. systemic changes and specially tailored regional solutions are required. Both the driving forces and the obstacles are political, institutional and social rather than technological. Meanwhile, technological development is creating necessary preconditions and new possibilities. New mechanisms are needed for infrastructure planning, construction, maintenance and operation. Europe must attract top-flight expertise from the rest of the world to our business clusters and cutting-edged environments, since more people can feel they are helping to build for the future. Here everyone can make a difference.

It is crucial that the European regions will preferably invest in research and technological development, so that they will be able continuously introduce new products and retain a lead in the market. They will also have to invest in efficient production, so that their products will have high value-added... It is also important that they invest in products and services that are difficult to imitate and that are not so easily moveable.

Is there a risk that a growing number of highly educated people will leave their European country and that a growing number of poorly educated people will move here? A strong research and development position in a number of fields, creativity, a well-established social welfare system and comparatively efficient public institutions are some of the strengths that Europe enjoys—and that Europe must continue to improve, since European people want to keep a chance to surviving. European countries must set priorities and focus mainly on business with high value-added, for example advanced manufacturing operations, complex products that require sophisticated systems, know-how and the provision of services with a high knowledge content that cannot easily be duplicated. Another possibility is to carve out niches in specific fields of application where we have the potential to build up and maintain indepth expertise.

A new Power, able to arouse more Trust than Dread...

Could we invoke a "*Europeanising Europe*", since Spinoza spoke about "*naturing nature*" opposed to a "*natured nature*"?: a continuing Europe, unforeseeable and able to absorb promises and uncertainties of what is new, in order to reinvent previously unimaginable solutions.

The European identity will be able to construct itself under the personality where liberty is the prior principle. On the contrary, a too much "*Europeanised Europe*", opposed to this "*Europeanising Europe*", would be just nostalgic and unfertile, while history, always acting and building itself, could be allowed to invent new ways for its future by expanding the whole set of its "possibles". That is a likely reason why the European Constitution will never change anything about the European identification although it overcame so many difficulties. Such a Constitution is wrong while deleting or erasing the irreducible plurality of people and nations on our continent.

By the way, it is amazing to observe that the two finalist teams of *the Football Euro Cup* are among the more modest European partners, those whom some people would dare to call "small" partners, forgetting these countries constitute, at the same time, huge realities of civilisation, symbolised by two inexhaustible words: Hellenism and Lusitanism! Those who don't understand would risk denying the complex reality of Europe, whose unity can only be observed through the diversity of the people who make it up.

Another dimension could be explored with the impressive and fantastic work of the economist, François Perroux[15], namely *The Europe without shores*. According to him, it would be impossible to definitely limit the European borders because of its 'ecumenical mission' obliging it to respect the diversity of the others, by fidelity to its own internal diversity.

A shoreless Europe is a *sui generic* reality, refusing to risk a unique model, too similar to an imperial structure. The project of Europe should be intensive in liberty for others, by inventing a new kind of power, able to arouse more trust than dread. Thus, it should be possible to claim open identities as regards rich and however problematic conditions of a Union, whose opportunity lies in its paradoxes, that is to say a Union able to reconcile what seems not possible elsewhere.

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[15] Perroux François, *L'Europe sans rivages*, Śuvres complétes, *Presse Universitaire de Grenoble*, réédition novembre 1990

MIKEL LANDABASO

THE REGIONAL ECONOMIC DEVELOPMENT RELEVANCE OF SOCIAL CAPITAL*

Introduction

There is a growing consensus on the importance of social capital in promoting regional competitiveness, even though the definition of the concept itself, not to speak about the way it should be measured or utilised in policy making is still subject to debate in academic and policymakers circles alike.

According to OECD (2001) social capital refers to "networks together with shared norms, values and understandings that facilitate co-operation within or among groups". In a recent World Bank study (Grootaert and van Bastelaer, 2002) social capital is defined as "institutions, relationships, attitudes and values that govern interactions among people and contribute to economic and social development".

In general four main features of social capital can be distinguished: (a) Social capital is a market-based social exercise based on trust, reciprocity, shared norms and institutions; (b) Social capital can provide a relational infrastructure for collective action which facilitates cooperation within and among groups as well as enlarges a capacity for networking leading to mutual benefits; (c) Social capital can improve collective processes of learning and constitutes a key element of knowledge creation, diffusion and transfer—all processes critical for innovation and regional competitiveness; (d) Finally, social capital cements value-based networks stimulating successful regional clusters as well as regional innovation strategies and policies. The issue is especially important for the less-favoured regions that have weak social capital and little understanding of science and knowledge, yet face fundamental economic, technological and social change, as concluded in the "Ostuni Declaration".

From the regional development point of view, social capital can be seen as collective capacity of key socio-economic players in the region (e.g. individuals, companies, authorities, research centres, business support agencies, etc.) to form and effectively use networks or other forms of cooperation on the basis of shared interest, trust and reciprocity in order to enable and accelerate the process of regional learning and knowledge-based development. In this sense, some authors (Heitor, M. 2003) argue that national or regional learning depends on the existence of social capital, which is defined by networks and institutions which govern the interactions among the nodes of the networks, be it people or organisations (firms, universities, local government, etc.).

* Forthcoming (2005) in «Social capital, innovation and regional development», several authors, edited by Professor Aldo Romano—eBM School at USUFI and Mikel Landabaso, EU Commission.

It is nevertheless important to underline that in our view "shared interests" is an integral part of the definition of social capital, which is a notion that can help convey a more "economic" significance to this concept, over and above the "civicness" which has traditionally been attributed to it. Shared interest is a as powerful as "trust" in cementing cooperation arrangements among different institutional actors. Moreover, trust is often the natural consequence of understanding each others agenda where development is not understood as a zero sum game of contending parties.

Others (Roman, C. 2003) think of it as the ability of a given social group to access information (from internal sources, by buying, renting, transfer or copy) and incorporate it into its own production processes (from design and production to distribution and re-engineering), including their capability of managing such processes, through cooperation and networking. That is the collective ability to transform information into knowledge (and invention in innovation) and knowledge into action for economic development.

Still another more metaphorical way to look at social capital, which would give us a flavour of its (micro) economic significance, would be to define it as the trust-based cooperation relationship that would systematically solve the "prisoner's dilemma" to its optimum collective result. That is, the answer to this (denunciation) dilemma would probably be different and less predictable in a context where self interest is purely driven by market forces in an abstract world of isolated and competing individuals than in a context where other considerations related to interdependence and collaboration are embedded in a social and institutional framework which nurtures cooperation through networks and socially penalizes the breach of confidence (a social ecology). This is probably the reason why the "blurred" concept of social capital has come more and more to the forefront of economic debate, not surprisingly in the development economics field in particular, as we move from a perfect competition world of neoclassical economics to an imperfect world of economic policy where history, institutions, culture and politics also matter.

In this sense, some authors claim (Asheim, B. 2003) that "in the (successful) Scandinavian development model, the socio-institutional framework had a primacy in relation to changes in the techno-economic paradigm, which means that the promotion of co-operation was the dynamic force for societal change in contrast to competition driven by technological development", which leads him to conclude that in the particular field of regional development and innovation "a broader understanding off the innovation process as a social, non-linear and interactive learning process means a change in the evaluation of the importance and the role played by socio-cultural and institutional structures in regional development".

The debate on the importance of social capital for regional economic development relates, as stated in the Ostuni declaration, to a widely recognised need to rethink traditional redistributive regional policies as regional development policies which focus on growth opportunities by exploiting untapped regional potential wherever it exists. The latter rely not only on investments in tangible infrastructures but more and more on intangibles that have to do with the valorisation of entrepreneurial culture and innovation promotion through the generation, diffusion and exploitation of knowledge in a particular regional context, among others. In this sense, some authors (Arboníes, A. 2003) advocate for a shift in policy focus "from content to process and from infrastructures to connections, social capital being an indicator of collaborative capacities in a region".

This responds to the Lisbon and Gothenburg Strategies by highlighting the importance of sustainable development based on economic, physical, environmental and social capital as key elements of the mutually complementary 'hard' and 'soft' regional infrastructure. In this sense, some authors (Pezzini, M. 2003) consider social capital as important as financial capital in promoting economic growth and think of regional competitiveness as the result of an uneven distribution and capacity to valorise local collective goods, including inter-firm relations and the valorisation

of natural and cultural resources. Others (Kuklinski, A., 2003) go as far as to state that "social capital is the main engine transforming weak into strong regions".

Initially social capital was present mostly in political and social science literature. Subsequently, it was incorporated into economic writing as so-called intangibles became considered a crucial factor for economic development, which led some authors (Cooke, P. 2002) to state that social capital is a key missing ingredient of economic development, that can be built up through efforts of policy makers. Hence, social capital is considered an asset, just as other traditional forms of capital. It is attained through the processes of interaction and learning that take place in society. However, unlike other commodities, it cannot be traded or exchanged (Maskell 2000) and, we could add, is fragile and requires permanent renovation.

In the precise context of clusters, for example, it has been argued (Arzeni, S. 2002) that innovation is based on collaboration, proximity and networks and spurs through a process of mutual learning, emulation, positive role models and personal contacts. That is social capital in the form of trust, collaboration and social-civic exchange are key to cluster development and firms within clusters benefit from many elements associated with social capital: lower transaction costs due in some cases to personalised negotiations, fewer bureaucratic procedures, lower information costs stemming from local and personal information flows, better co-ordination because of direct contacts and often trust-based relations among economic agents. In this sense, it is argued that social capital in clusters leads you to the "know-who" that allows you to build the "know-how" (Rosenfeld, S. 2003). In a "geographically bounded concentration of interdependent firms" this knowledge holds the key to potential business opportunities. In view of all the above it would be interesting to further explore and understand to what extent and in which ways social capital does create/strengthen the systemic relationships that generate synergies and external economies within clusters which help promote innovation and regional development.

More generally, it is argued that social capital can help in the creation of an efficient regional innovation system which facilitates the generation, diffusion and economic exploitation of knowledge in the form of new or improved economic activities (products, processes and services) in a region. In this sense, social capital demonstrates far-reaching externalities for economic performance. Authors point to at least two significant positive consequences of social capital for firms or localities. First, it enhances and accelerates a process of exchange and creation of knowledge and innovation (e.g. Landry et al 2001:74, Maskell 2000). Second, it significantly reduces inter-firm transaction costs, such as search and information costs, bargaining and decision-making costs, contracting and control costs (Maskell 2000). Social capital can be seen therefore as one of the crucial factors for gaining competitive advantage by regions. Moreover, recent analysis which try to evaluate social capital in different countries and regions (Rousseau, J.M., 2003) through a proxy of "confidence indexes" tend to demonstrate that it is precisely the more advanced regions and countries which have the biggest amounts of this type of capital while less favoured regions rate badly, suggesting that the causality runs from weak social capital to less development potential.

In short, in the knowledge-based economy, regional diversity is an asset. Policies aimed at empowering regions to exploit it strategically in order to face up to the challenge of globalisation are critically important for their economic well being. Surely building the collective capacity to establish a shared vision about the future, jointly exploiting scarce resources in a synergetic way and pooling expertise and commitment together is a way forward for less favoured regions willing to offer new economic opportunities to their citizens. Social capital is a notion that is placed at the crossroads of these efforts. Understanding it better to be able to nurture it and use it appropriately is necessary for these efforts to fructify.

In this sense, it is worth even rapidly sketching what would be the academic route and causal relationship which might lead some of our more orthodox colleagues to pay attention to

social capital and regional governance issues within their own scientific framework. One way of approaching this might be the following: within new growth theory the main explanation for increasing returns to production factors, which is key to explain cumulative processes of economic growth, is knowledge spillovers. The latter has been progressively recognized to be spatially bounded, not least because of the "tacit" and "sticky" nature of certain types of knowledge and the territorial nature of much of the process of knowledge accumulation and learning, once the circular and systemic model of innovation, rather than the linear model, is considered to be a more realistic reference of what goes on in reality in the business world. The latter is particularly true in the case of less developed regions, with relatively lower rates of formal R&D investments and personnel, and where innovation is less "radical" and science-based, as it may be the case of leading regions where most of the "excellence" R&TDI infrastructures, universities, high-tech industries are located and which are by far those that concentrate the highest number of patents (e.g. out of 213 regions in the European Union, 50% of the total patent applications to the European Patent Office were applied for by inventors from 20 regions from 1997–2002, with 13 concentrating half of all high-tech patents, and the top ten regions account for a third of R&D expenditure in Europe with 30 regions being responsible for half of it (Eurostat 2004)).

Within this framework, "inter-regional knowledge spillovers are considered to arise when actors involved in the innovation process such as universities, the business sector and the government sector tie close links leading to fertilizations and feedback relations" (Greunz, L. 2003). In short, knowledge spillovers are generated and further developed within efficient regional innovation systems which facilitate "links" and "cross-fertilization" among the key innovation players, not least by connecting SMEs to a responsive R&TDI knowledge base. Thus, public-private cooperation, business networks, university-enterprise connections and clusters can be of outmost importance in generating these spillovers and therefore in increasing the knowledge generation, diffusion and absorption capacities in a region. From the policy perspective it also means that action oriented, open, consensus-based and participative strategic planning processes led by regional authorities with a sufficient degree of autonomy/power and acting within a "development coalition", to use Asheim's term, can become key ingredients of the process of generating knowledge spillovers .

In other words, an innovation-friendly business environment underpinned by sound regional governance structures and the availability of social capital—understood as "as the collective capacity of key socio-economic players in the region (e.g. companies, authorities, research centres, business support agencies, universities, etc.) to form and effectively use networks or other forms of cooperation on the basis of shared interest, trust and reciprocity in order to enable and accelerate the process of regional learning and knowledge-based development" becomes essential for developmental efforts to fructify. Why not then try to understand better how the interactions between knowledge spillovers generation, regional governance and social capital operate? Why not try to integrate the organizational, institutional, cultural and political aspects associated with this process into our economic theories about regional development?

Social Capital and regional policy options

If social capital is potentially so beneficial, then the immediate question that appears is: can social capital be generated or reinforced through public policies? If yes, what kind of public policies? Until now, evidence from research and pilot policy actions such as RIS (Regional Innovation Strategies) suggests public policy can contribute to social capital building (Mouton, B. 2003). One of the unexpected conclusions of the evaluation of these projects was that their « policy » dimension contributed significantly to promote public and private partnerships and business

networks, as well as improve the institutional capacity of regional administrations in charge of innovation.

Networking among regional stakeholders and establishing a joint regional agenda in the field of innovation through social capital building is one of the most visible results of the RIS/RIS+. All regions involved in the programme decided to support clusters and business networks in their actions plans as a result of the RIS/RIS+ exercise, as well as promoting collaboration and exploiting synergies among the different institutions and policies of their regional innovation systems. For example, in Wallonia, 5 pilot clusters led by firms in collaboration with research centres and sectoral association were developed under RIS. In Yorkshire & Humber, 15 sectoral business networks were all animated by entrepreneurs and directly integrated into the activities of the newly created regional development agency. In Northern EU (Finland and Sweden), cross-border business meetings among firms of the two countries took place in order to operationalise the 'multipolis' concept. In Tuscany they developed a cultural heritage cluster involving private firms, universities and R&D laboratories. Finally in Halle-Leipzig-Dessau, a public-private dialogue in the chemical sector developed into co-operation between big firms and regional SMEs and the establishment of a network of 50 firms in the plastic sector, preparing the creation of a Technological institute for polymers.

One key lesson stemming from the RIS/RIS+ and the European Regional Development Fund Innovative Actions experiences that followed is the importance of the role played by "neutral partners" and "regional champions" in building social capital through the creation and dynamization of networks and joint actions at the regional level.

Regarding "neutral" partners it is worth mentioning the critically important role played by the European Commission in providing not only funds but also, most importantly, legitimacy to a group of individuals (social innovators) committed to changing things, which operated outside the established institutional framework. The EU launched an strategic planning process based on the condition of the establishment of a dedicated public-private partnership through a bottom-up process which liberated latent regional energies in the form of new ideas and shared political and financial commitment to a common vision. Thus it provided a window of opportunity for regional stakeholders to collaborate and do things differently while preserving their independence from established institutional and political inertia.

In terms of social capital, it is important to note that knitting collaboration links among regional stakeholders is more easily done when incentives are proposed and an institutional framework provided in such a way that the first stages in particular in the building of the new networks and relationships are "protected", while trust among participants is established and strengthened. Many such "development" networks do build on trust and trust by its own nature requires time and personal contact. Providing a framework for both conditions to happen is therefore essential. Empirical research (Koschatzky, K. 2003) has demonstrated that "innovation networks require a certain awareness of the need for co-operation as well as trust and a lot of time".

The EU Commission was able to do that precisely because it was perceived as a neutral partner with no hidden agenda or vested interest in the region. That is an institution playing outside the power games of the region which was capable of offering at the same time a financial incentive, a methodology and some legitimacy to start building collective action around a shared regional vision. It is interesting and surprising to see in how many regions different regional stake holders met for the first time under this common umbrella, discovered how many interest in common they shared and identified opportunities for joint action. In regions so diverse as Galicia, Weser-Ems or Yorkshire and the Humber many business and public R&TDI institutions which were directly related to a particular value chain of an important regional production activity met

for the first time ever, got to know each other and decided to start collaborating in their own (enlightened) self-interest as well as indirectly for the general regional good. In short, giving an institutional impulse by an appropriate "neutral" partner which stimulates a social capital building process not for its own sake but as a prerequisite for attaining a particular economic objective (the promotion of regional innovation in this case) is critically important.

In terms of regional champions, the most successful strategies and innovation action plans that ensued had in common the leadership of a committed individual(s) that enjoyed the legitimacy and respect (trust) by a large number of regional stakeholders to take action and think outside the box, carrying behind many other actors. Many of those that followed these pioneers at the beginning did it mainly for two reasons: first, in case there was something in it for them (financial return) and two, to avoid the opportunity cost of not being there if the (new) "thing" did work. In a sense it was a self-discriminatory process which ended up identifying the most committed and capable innovators in many of these regions. Moreover they were able to work, thinking outside the box, protected by the institutional framework provided by the Commission for a number of years.

In terms of social capital this may mean that the nodes of the networks which are established are not all of the same level or have the same significance. Some are the initiators which are instrumental and catalytic with very many connections and capacities to link, while others are rather followers with a secondary importance. That is, there is a hierarchy of nodes and different quality of the trust relationship among the participants that has to be taken into account when trying to stimulate social capital building. Thus identifying those that are critical for further growth as central nodes around which a net can be knitted is one of the first tasks a social capital policy should undertake. In this sense the active participation of leading industrialist in regions such as Shannon, Belgium Limburg or Cantabria, as chairmen of the RIS management committee carried with them a number of business partners and institutions that otherwise would not have participated in the operation, or at the very least would have been reluctant to take an active stance. Trust on champions set the grounds for other more horizontal types of trust building among regional stakeholders, which so far did not know each other in many instances. It is interesting to note that RIS was a fully publicly funded operation and therefore those regional governments that took the stand of being an equal partner with the private sector by delegating the Chair to a leading industrialist in the region took a risk that paid in terms of legitimacy for attracting active participation from other regional stakeholders. In fact it is also interesting to point out that many of these industrialists come from multinational companies and engaged in this 'civic' task of leading a regional innovation strategy, which is difficult and time consuming, out of a sense of regional belonging and willingness to contribute to their region's well being through their professional management experience. None of these busy people was paid to do the job, of course.

Regarding regional leadership, it is interesting to note that some authors (Marinazzo, M. 2003) use a "regional enterprise" metaphor to claim that regional policies "should shift the analytical unit fro innovation from products and processes towards the capacity of a region to train, recognise and nurture leadership capable of leading a region and its processes of innovation change".

Currently, RIS+ strategic reflections throughout the Union show that the provision of a regional framework for inter-firm cooperation is of paramount importance for the promotion of innovation in SMEs in particular. Innovation flows through the formal and informal regional networks created through social capital building. These networks help translate knowledge (codified or tacit) into economic opportunity, while at the same time build up the necessary bonds and linkages among persons and institutions so as to exploit the synergies that catalyse regional innovation.

Regarding regional institutional capacity building, RIS and RIS+ provided a new institutional framework for a more efficient use of public and private funds. The RIS and RIS+ have often contributed to a better institutional co-ordination of public financiers of innovation, in partnership with the private sector. In Wallonia a new decree for technological centres, detailing approval conditions for these centres, including a charter on prices for services they offer. In Overijssel, a new official convention was signed by the regional development agency, the regional government and the regional office of the national agency for innovation (Syntens) for the promotion of innovation. In the Canary Islands RIS+ public-private partnership prepared a "Quality charter" for technology transfer offices in universities. Weser-Ems has created a number of sectoral competence centres in strategic fields for the regional economy by combining public and private efforts and concerns in a number of sectors, including information and communication technologies as well as traditional ones such as agro-food, tourism, maritime industry, etc.

Empirical evidence shows that social capital building requires a shift from a traditional top-down approach towards a more open form of governance involving all relevant stakeholders. The fruits of such partnerships should reach all policy fields relevant for economic, scientific and social development (an integrated approach) and acknowledge the desirability of a long term action horizon (a strategic approach). Evidence points to the fact that specific indirect policy measures are most effective in social capital promotion.

An analysis of content of the nearly 100 European Regional Development Fund Innovative Actions proved that regions themselves have a particular interest in measures designed to support cooperation between SMEs (networking and clustering activities) as well as improving cooperation between regional R&D institutions, especially Universities, and local companies, hence enhancing regional innovation systems. It follows that new policy efforts should be made to create mechanisms and structures through which regional stakeholders can (begin to) develop more and new purposeful conversations about joint solutions to common problems (Morgan, K. 2003).

Social capital and Regional Governance

Directly related to the social capital debate is the issue of appropriate regional governance for efficient regional development planning and policy delivery. In this sense, regional governments are progressively playing a more influential role in the conception and implementation of territorially based policies in the EU as well as in the USA. Innovation policies to foster the knowledge-based economy are a good illustration of this. Moreover, some recent GDP trends from EU countries point at decentralised national economies performing better than centralized ones, including a higher capacity to resist in economic slumps. It would seem that in the post-fordist era and under the pressures of globalisation, scale and labour cost are becoming less relevant competitive assets that the capacity to compete in niche markets through timely response to market demand, customisation and quality. In this new scenario, regional diversity is a competitive asset, which can be better exploited by a decentralised institutional system.

As recently stated by the OECD (Conclusions of the Chair, High level Meeting, Martigny, Switzerland, July 2003) "Both global economic growth and social cohesion require increasing the competitiveness of regions, especially where potential is highest. The comparative advantages that drive innovation and investment are as much a regional characteristic as a national one. For regions to succeed, they must harness their own mix of assets, skills and ideas to compete in a global market and develop unused potential." In this sense, regional governments have an strategic position for harnessing these regional assets, and in particular, setting up public-private co-operation networks which are essential for knowledge-based economic development and creating

a suitable climate for effective innovation adapted to regional SME needs. They are well placed to co-ordinate different elements (policies and institutions) of the regional innovation system in particular, beginning with a thorough analysis of the actual developmental needs of regional firms and the principal obstacles facing them, including raising awareness of the need for innovation in the first place. In short, regional governments are key players in these policies.

In other words, 'national' innovation policy for SMEs is difficult to implement without a very close relationship (co-ordination and synergy) with regional governments, which have a detailed knowledge of key R&DTI regional actors and the needs of the productive base. Inversely, it is essential that regional innovation policies be co-ordinated with the major national and international research and development systems, including, universities and major public research institutions and laboratories, as one of the main sources of knowledge.

A second characteristic is that such policies cannot be effectively developed without the direct participation of the private sector in planning and implementation and without the agreement and active support of other actors in R&TDI in the region, semi-public agencies, technology centres, universities and trade unions.

Finally, these policies must be based on new forms of institutional organisation that are more dynamic, horizontal and flexible, not only for the purposes of planning but also for project implementation. These characteristics are more easily achieved when a fair degree of trust and collaborative capacities exist among regional stakeholders. Thus social capital may have a direct influence on "institutional thickness", allowing for the design and implementation of more demanding and ambitious regional policies.

The public sector must provide leadership, rather than control, on these policies and must play the role of 'promoter' of and 'catalyst' for economic development. It must be able to co-operate closely with the private sector and others active in the region as an equal partner. It must also be capable of reacting and providing creativity and must allow for the amendment of policies and programmes on an on-going basis as lessons are learned from experience. That is why the institutions and agencies responsible for implementation must be given a considerable degree of autonomy and (political) trust and need to have a high level of professional experience in the field (development economists and technical experts rather than general administrators responsible exclusively for implementation and auditing).

To ensure that these policies bear fruit they require strategic planning based on wide consensus in a stable public-private partnership and a firm commitment from the principal R&TDI and business services providers (the regional "knowledge infrastructure") in the region so as to ensure that the policies will be sustained over the long-term and benefit from adequate resources.

There are no universal magic formulas for this type of policy (neither must they be affected by doctrinal fashions: yesterday technology parks, today clusters, tomorrow ...), instead specific policies are required for each region, which will be principally demand led and conceived using a balanced bottom-up approach. There are no best practices, but only good practices, from which lessons can, in certain cases, be learned that can then be adapted to suit the particular situation in each region.

Conclusions: tentative ideas for an on-going debate

The social capital debate is not anywhere near from being closed. In fact we are just scratching the surface with far more open questions than answers, and still a long ways from being able to operationalize this concept in such a way that we can sell the concept and associated

policies to regional politicians in a "policy package" which they can buy, support and eventually fund.

Regarding open questions, let us mention but a few. Some are related to the understanding that trust and reciprocity, which are at the roots of the social capital concept, are all "nice" and desirable civic values which deserve to be promoted in their own right. But how do they fit with the economic rational behaviour and (enlighted?) self-interest which are in the economic nature of SMEs, in particular in less favoured regions with relatively close markets and little inter-firm cooperation tradition and business networks/associations?. Moreover, do cluster relationships necessarily sit on trust and reciprocity or are they purely enforced by economic rational behaviour in view of expected advantages (e.g. lower transaction costs, cooperation as a strategy to deal with global competition) which may vary with the life cycle of the cluster?. Is social capital purely a "sociological" concept, understood mainly as "civic capital", as in the early social capital literature, or can we give a more economic and operational interpretation of such a concept along the lines of "relational capital" and "institutional thickness", in terms of creating/restoring the public-private relationships, networks and institutions through which knowledge and innovation my flow and thus contribute to an efficient regional innovation system, **on the basis of shared interest**.

Finally, is social capital as cholesterol? is there a good type and a bad type, in terms of economic development? The bad type (more of the "bonding" type) may prevent regional innovation and creativity and foster "defensive" conservative values and parochial attitudes in an ever increasing globalise economy subject to accelerated technological change. Clientelist governments, corporatists attitudes in business associations, "guild"-type sectoral approaches and short-sighted protectionist policies and barriers might be part of it.

The good type (more of the "bridging and linking" type) may facilitate regional change by promoting proactive adaptation to changing conditions through coalitions of key regional partners, sharing common visions, pooling scarce resources and exploiting synergies. Strategic planning exercises which are open, transparent and inclusive, institutions that provide appropriate environments for interactions (business fora, clusters, technology forecasting, etc.) among regional stakeholders, the promotion of a shared can-do culture supported by policy mechanisms that foster innovation and creativity, supporting public-private partnerships to build a common agenda for action, raising awareness about collective challenges and opening a bottom-up process of participation in policy design and assessment, might be part of it.

To sum up, the argument in favour of developing a public support policy to enhance social capital from the regional development perspective goes as follows:

a) if regional competitiveness in less favoured regions does depend critically on rising their innovation capabilities (and thus contribute to cohesion at EU level),
b) and if the latter is in turn dependent on their capacity to promote business networks and interactions among the R&TDI regional stakeholders, including linkages to external (global) sources through which knowledge exchange and innovation opportunities are created. That is on the existence of an efficient regional innovation system.

then understanding, using and measuring social capital is essential because it is widely recognised, as seen above, as the enabling factor for these interactive learning processes and closer co-operation and networking to occur at the regional level.

Social capital would then be both, what allows a regional innovation system to be knitted together filling the missing links (bridging) between regional players and institutions active in the R&TD field and the "oil" that makes the (regional innovation) system run smoothly and progressively faster. Thus accelerating the transformation of knowledge into innovation and regional competitiveness.

If social capital is mainly a question of building cooperation, public-private in particular, and trust among regional stakeholders that activate interactive learning and knowledge flows within a regional innovation system, then one way in which public policy could strengthen regional social capital would be to:

Provide an institutional framework for regional stakeholders to meet (a relational infrastructure), to get to know, understand each other and approach their agendas (incentives for networking) and develop a common vision on the basis of shared interests by providing them with a common task—challenge in the form of an innovation strategy—whose outcomes, in the form of action plans and projects, might be shared by all participants in a (plus sum) win win situation. Thus invest in an interactive strategic planning process as a means for building social capital, in which the public sector provides the financial incentives and the institutional framework that facilitate regional stakeholders co-operate on the basis of trust and reciprocity.

In conclusion, availability of social capital and good regional governance are key to regional development efforts and policies in the knowledge-based economy. Those regions that are capable of building social capital and establish and operate good governance structures, based on public-private cooperation and inter-institutional coordination, are likely to be much more cost-efficient in the use of regional policy monies. They will also be much better placed to build a knowledge-based economic development path for their regional economy.

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[1] Copies of most of the papers cited below in the reference section can be obtained at http://www.ebms.it/SS2003_documents.asp

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ANTONI KUKLIŃSKI

TOWARDS A NEW MODEL OF REGIONAL POLICY

Introduction[1]

In this paper I will try to outline 3 theses[2]:

1) In the experiences of the XX century the model of socially minded regional policy—was the dominating phenomenon.
2) In the experiences of XXI century the model of globally minded regional policy will be the dominating phenomenon.
3) The transformation from the old to the new model is taking place in the great Sturm und Drang Periode of the years 1980–2020.

This historical turning point can be described as a quartet of mutually interrelated transitions:

— from Fordism to Post Fordism
— from Modernism to Post Modernism
— from the Keynesian Welfare State to the Schumpeterian Workfare State
— from industrial to information society

These transformations are embedded in the processes of globalization[3] which are changing very deeply the global competitive arena[4] and the relative position of Europe in the landscape of the XXI century[5].

In the latest publication of the European Commission we find the following charismatic formulation[6]:

[1] This paper is a follow up of my short presentation in the framework of the last panel of the Ostuni Conference—Rethinking Regional Development Policies. The role of social capital in promoting competitivness in less favoured regions, Ostuni, Italy July 2^{nd}–5^{th} 2003.

I am very grateful to dr Mikel Landabaso for the inducement to prepare this paper. Naturally all the weaknesses of this paper are related only to the responsibility of the author.

[2] A. Kukliński, Regional Policy and the Information Society. Third EU/CEEC Information Society Forum, Brussels October 9^{th}–10^{th} 1997.

[3] Compare: W. Krull, debates on Issues of our Common Future. Velbruck Wissenschaft, Gottingen 2000.
H. Bünz, A. Kukliński, (eds) Globalization. Experiences and prospects. Friedrich Ebert Stiftung. Warsaw 2001.

[4] Compare: J. Guinet, National Systems for Financing Innovations, OECD 1995.

[5] P. Lang, Union européenne et globalization des echanges. Acces International, Brest 2002
A. Kukliński, B. Skuza (eds) Europe in the perspective of global change. Polish Association for the Club of Rome. Warsaw 2003.

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"Europe is facing a crucial period in its history. It is confronted with a number of major, and sometimes very conflicting, challenges and choices, and the various paths it decides to follow will crucially affect the future shape of European society and its role to the world."

* * *

"Europe's leaders already acknowledge hat the transition towards a knowledge-based economy involves a fundamental structural change, and that all the challenges facing Europe need to be reconsidered in the light of this new paradigm. At the Lisbon European Council of March 2000, they adopted a new strategic goal to transform the Union by 2010 into 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'. However, in this transition to a knowledge-based economy, Europe is already lagging somewhat behind the US, and can learn a lot from the US experience. The aim should not be to imitate the US, but rather to seek to define the European way to the knowledge-based economy. As the Lisbon Conclusions state: 'The Union must shape these changes in a manner consistent with its own values and concepts of society'."

The challenge of the new paradigm must be recognized not only in the terms of verbal declarations but also in the terms of a deep transformation of the institutional structures and systems of policies designed and implemented in the framework of the European Union. In this intellectual and pragmatic climate we are trying to outline the following topical sequence of this paper.

I. The XX century as the golden age of a socially minded regional policies
II. The transformation of regional policies and the emerging model of globally minded regional policies
III. The region as a framework for development of knowledge based economy and knowledge based society
IV. The new model and perception of regional governance
V. The special role of social capital
VI. The new model of cohesion policies
VII. Regional policy as an instrument of transformation of the European space
VIII. The research priorities
IX. The intellectual equipment of the new model

Naturally this outline is not a comprehensive vision of all most important problems related to the transition from the old to the new model of regional policies. I hope however that even this modest inducement will be useful in our theoretical reflections and pragmatic discussions.

I. The XX century as the golden age of socially minded regional policies

The model of socially minded regional policy was developed by the industrial society and by the welfare state. Two ideological and pragmatic principles were incorporated in the construction of the Keynesian Welfare State:

— the principle of full employment and
— principle of social justice

These two principles were applied not only to the sphere of interpersonal relations but also to the interpretation of the regional scene—and especially to the relations between strong and weak regions.

The Doctrine of Diminishing Interregional Disparities (D.D.I.D.) was generally accepted as the theoretical and pragmatic foundation in the broad domains of regional policies and regional planning. The essence of this Doctrine may be formulated as follows:

For political, social, moral and economic reasons the society and the state should not tolerate such movements of the spontaneous market forces which generate and multiply long-term disparities between more and less developed regions.

The basic framework of this model was formulated in Europe and North America in the middle thirties—as an reaction to the tragedy of the Great Depression. The rapid diffusion of this model in the global scale took place in the years 1950–80. The most comprehensive analysis of this model was presented in the UNRISD—Mouton regional Planning Series (12 volumes) published in the years 1971–84[7]. This model was absorbed and transformed in an innovative way by the consecutive incarnations of the European Union in the last decades of the XX century. This model was an important inspiration for the European Union in the design and implementation of cohesion policies related to selected countries and selected regions.

In 2001 The European Commission has published[8] a splendid monument of conventional wisdom presenting the experiences and prospects in the field of cohesion policies. I would like to outline a view representing a critical approach in the framework of non conventional wisdom. In this perspective the cohesion policy has four features.

It is a structural policy, a mechanistic policy an introvertic policy and a fragmentaristic policy.

The structuralism of this policy is related to the assumption that the increase in the cohesion of the European Union is achieved via the implementation of the doctrine of diminishing international and interregional disparities.

The mechanistic character of the cohesion policy is related to the construction of a clearly defined system of strictly defined quantitative indicators incorporating such and not other fragments of European space. The advantage of this system is its clarity and objectivity. The disadvantage is the stiffness of the system in which a region meeting the criteria of selection in de facto terms cannot be excluded from the system even in case of long term consecutive practice of obvious waste of structural founds. In this situation some weak regions can de facto represent a view that the situation of the lagging behind region is better then the situation of the catching up region. The success of the catching up region is at the same time the exclusion of this region from the system of cohesion policies which in practical terms means the loss of a permanent stream of income "internalized" by the demoralized elites of the given weak region. This is the dilemma of lagging behind versus catching up regional psychology.

Introvertic character of the cohesion policy is explained by the assumption that the implementation of DDID is a more important challenge than the challenge of global competitiveness.

The fragmentaristic character of cohesion policy is related to the fact that this policy is embracing only some fragments of the European space losing the holistic perspective of the totality of this space as a fragment of the global space.

Presenting these critical comments I am not forgetting that in the perspective of conventional wisdom the cohesion policy is a very great achievement of the European Union of the XX century.

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[7] Compare: A. Kukliński, Regional Development—Regional Policies—Regional Planning. Problems and Issues. Regional Studies, Volume 4, 1970, Perganon Press.

A. Kukliński, General History of Regional Policies. A Proposal of a World Wide Comparative Study (in:) A. Kukliński and J.G. Lambooy (eds), Dilemmas in Regional Policy, Amsterdam, Mouton 1983, pp. 13–23.

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II. The transformation of regional policy and the emerging model of globally minded regional policy

The Sturm und Drang Periode of the last 25 years has produced an intellectual and pragmatic climate of constant erosion of the foundations of socially minded regional policy. This process of erosion found a constructive counterpart in the process of creation of a new model of globally minded regional policies well grasped in the title of a recent volume—"Regions, globalization and the knowledge based economy"[9].

The region must be a efficient actor on the global scene. This is the regional "to be or not to be". In this situation the globally minded regional policy is the only one possible choice in the conditions of the XXI century.

III. The region as a framework for the development of knowledge based economy and knowledge based society[10]

The Lisbon Agenda taken seriously and realistically is a great inducement to build up a new model of regional policy for Europe, the model of globally minded regional policy. In this context two types of interaction could be observed:

1) the region as a stimulating environment for the development of KBE and KBS,
2) the KBE and KBS as a driving force for the sustainable development of the region

The virtuous circle of mutual enforcement of KBE and KBS is also very important. I like the formulation concerning the knowledge economy growth into the knowledge society and vice versa. Let us quote in this context the hypothesis formulated by P.A. David and D. Foray[11]:

"The knowledge economy's growth into the knowledge society hinges on the proliferation of knowledge-intensive communities. These communities are basically linked to scientific, technical, and business professions or projects and, as said, are characterized by their strong knowledge production and reproduction capabilities, a public or semi-public space for learning and exchange, and an intensive use of information technologies. Only when increasing numbers of communities displaying those very characteristics are formed by citizens, users, and the uninitiated being brought together by a shared interest in a given subject, will the knowledge society really begin to develop. But the challenges outlined above are going to be all the harder to meet."

The follow up of this line of thinking we find in the challenging formulation of S. Boisier[12]: "Sociedad del conocimiento, conocimiento social y gestion territorial". I am convinced that the European Commission should organize a pathbreaking conference—"The Lisbon Agenda and the new model of regional policy for Europe".

[9] J.H. Dunning (ed.), Regions, Globalization and the Knowledge—Based Economy. Oxford University Press, 2002.

[10] Compare the thought provoking contribution of M. Landabaso and J.M. Rousseau, Invention, creation: les etapes decisives (in:) Acces International, Brest 2002.

[11] P.A. David, D. Foray, An introduction to the economy of the knowledge society. I.S.S.J. No 171, March 2002.

[12] S. Boisier, Sociedad del conocimiento, conocimiento social y gestion territorial. Revista del Cesla, No 4, Warsaw 2002.

IV. The new model and perception of regional governance

In the last decades we found a general practice to replace the concept of regional government by a broader concept of regional governance[13] which *inter alia* is an integration of some elements of the classical doctrine of government and the new doctrines of management.

In the classical regional development doctrine, the leading analogy of the region was a quasi state. Now we should consider regions also, or first of all, as a quasi-firms. This observation may be found in the path breaking paper of S. Boisier[14] introducing the concept of regional management in the following context:

"A vision of the region as a quasi-firm means applying some corporate procedures to the region mutatis mutandis, particularly those of the 'large corporation', one of the few contemporary organizations that uses the modern concept of planning effectively."

This point is very well taken. The region of the XXI century must internalize and develop the important experience of transnational corporations in the field of strategic planning[15]. This internalization is very important from the point of view of the construction of the new model of regional policy. Maybe a proposal could be considered to organize jointly with the European Commission and OECD a conference on regional governance as an element of the model of the new regional policy.

V. The special role of social capital

There is no doubt that social capital should be recognized as an crucial element in the construction and implementation of the new model of regional policy. Let as quote an important fragment of the Ostuni consensus[16]:

"First, it was agreed social capital is especially relevant for regional development. In this context social capital is a market-based social exercise based on trust, shared norms, and institutions. Second, it facilitates cooperation within and among groups as well as enlarges a capacity for collective action leading to mutual benefits. Third, it improves collective processes of learning and constitutes a key element of knowledge creation, diffusion and transfer—all processes critical for innovation and competitiveness. Finally, social capital cements value-based networks stimulating successful regional clusters as well as regional innovation strategies and policies. The issue is especially important for the less-favoured regions that have weak social capital and little understanding of science and knowledge, yet face fundamental economic, technological and social change."

The Ostuni post-conference volume will create a rich and comprehensive documentation of this point of view.

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[15] Compare: A. Kukliński, World Society of Planology (in:) A. Kukliński, B. Skuza (eds), op.cit.

[16] Ostuni Consensus, The Ostuni Conference, op.cit.

VI. The new model of cohesion policies

The new model of regional policies is creating a strong demand for a new model of cohesion policies. Let us try to outline five elements of this model.

The first element is the network vision of cohesion as a system of flows of persons, commodities, and innovations which are the direct indicators in the cohesion of European space. This is a much more difficult and complicated way to measure cohesion as a process of integration of the European continent into one organic totality having a clear identity in global scale. We have to start time and money intensive studies analyzing the development of the cohesion of European space defined in this way. This studies will *inter alia* answer the question how quick is the disappearance of iron curtain[17] which has deformed so deeply the European space of the XX century. This is the matter not only in analytical terms but also and maybe first of all a new system promoting the cohesion of European space in the framework of institutional solutions created by the European Union.

The second element is the organic vision of cohesion policy which is building the unity of Europe on the foundation of the creative interpretation of the immense European wealth expressed in the diversity of European culture and economy. The organic cohesion policy will support the endogenous activities of the weak regions to overcome their weakness and achieve a new position in European and global scale. The organic cohesion policy should bring salvation to those regions which really want to achieve the salvation in the sense of overcoming the very heavy limitation created by the part experiences. This is the shift from lagging behind to catching up psychology. A documented and reliable will of the region will be the basis for the decision of the European Commission. The mechanisms of automatic support of all regions which fit into the framework of established quantitative criteria will simply vanish.

The third element is the holistic vision of cohesion embracing the whole territory of the European Union and in more distant future the whole territory of Europe from Atlantic to the Urals. The main historical task of this cohesion policy is the elimination of the developmental gap—separating the European center from the European periphery. This is the most fundamental problem of the cohesion policy of the XXI century[18].

The fourth element is the extravertic vision of cohesion policy which is constantly trying to answer the question how to improve the position of our continent in the dynamic pattern of ruthless darvinic global competition especially in the framework of the strategic triangle America—Europe—Asia. In this context we should formulate a thesis of global cohesion of the XXI century. In this cohesion Europe will be not transformed into a continent of new periphery in relation to America and Asia. The spectrum of the new periphery was consciously or unconsciously present in the minds of European leaders formulating the Lisbon Agenda[19].

The fifth element is the vision of the cohesion policy as a long term strategic vision. In the discussions and decisions related to the new cohesion policy it is not enough to apply the framework of medium term thinking. We have to use the framework of long term thinking for example for the years 2006–2025. Only in this context we can build up a grand vision of a real cohesion of the European space.

* * *

The XXI century will constantly create new European and global situations not known in the experiences of the XX century. Therefore we need a new cohesion policy which will

[17] A. Kukliński, B. Skuza, op.cit, p. 144–146.

[18] A. Kukliński, B. Skuza, op.cit, p. 145.

[19] European Commission, Third Report, op.cit.

not be a continuation of the cohesion policy known from the experiences of the XX century. The power of inertia of the old cohesion policy is very strong. But in same place we must start the movement in the direction of a new policy—"*In principio erat verbum*".

VII. Regional policy as an effective instrument of transformation of the European space

The evaluation of regional policy must in each case answer the fundamental question—how effective is this policy as an instrument incorporated into the processes transforming the European space.

This question should be answered in relation to the experiences of the XX century. This question must be incorporated into the hypothesis concerning the transformation of the European space in the XXI century.

VIII. The research priorities

It is necessary to build up a list of fundamental problems which should be discussed via theoretical reflection, empirical studies and pragmatic recommendations. Maybe the following list of problems can be regarded as a starting point of our thinking in this field:

1) The measurement and evaluation of the efficiency of the model of socially minded regional policies designed and implemented in the framework of the experiences of the XX century.
2) The Lisbon Agenda as a stimulating environment for the processes which create the model of globally minded regional policies of the XXI century.
3) The role of the new perception of governance in the development of the new model of regional policy.
4) Social capital as a new approach to incorporate the social dimension into the new model of regional policy.
5) The new cohesion policy in the framework of the new model of regional policy.
6) The holistic character of the new model of regional policy and the challenge of the center-periphery gap in Europe.
7) The regional problem and regional policy in Europe in comparative perspective—The Atlantic Regional Policy Forum (see annex).

Naturally this list of problems in not comprehensive or unique. I hope however that the evaluation and development of this list will lead to the formulation of a Grand Research, Conference and Publication Programme which will create a valid intellectual equipment for the new model of regional policy.

IX. The intellectual equipment of the new model

We have an immense wealth of publications and contributions related to the analyses and evaluation of the old model of regional policies. The intellectual equipment of the new model is in the process of *statu nascendi*[20]. But we have a long way to go to reach the goal of intellectual

[20] Compare: D. Christopoulos, Regional Behavior. Ashgate Publishers, 2000.

and pragmatic satisfaction in this field. The simple answer that the methodological and conceptual apparatus of the new regionalism[21] will do the job—is wrong. The new regionalism is definitely an exciting intellectual venture but it is still weak in pragmatic dimensions. Nevertheless the new regionalism can be seen as a potential input into the intellectual equipment of the new model of regional policy.

Conclusion

Europe must assume the role of the grand global player of the XXI century. This is not an option—it is a necessity[22]. The European regions are expected to create crucial contributions promoting the global role of our continent[23]. In this context the globally minded regional policy is the only rational choice based on long term strategic and geopolitical considerations.

This should be our final motivation in all activities related to the design and implementation of the model of globally minded regional policies.

Łańsk, July 26th 2003.

See also the two contributions of S. Boisier quoted in this paper.

[21] Compare: B. Greenslade, Les regions un lien vital pour l'Europe future. Acces International, Brest 2002.

A.E.G. Jonas, K. Ward, A World of regionalisms? Journal of Urban Affairs, Volume 24, No 4/2002.

S.M. Wheeler, The New Regionalism. Key characteristics of an Emerging Movement APA. Journal Volume 68, No 3, Summer 2002.

A. Gąsior-Niemiec, Europeanization and Myth—making. (New) Regionalism in Poland. Warsaw 2003.

[22] Compare: H. Bünz ,A. Kukliński, (eds), op.cit., p. 286

[23] Compare: J. Chobert, Europe et mondialisation: le role de villes et regions. Acces International, Brest 2002.

Annex

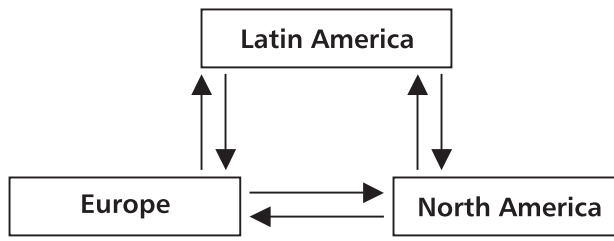
ANTONI KUKLIŃSKI

ATLANTIC REGIONAL POLICY FORUM
A Memorandum

I.

In broad Braudelian perspectives Atlantic could be seen as Mare Nostrum of the Western Civilisation of the XXI century.

In this perspective new approaches and initiatives could be formulated in order to promote the interaction and co-operation of social sciences representing the experiences and methodologies developed in Europe, Latin America and North America.



II.

This creative interaction could be developed in the framework of three dimensions:

- Methodological
- Empirical
- Pragmatic (policy dimension)

In this spirit I would like to propose to consider the establishment of an Atlantic Regional Policy[24] **Forum as a scene of comparative reflection on the development of regional policies in Europe, Latin America and North America with particular concentration on the historical and prospective experiences of the years 1950–2025.**

[24] Compare: A. Kukliński, *Regional Development—Regional Policies—Regional Planning*. Problems and Issues, Regional Studies, Volume 4, 1970, Perganon Press.

A. Kukliński, *General History of Regional Policies. A Proposal of a World Wide Comparative Study* (in:) A. Kukliński and J. G. Lambooy (eds), *Dilemmas in Regional Policy*, Amsterdam, Mouton 1983, pp. 13–23.

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A. Kukliński, H. Bünz (eds) *Globalization. Experiences and prospects*. Friedrich Ebert Stiftung. Warsaw 2001.

A. Kukliński, B. Skuza (eds) *Europe in the perspective of global change*. Polish Association for the Club of Rome. Warsaw 2003.

III.

The proposed Regional Policy Forum would be a scene of creative interactions of three communities—the academic community, the political community and the business community. The activities of this Forum will be supported by a comprehensive long-term Programme (research—Conferences—Publications).

IV.

In this Programme the following topics could enter into the scope of analytical reflection and pragmatic policy oriented activities:

1. The global panorama of the XXI century. The Atlantic *versus* Pacific Community.
2. The growth and decline of the centre-periphery gaps dividing the Atlantic Community. The Atlantic Core *versus* The Atlantic Periphery
3. The integration of the Atlantic Community. The integration of Europe and the integration of North and Latin America.
4. The role of the visible and invisible hand in the transformation of space in Europe, North America and Latin America. This could be the set of general and monographic studies related to mega-spaces (Russia, USA, Canada, Brazil), macro-spaces (Ukraine, Poland, Germany, France, UK, Spain, Italy, Sweden, Chile), micro-spaces (The Netherlands, Hungary, Ireland, Denmark). This network of monographic studies will cover the examples of 20–30 countries representing three continents.
5. The changing network of global metropolitan regions reflecting the role of the three continents in the global information society.
6. The emergence, development and transformation of regional policies in the mega, macro and micro-spaces in Europe, North America and Latin America.
7. The European Union as an innovative machinery transforming the individual European macro and micro-spaces into the a new phenomenon—the European mega-space. The *differentia specifica* of the new European mega-space in relation to the mega-spaces created in the XIX and XX century (USA, Canada, Russia and Brazil)
8. Towards an Atlantic Model of Regional Policy in the XXI century.
9. The role of regions in the development of the Atlantic Civilisation of the XXI century.

V.

The discussion on the new future of regional policies in Europe should be incorporated into a broader comparative framework created by the proposed Atlantic Regional Policy Forum, which will be at the same time and excellent example how to build basis of intellectual and pragmatic co-operation in the Atlantic Community of three continents.

VI.

This memorandum was presented in Dresden—May 21st 2003 in the Institut für ökologische Raumentwicklung. I am very grateful to Professor Bernhard Müller for the friendly and creative development and promotion of this initiative which is very important from the point of view of the emergence of a new model of regional policies.

PAUL DREWE

REGIONS AS LABORATORIES OF EUROPEAN INTEGRATION?

In a attempt to evaluate and discuss cross-border cooperation in Europe, the author in the 1990's has put forward six theses (Drewe, 1996).

1. Cross-border cooperation is essentially a voluntary action.
2. Socio-economic complementarity is a key factor in cross-border cooperation.
3. Without a strategic vision and strategic projects there is no real cross-border cooperation.
4. Given the spatial proximity of the regions involved, cross-border cooperation requires a common spatial planning perspective.
5. The creation or reinforcement of an innovative milieu is a necessary though not a sufficient condition for successful cross-border cooperation.
6. Be that as it may, cross-border regions are (remain) eminent laboratories of European integration.

It is thesis 6 that has been chosen as title of the present article, however, mind the question mark. Because in order to be or become a real laboratory, a number of conditions must be fulfilled in border regions.

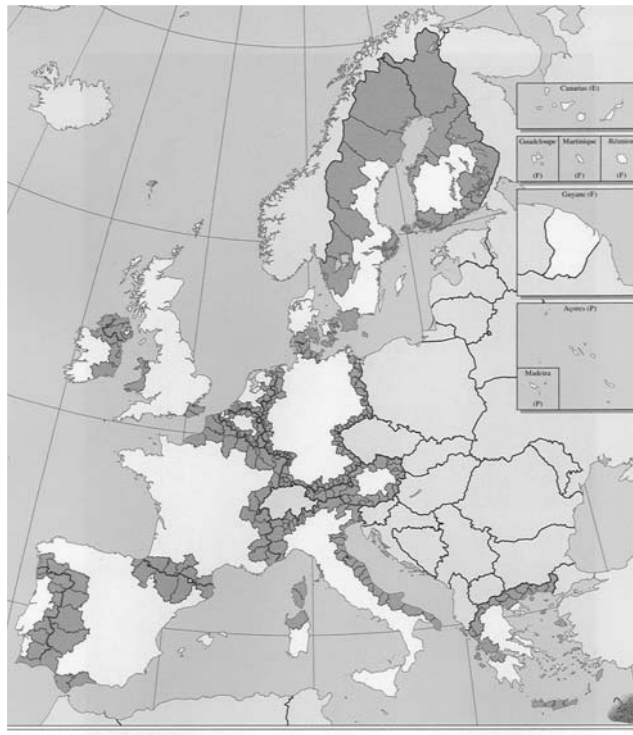
1. Cross-border cooperation, a voluntary action

Cross-border cooperation in Europe today has proliferated thanks to the European Union's program of Interreg. This holds for the 15 member states, their internal boundaries as well their external boundaries with non-EU countries (as shown in figure 1).

With the present enlargement this proliferation will be further intensified. From 2006 onward, cross-border cooperation will be funded under Objective 3 of the Structural Funds. The present third edition of Interreg is made up of 3 strands: cross-border cooperation (A), transnational cooperation (B) and interregional cooperation (C). According to the EU 'crossborder cooperation between adjacent regions aims to develop cross-border social and economic centres through common development strategies'.

Does this proliferation testify to an increasing voluntarism or is the explanation rather banal with frontier regions being eligible for cofinancing under the Interreg program? It depends on how one does proceed, whether the starting point is the cofinancing or the development strategy of a given border region:

Figure 1:
Interreg III Strand A: cross-border cooperation eligible regions



Source: <http://www.europa.eu.int/regional_policy/interreg3/abc/abc_en.htm>

1º a European cofinancing at stake
⇩
2º a submission by at least two regions national
⇩
3º projects
⇩
4º strategic or ad hoc projects?

OR

4º Maybe: a European cofinancing
⇧
3º financing of strategic projects: regional, PPP,
⇧
2º an agreement of cross-border cooperation
⇧
1º strategic vision & strategic projects (see also thesis 3)

This is a matter of ex-post evaluation. One would have expected an evaluation of Interreg I before engaging in Interreg II and of the latter before adopting the third edition of this program (an evaluation of Interreg II has only become available in 2003 half way through Interreg III).

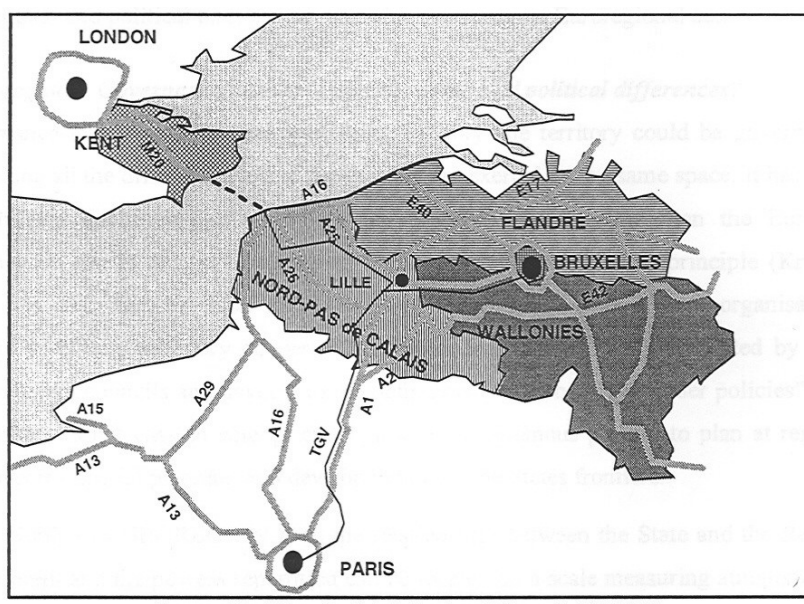
Moreover, the same holds for the transition from Interreg to cross-border cooperation as part of Objective 3 from 2006 onward. Each time the budget has increased. Decision making clearly suffers from a lack of transparency. Voluntary—according to Webster's—means 'proceeding from the will: produced in or by an act of choice (action)'. The real test of this is provided by cross-border cooperation **without** Interreg funding and cooperation that continues once the funding stops. The question however is whether the expost evaluation allows for detecting 'bad practice' and whether the regions in question are excluded from further funding.

2. Socio-economic complementarity, a key factor

Cooperation is the opposite of competition. But in order to be durable, each of the partners must profit from cooperation. The socio-economic position of the partners may be strong, medium or weak. Weak may coincide with eligibility for Structural Funds interventions (under one of the old Objectives 1, 2 or 5b or the new Objectives 1 or 2). Anyhow, the socioeconomic position is closely linked to the issue of economic and social cohesion (see European Commission, 2004): with special emphasis on the newcomers to the European Union.

Focusing on the extreme of strong and weak, three combinations can be distinguished: strongstrong, weak–weak, strong–weak. None of these is exactly stable. The first two are prone to competition. How are, for example, two weak frontier regions dealing with candidates for foreign direct investment? The combination of strong and weak regions tends two breed dependence of the latter, suffering from a 'big-brother syndrome'. Let us take as an illustration the Euroregion of five regions (figure 2).

Figure 2: The EUROREGION 'of five regions of Europe'



Source: Nord-Pas-de-Calais Regional Council, INRETS

It is a very complex mix of strong, medium and weak regions if performance is measured in terms of per capital GDP and unemployment rate (table 1).

Table 1

Economic performance EUROREGION of five 2001 / 2002: two main indicators

Region[a]	GDP / head (PPS) 2001 U 15 = 100	Unemployment Rate 2002 EU 15 = 100
Rég. Bruxelles-Cap. / Brussel Hfdst. Gewest	217	186
Vlaams Gewest	106	63
Région Wallonne	77	135
Nord-Pas-de-Calais	83	172
Kent	90	54

[a] NUTS level 1 in italics; Kent = level 2 region

Source: European Commission (2004), 188, 192, 198.

One might question the Euroregion as a case of cross-border cooperation (Heddebaut, 2001). More important, however, is the general question of achieving a durable cooperation. It is a matter of identifying complementarities among the partners. A so-called SWOT analysis can help with this. This type of analysis deals with the (internal) strengths and weaknesses of the partner regions as well as the (external) threats and opportunities. The latter are (partly) linked to globalization. If strengths and weaknesses and, to a lesser extent, threats and opportunities are not equally distributed among frontier regions the trade-offs become possible which is another word for complementarities. A SWOT analysis could focus for example on the areas listed as priority actions for Interreg III: urban, rural (incl. coastal) development; entrepreneurship, SMSEs, local development; labor market integration and social inclusion; RTDI, culture, info/communications networks; environment and (renewable) energy; transport infrastructure; institutional capacity building. Of course, this list is not exhaustive and one can select priorities.

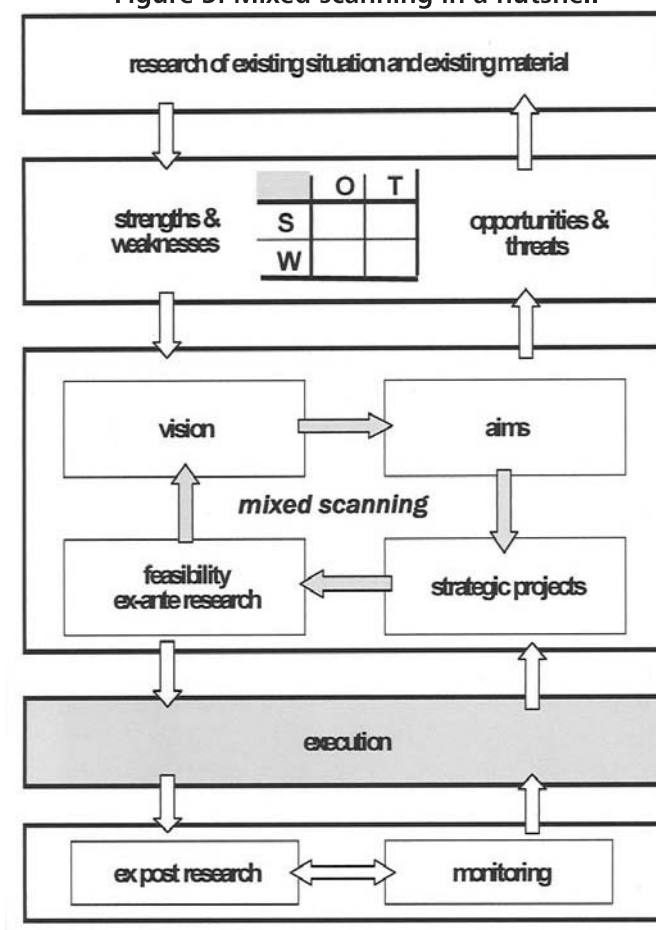
3. Strategic vision and strategic projects

Unlike a cross-border cooperation 'inspired' by the availability of cofinancing at the European level, it is preferable to start from a strategic vision and strategic projects. This requires a strategic planning approach, for example, mixed scanning as shown in figure 3.

The essence of mixed scanning is the oscillation between vision (aims) and strategic projects (feasibility, ex-ante research). Without a strategic vision there are no strategic projects, but only ad hoc projects. And without strategic projects a vision remains an abstract planning exercise. As far as the analysis is concerned, the SWOT analysis can provide a focus, not only as a way of establishing cross-border complementarities. Translating for example priority actions for Interreg III into strategic projects and investigating their feasibility, one can focus on the relevant SWs and OTs instead of engaging in an analysis 'to whom it may concern'. Another potential source of inspiration are good practice experiences elsewhere in Europe.

Commission européenne (2002) lists examples from the domains of transport and telecommunication; environment; economic cooperation; training and employment; culture, tourism and

Figure 3: Mixed scanning in a nutshell



Source: Brouwer et al, 2000, 11

information; public administration. Whether a project classifies as good practice can only be answered after an ex-post evaluation. It should be noted that evaluation is an integral part of mixed scanning, that is the triplet of ex ante, monitoring and ex post.

4. A common spatial planning perspective

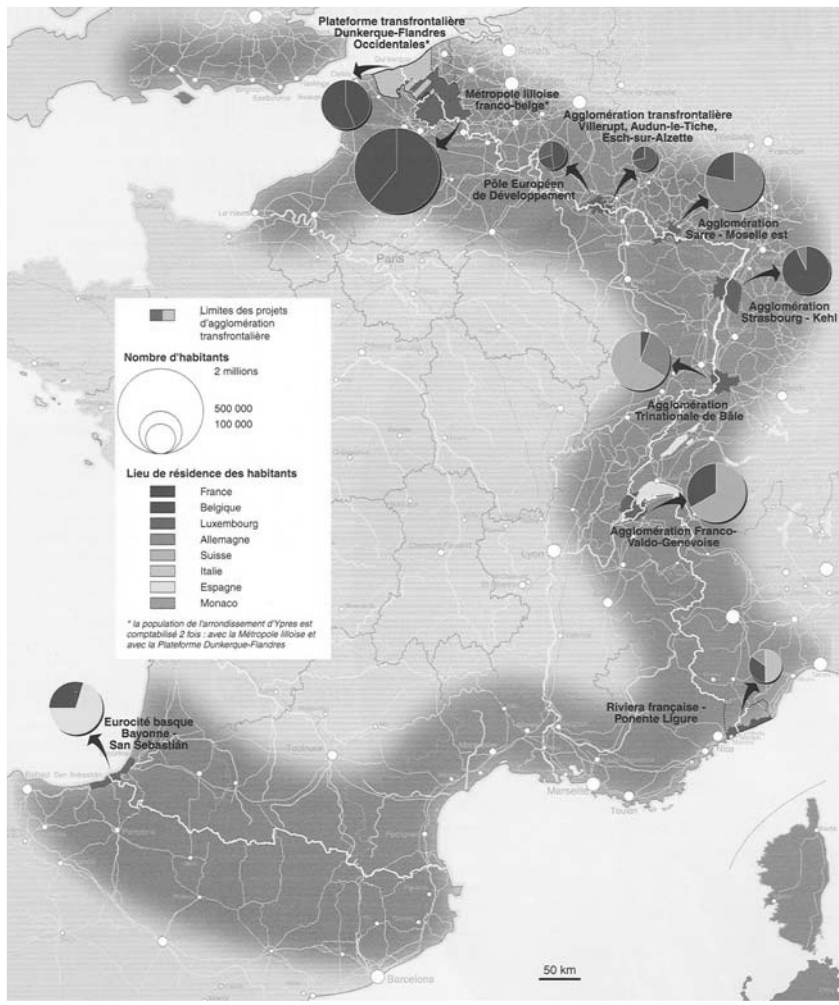
In 1999, the Informal Council of Ministers responsible for Spatial Planning has adopted the European Spatial Development Perspective (ESDP), adding a territorial dimension to sectoral European policies. (Commission européenne, 1999).Although the EU does not have a mandate for spatial planning, the ESDP indicates directions for spatial planning in border regions. In fact, cross-border corporation is a means to concretize and may help to implement the strategic vision of the Informal Council of Ministers of achieving a balanced and sustainable development of the territory of the EU. The ESDP lists policy aims and options that can serve as guidelines for a common spatial planning perspectives in border regions:

— polycentric spatial development and a new urban-rural relationship,

— parity of access to infrastructure and knowledge,
— wise management of the natural and cultural heritage.

Thesis 4 can be illustrated by cross-border agglomerations, in particular by a French initiative that has started in 1997 (MOT, 2003; see also <http://www.espaces-transfrontaliers.org>). For an overview see figure 4.

Figure 4: The projects of cross-border agglomeration



Source: MOT (2003), 7

In terms of practical experience there are five outstanding cases: the French-Belgian 'Métropole Lilloise', the European Development Pole (PED) of Longwy, the French-Swiss agglomeration around Geneva, the Bask Eurocity and, finally, the Eurodistrict Strasbourg-Ortenau.

An early example of a common spatial planning perspective is given by the French-Belgian 'Métropole Lilloise', (COPIT, 1994). Figure 5 refers.

Figure 5: Urbanistic and spatial planning options: synthesis

Source: COPIT (1994)

COPIT stands for a cross-border cooperation of intermunicipal bodies ('intercommunales'): one from France and two each from Flanders and Wallonia. Five question have been put forward by COPIT (1994, 12). They seem to be relevant to planning in other border regions, too:

- Do to think that the emerging French-Belgian metropolis could be a reality in 2020?
- Are you ready to engage in a common reflection on the development of this metropolis?
- Does this metropolis possess poles of excellence to be valorized, poles between which complementarities should be stimulated and on which a cross-border strategy can be based? What role do networks play in this strategy?
- As to these strategic questions how do the partners of COPIT want to work? How to organize this process?
- Finally, in order to complete this strategic dimension by the everyday dimension of urbanism: do the partners of COPIT wish to organize them to improve their dealings with decisions on urbanism with a cross-border impact, to improve the exchange of information and to listen to each other?

A key concept in this is that of intercity networks which comprises four interacting elements (Drewe, 1994).

— the complementary qualities of the constituent cities;
— the actual flows of goods, persons and information between them;
— the physical links or material infrastructure (this is where, for example, where Trans-European Network projects come in);
— the immaterial infrastructure, that is various forms of organizational links allowing for consultation and the exchange of information.

5. Innovative milieux

What is exactly an innovative milieu or environment and why is it such an important strategic project? Innovative milieux, in brief, are based on the synergy of business firms (sometimes in particular of SMSEs), knowledge centers (universities, research institutes and other institutions involved in R&D) a territorial authorities (cities and regions). The concept ties in with work of 'GREMI, the Groupe de Recherche Européen sur les Milieux Innovateurs' from 1986 onward: <http://www.unine.ch/irer/Gremi/accueil.htm>. Milieux are about local interactions which promote technological innovation.

The group has focused on case studies and one the first cases revealed as good practice has been a border region to wit the Arc Jurassien (cf Maillat and Schneiter, 1994). Throughout its work the researchers of GREMI have emphasized the importance of proximity: human resources linked to a territory; a complex network of rather informal contacts between local actors; a synergy anchored to a common (political) culture. Milieux are about local interactions which promote technological innovation: new or improved goods, services and processes. To produce these innovations the relevant economic knowledge goes beyond 'technology'. It also comprises design, management, organization, marketing, logistics, administration and finance (see e.g. Province of Flevoland, 1996).

Why have innovative environments all of a sudden become of primary importance? They are not exactly new and one might ask why it took the EU so long to discover the 'Europe of Knowledge' or the knowledge-based economy for that matter. Being on the European agenda since Lisbon is only one of the reasons why milieux have increased in importance. There two more reasons, one of them is linked to globalization, the other to the current spatial distribution of innovative capabilities. How can a border or any other region cope with globalization? Scenarios can play an important part in the management of uncertainties helping to find levers of action. Recently, a French group has developed scenarios with regard to networks of ICT, energy and transport, embedded in global scenarios (Crozet and Musso, 2003). A first scenario, called Global, introduces the external shock of globalization. One way of reacting to this shock is described by the so-called Global scenario depicting a dual world of transnational top companies and local innovative milieux with the latter making all the difference with regard to competitiveness. As to the distribution of innovative capacities across the EU territory, 'islands of innovation' still exist (European Commission, 2002 a). 'Various indicators'.—the relative scale of R&D expenditure, employment in research activities and the number of patent applications, in particular—suggest that there is a wide gap in innovative capacity between the strongest regions in central parts of the Union and others. (According to the latest figures, 8 of the 213 NUTS 2 regions in the present EU account for around a quarter of total R&D expenditure in the Union and 31 are responsible for half.) There is a similarly wide disparity between the accession countries and the EU 15 average and, within the former between capital city regions and others' (European Commission, 2004, xii-xiii).

It should be noted, however, that the statistically available regional indicators stress the input rather than the output of innovations. Be that as it may, the disparities in innovative capacity runs counter to 'parity of access to knowledge'. The development of innovative capabilities is part of 'a rich-get richer phenomenon' (Barabási, 2002; Drewe, 2004). But 'how do latecomers make it in a world where only the rich get richer'? The Union has developed a variety of programs, in particular concentrating on latecomers among the regions as well as SMSEs. The rich can take care of themselves.

'Regional programmes of innovative actions'—generally speaking—have three priorities:

- to encourage regional economies based on knowledge and technological innovation;

- to stimulate the information society at the service of regional development;
- to strengthen regional identity and sustainable development (cf European Commission, 2002 b, 4)

The proof of the pudding, of course, is in the demand-led synergy of local actors. The creation of an innovative milieu is essentially a social innovation (cf Klein and Fontan, 2003). What has been said here about innovative environments holds for all regions in general, but needs to checked out in particular for border regions in especial those involving new member states.

6. Outlook

What is, is possible. That is why success stories or good practice cases can provide important reflections on border regions as laboratories of European integration. However, for example is no proof. Whether a case qualifies as good practice depends as a matter of course on critical ex-post evaluations. But the author of this article is entitled to nominate himself a few success stories:

- the International Scheldt Faculty (ISF) as a bottom-up, cross-border knowledge infrastructure between the Zeeland and Flanders (Drewe,1998) It does not go without saying that centers of higher education and research, companies and politicians join forces across a European border.
- The EuroAirport Basel-Mulhouse-Freiburg. It is a cross-border airport with a trinational function. It does not go without saying that a 'big brother' (Basel) accepts an airport located on French territory with Switzerland not even being a member of the EU (see <http://www.euroairport.com>).
- AVANTIS, the European Science and Business Park which is a joint venture of Aachen and Heerlen. The park is also connected to knowledge centers in the larger euroregion of Meuse-Rhine (with Maastricht and Liége). It does not go without saying that competition with regard to industrial location is replaced by (cross-border) coperation and that this involves a strong German partner and a relatively weaker Dutch partner (see <http://www.avantis.org>).

These three cases could be subject to a test in order to check on each of the five theses.

Maybe that the five conditions have a wider meaning, too. Problems of 'cross-border' cooperation may also exist within countries, say, between regions, between municipalities (within agglomerations) or even between neighborhoods within cities. Moreover, there is another potential field of application with a European dimension, that is transnational and interregional cooperation (strands B and C of Interreg). The basic difference between these strands is the proximity of the partners which is essential in cross-border cooperation and absent in interregional cooperation. In the latter case a common spatial planning perspective (thesis 4) does not apply. Spatial planning may also be important in the case of transnational cooperation, but in a different way from border regions. Strand B is about 'better integration within the Union through the formation of large groups of European region.' The relevant spatial planning framework in this case is provided by the ESDP. Transnational and interregional cooperation can profit from ICT in general and the Internet in particular. This also holds for adjacent regions. Hence the importance of positioning the partners on the Internet infrastructure (see Drewe, 2002 for details).

The position of a given node or city on the European net depends, first of all, on the number of direct, binary connections. Of course, the importance of links varies. To gain more insight into the position of a node, the direct connections need to be weighted for their capacity or bandwidth. And they need to be weighted for multiple paths, too. The latter depend on the proximity of a node to an Internet exchange point. The more (peering) Internet service providers associated with an exchange point, the more weight it pulls. The endowment with Internet infrastructure

is also a rich-get-richer phenomenon favoring capital city regions (Drewe, 2004). But there are ways in which non-hub border regions can strengthen their position. Take for example the internet exchange points in France and in the Netherlands. International data flows from a border region usual travel via the dominant exchange points of respectively Paris and Amsterdam. In order to lessen their dependence on these national hubs, some border regions in both countries have created their own exchange points, specialized in cross-border flows of information (see <http://www.ep.net/naps_eu.html>). In concluding, a word about European integration which we have assumed to be an aim worth striving for through cross-border cooperation. European integration is subject to major uncertainties. The French group (Crozet and Musso, 2003) quoted earlier as author of the Global and the Glocal scenario have developed five scenarios, the remaining three of which are about the future of the EU:

— a strong, centralized Europe,
— a strong, subsidiary Europe ('multisubsidiarities'),
— the return to the nation state.

The last of these scenarios means that Europe has failed. In that case one does not have to worry about cross-border or any other cooperation for that matter. Competition will do.

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THE ITALIAN MOSAIC FACING COMPETITIVENESS AND INNOVATION

1. Introduction[1]

Towards the end of the 20^{th} century, overall changes took place in the fields of economy and politics inducing European governments to reflect on the future of the continent.

For the purpose of this article, we think it is significant to call attention to how these changes contributed to arise competitiveness among territorial systems. From our point of view, this competitiveness constitutes in fact a crucial challenge the globalization process issues to territories (cities, regions, metropolitan systems), especially if we consider that the influence of competition tends more and more to be described as an element exogenous to the enterprise that can be related to the network of relationships characterizing the territory the business is located in.

With reference to Europe, the competition is as common within the continent as it is between Europe and the rest of the world, and it presents main challenges in the development and promotion of a new European knowledge economy and society[2].

In this paper, we will attempt to describe the way (better the ways) the Italian economic system will face these challenges. Initially, we will provide a synthetic outline of the development of industrialization in Italy over the past century, paying particular attention to the dialectics between the facts and the representations of this historical process, and between the policies and their outcomes. This statement will allow us to call attention to how a common representation of the functioning of the Italian economic system, which is substantially based on a dualistic image of the country, actually does not coincide with the diversity of development models that characterises the Italian case. Some of these models will be thus analysed as "tesserae" composing the Italian "mosaic", stressing the advantages and disadvantages of this type of diversified production system in relation to the challenges issued by competition and innovation. In particular, we will implement the suggestions of Antoni Kukliński[3] to reason on the contribution of self-governments of autonomous or semi-autonomous region to the construction of the European knowledge society.

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[1] The paper is the result of the contributes of both the authors. As to the final drawing up of the work, paragraphs 3, 4, 6, 7 are to be attributed to Daniele Ietri, paragraphs 1, 2, 5 to Francesca Silvia Rota.

[2] See: A. Kukliński, *Strong or Weak Europe*—in this volume.

[3] See: Kukliński A., *Europe—The Strategic Choices of the XXI Century. Seven Methodological Reflections*—in this volume.

The characteristics of the Italian development models will be analysed from the interpretation of the territory as the *producer of knowledge*.

2. Facts and representations

The decisions assumed by *policy makers*, as well as 'everyday life' choices, are profoundly influenced by representations. Before acting, subjects make different decisions according to their interpretation of the decision context and the relations among phenomena. The larger the level of sharing around a representation, the larger will be the belief that it coincides with realty, that is to say, with the facts. Actually, by *fact* we mean anything that occurs: each action being carried out or that has been carried out is a fact. Applied to the socio-economic context of a given territory, an increase in the percentage points of the GDP is a fact; a variation in the unemployment rate is a fact; the opening or closing of a plant are also facts. In other words facts are single events, significant for the ongoing processes, that are described in their individuality, without contrasting them to others.

The *representation* instead removes itself from the significance of the facts: it recombines them within a certain interpretive framework through the identification of logical concatenations of diverse natures. The representation can be also combined with a *mental image*, i.e. to the reconstruction of a perception or sensation reproduced in absence of what originated it.

The representation can then remain concealed within the individual's mind that generated it or be transmitted or shared. Transmission occurs mostly in social sciences like economy, anthropology, sociology, etc., where the analysis of regularities and of concatenations of events is proposed in a narrative mode.

The representation as a narration is also at the base of policy planning: representations rather than facts determine the choices made through policy instruments; furthermore, decisions made by public administrations at all levels tend to be communicated through general images of the future, "visions", that are high-impact narrations. The result is that misleading representations can lead to inappropriate decisions: this condition occurred for instance in the history of the Italian industrialization process between the 1960's and 1970's, eventually contributing to the aggravation of a unbalanced national development situation that has yet to be resolved.

3. From one to "Three Italies": a brief history of the Italian industrialization process and its representations

The reconstruction of the industrial dynamics that involved Italy from the beginning of the 1960's cannot fail to include an analysis, no matter how synthetic, of the economic structure of the country between the years before and after the Second World War.

During the 1950's, census statistics demonstrated a concentration of industrial activity in north-western Italy, especially in the northern area of Piedmont and Lombardy, with a notable polarization in the cities of Turin and Milan, and in Liguria. The surrounding regions, like the Valle d'Aosta, eastern and southern Lombardy, Veneto, Tuscany, and Emilia-Romagna, were instead represented as a sort of extension of these main areas, characterised by less intense levels of industrialization. Intermediate levels of industrialization were also identified in two Provinces of central Italy (Ancona and Terni) and in Venezia-Giulia, in correspondence to the Province of Trieste.

This presence of industries and the resulting high level of employment in manufacturing activities corresponded to an opposite situation in southern Italy and the Islands: the southern regions of the country were in fact described as regions characterised by a substantially uniform condition of industrial backwardness, except for certain peripheral urban centres like Naples and Salerno.

The consequences of these contrasting representations even contributed to the exacerbation of the gap between industrialized and non-industrialized regions, reinforcing the image of an Italy divided in half, sustained by experts and politicians and apparently confirmed by statistical data[4].

Halfway through the past century, the difficult situation of the southern regions and the Islands became increasingly obvious: the extremely high levels of unemployment, the lack of industrialization and the highly inefficient organization of landowners (based on a few extended estates) that characterised this part of the country induced the Italian State to intervene directly in support of the Mezzogiorno regions[5]. Initially, the enacted support actions tended to favour sectors like agriculture, trades, and tourism[6], via economic policies mostly following the theoretical interpretations dominant at that time (mostly the polarization theory): although some geographers were indicating a representation of Italian industrialization in terms of variety, the economists' interpretations focussed on the simplified image of dualism. This dualistic interpretation was not due mainly to socio-economic studies, but rather to the use of macroeconomic models founded on the contrast between categories like dynamic or stagnant sectors, big or small businesses. In a world represented by "simple" categories, the belief in the existence of a single possible development model, in which the territory was commonly assumed as a static support for the subjects' actions, spread largely. The proper development model was thus identified with the "winning" one of the more industrialized regions: from a policy point of view this meant the "simple" repetition of northern-style production system in the backwards southern regions.

Industrial and infrastructural investments were therefore directed to *industrial nuclei* and *development areas*, producing a concentration of investments in urban agglomerations and along coastal routes[7].

4. The emerging of the Third Italy

With the 1970's, the development model affirmed by the *mainstream* economic theory entered in crisis. As soon as 1967, the geographer Calogero Muscarà[8] clearly identified a three-way division of the Italian industrial territory, contradicting the dualism supported by economists:

— North-western Italy, characterised by income and industrialization levels higher than the national average and relatively low employment in the agricultural sector;

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[4] Muscarà, C. "Geografia della trasformazione italiana: dal 'miracolo economico' alla ripolarizzazione dello spazio geografico", in Valessi, G. (ed.) *L'Italia geoeconomica*, Utet, Torino, 1987, pp. 123–177.

[5] By Mezzogiorno we mean the southern area of the country that, in Italian political tradition, was the object of specific State interventions known as "Interventi per il Mezzogiorno".

[6] See Muscarà, C., *op. cit.*

[7] Only a little more than 20 percent of the Mezzogiorno territory was involved in the economic-political interventions of the Italian government. Almost all of the investments were furthermore concentrated in coastal areas, reinforcing the image, proposed by Rossi Doria in 1956, of a territorial organization of southern development based on the contrast between the enrichment of the coastal zone (the "flesh") and the progressive impoverishment of the inland regions (the "bone"). Rossi Doria, M. *Riforma agraria e azione meridionalista*, Edizioni Agricole, Bologna, 1956.

[8] Muscarà, C. *La geografia dello sviluppo*, Comunità, Milan, 1967.

— "Mezzogiorno", or southern Italy, was the periphery of the Italian territorial system, with more than half of the population employed in agriculture and with low levels of income and industrialization;
— "*Middle*" Italy, a sort of belt of the industrial heart, characterized by a variety of combinations of production structures and distributions of wealth.

As early as the decade following the conflict, it was indeed in the *Middle Italy* that a manufacturing apparatus, composed mostly of small and mid-sized businesses with high intensities of labour and low intensities of capital, developed. However, as at that time small and mid-sized businesses were considered a secondary element (useful for big business or 'interstitial') and negligible (since they were involved in production ignored by larger units) in relation to the industrialization process, there was no recognition of the importance of their role until nearly the middle of the 1970's.

When the crisis of the fordist-taylorist production model clearly appeared, it was especially in Italy that attention turned towards the role of small and mid-sized businesses: this lead to the finding, for example, that the increase in industrial employment between 1951 and 1971 was concentrated for more than three-quarters in firms with fewer than one-hundred employees and that industrialization, which was originally "confined" to the north-western regions of the country, began to expand towards Tuscany, Veneto, and Emilia-Romagna, where the model of the small and mid-sized firm was undoubtedly dominant, if not exclusive.

In 1977, Arnaldo Bagnasco proposed the famous model of the "Three Italies"[9], which referred the internal differences of the Italian system to the presence, in specific areas, of different forms of industrial production organization: the large businesses in the north-west, the model of small and mid-sized businesses in the centre and north-east, and industry not yet developed in the south.

Even in this model, the idea of a peripherality of the north-eastern systems was not altogether eliminated, although the debate in literature was concentrated on the search for an effective interpretation of the new course being taken by emerging development (Figure 1).

The proliferation of studies on the issues of peripheral economy on one hand and the takeover, at the beginning of the 1970's, of implemental regional reform of the constitutional dictate on the other, were some of the reasons why "*multiregionality*" definitively replaced the dualistic interpretation of the the regional heterogeneity in the Italian industrialization process[10].

In the new interpretation that spread around the 1980's, the local dimension constituted a key concept for the interpretation of development. Associated with the affirmation of this model there was then the well-known proposal to use the industrial district as a key to reading the economic processes going on in the country.

Two fall-out theories followed:

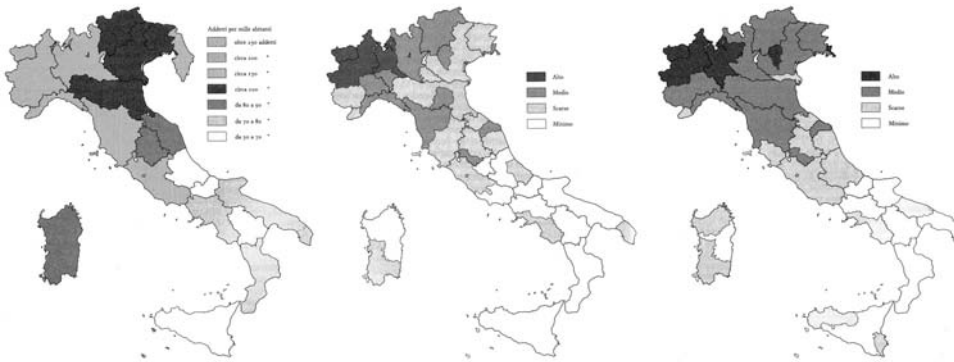
i) The local system was assumed to be an integral unit of production, corroborating the multiplicity of development directions;
ii) The rediscovery of territoriality as a fundamental condition of the organization of society and production allowed the convergence of various disciplines (economy, geography, social sciences) in relation to the common problem of development.

In comparison to the 1960's, the lens through which the accumulation and development process of the country was observed had changed: the criteria of interpretation had modified radically and there had been a progressive passage from an explicative model based on processes isolated from their historicized context, that is to say, removed from its historical specificity, and

[9] Bagnasco, A. *Tre Italie: la problematica territoriale dello sviluppo italiano*, Il Mulino, Bologna, 1977.

[10] Conti, S. and Sforzi, F. "Il sistema produttivo italiano" in Coppola, P. (ed.) *Geografia politica delle regioni italiane*, Einaudi, Torino, 1997.

Figure 1. Representations of the Italian industrialisation degree in: (a)1927, (b)1951, (c)1961



(a) Source Milone (1937) (b) Source: Montanari (1964), (modificato) (c) Source: Montanari (1964), (modificato)

decontextualized, or indifferent to the diverse concrete situations, to a model that recognized the differences and roles of the territory in determining different development patterns.

5. The "unsaid": known and unknown realities of Italian capitalism

For all the 1990's, the favourable results (in terms of employment and production) of light industrialization processes in the regions of central and north-eastern Italy were interpreted in terms of district success, i.e. of development models based on small and mid-sized manufacturing units, organized in networks, and with close ties to the territory[11](Figure 2). This is an image that contrasts the development model of systems of hierarchical and vertically integrated firms and that presupposes the recognition that the forms of business organization, like those for production, are the result of structure and historical conditions different from place to place[12]. If on one hand there was therefore the recognition of the ontological possibility of different development models, on the other the image of Italian capitalism extracted from the literature did not seem capable of restoring this difference[13]: according to a tendency that still exists today, it seemed rather to fall again into the "trap" of identifying just one dominating economic model and to consider the production mechanisms identified for the Italian case sound also for other contexts[14].

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[11] See Becattini, G. *Distretti industriali e Made in Italy—Le basi socioculturali del nostro sviluppo*, Bollati Boringhieri, Torino, 1998.

[12] Fuà, G. L'industrializzazione nel nord-est e nel centro, in Fuà, G. and Zacchia C. (eds.) *Industrializzazione senza fratture*, il Mulino, Bologna, 1983, pp. 7–46.

[13] It is mostly Italian literature, including: Becattini, G.*Distretti industriali e made in Italy*, Bollati and Boringhieri, Torino, 1998; Clementi, A., Dematteis, G., Palermo, P. C. (eds.), *Le forme del territorio italiano*, Bari, Laterza, 1996; Dematteis, G. Sul crocevia della territorialità urbana, in Dematteis, G., Indovina, F., Magnaghi, A., Piroddi, E., Scandurra, E., Secchi, B., *I Futuri della città. Tesi a confronto*, Franco Angeli, Milan, 1999. Among the publications produced internationally, see: Brusco, S., The Rules of the Game in Industrial Districts, in Grandori, A. (ed.), Interfirm Networks. Organization and Industrial Competitiveness, Routledge, London, 1999. Bagella, M., Becchetti, L. (eds.) *The Competitive Advantage of Italian Districts: Theoretical and Empirical Analyses*, Physica Verlag, Heidelberg, 2000. Datar, *Réseaux d'entreprises et territoires. Regards sur les systèmes productifs locaux*, La documentation Francaise, 2001.

[14] Lamoreaux, N., Raff, D., Temin, P., "Beyond Markets and Hierarchies: Toward a New Synthesis of American Business History", in *American Historical Review*, 2003.

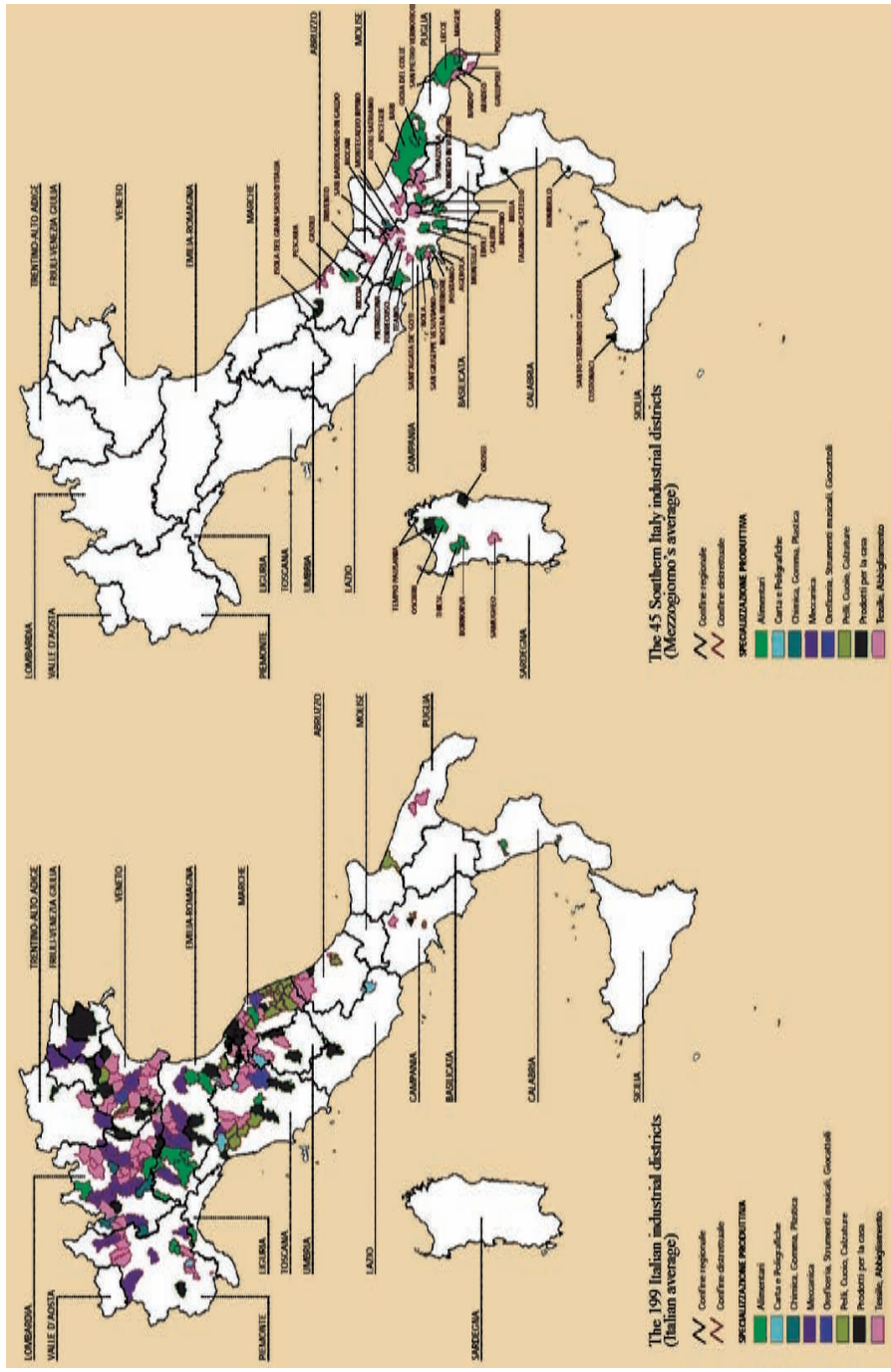

Figure 2. Industrial districts in Italy and in the Italian Mezzogiorno

Although the industrial districts had and continue to have an important role in the Italian economic and productive system, the weakness of generalizations and simplifications directly behind the identification of the primacy of the district model of development lead us to prefer a more complex interpretation[15].

In our opinion, the image that best describes the Italian development is that of the *mosaic*. This representation will allow us to reason in terms of the discontinuity of the development of Italian society (based on the consideration of the link between the development model and the different spatial and temporal contexts in which industrialization was formed) and to capture some unknown realities of Italian capitalism that have been ignored or simply downplayed by the literature.

Two situations emerge in particular[16]:

— the fragmentation of northern and central Italy; this acceptation emphasises the various situations that mark the richest part (in terms of employment and gross domestic product) of the country;
— The tumultuous and growing South, whit some cases of local development arising above the mostly rural realities.

5.1. The fragmentation of northern and central Italy

Overcoming the historical subdivision between north-west and north-east-centre (NEC), the economic system of this part of Italy is distinguished by the presence of different yet closely inter-related development models:

a. the new high profile of the large metropolitan realities of the Po River Valley, characterised in the past by the Fordist business model: Turin and Milan. These are highly dynamic realities where, above all over the recent years, there are ongoing innovative processes of attraction and concentration of activities, functions, and population;
b. the transformation of small and mid-sized business systems in the north-east regions characterized by a polycentric urban organization;
c. the emergence of auto-organization forms in more "peripheral" areas of the economy.

a. In the case of the metropolitan areas of Turin and Milan, the literature proposes images somewhat stereotyped, focussed particularly on the problem of the relationship between the industrial past and the future: they don't consider, for instance, some important changes that occurred above all in the relations between public administrations, regional and national governments, local economic and social forces, and the citizens, and which in many cases lead to a profound redefinition of the metropolitan area's image.

The productive model of Turin represented in the literature was that of a city of big, vertically integrated industries: one of the most significant examples in Europe of the "*one company town*", whose destiny was inextricably linked to that of one of its main manufacturing firm (FIAT). In the beginning of the 1980's, the city entered into a phase of decline and restructuring caused mainly by a significant demographic drop and an overall differentiation in specialization sectors in the local economy. Also due to the de-verticalization process of big businesses, new specializations began to emerge from the Turin productive fabric and to acquire increased visibility on an international level: the production and transmission of knowledge progressively replaced the manufacturing production as a driving force of development. In this way also the terms under which competition

[15] The classification of Italian businesses as elements of a new historical phase of capitalism appears fragile. In fact, they present various distinctive traits that make them similar to the businesses of the third capitalism: flexibility and familiar organization, that supply a loophole for tax evasion and labour legislation, but also problems of succession in the administration and an intrinsic reluctance to use public capital and transform it into external expertise.

[16] Barca, F., speech at the "1a Conferenza nazionale dell'alta dirigenza statale", Rome, 3–5 February 2003.

with other cities was approached change: not only according to locally available material resources (infrastructures, specialised centres, businesses) and immaterial ones (know-how, human resources, social capital, etc.), but also according to organizational and institutional aspects. During this time, being aware of this ongoing change, the City of Turin, with the involvement of main local economic forces, undertook some significant initiatives aimed at guaranteeing a boost for the city on an international level: Turin was the first metropolitan area in Italy to adopt a strategic plan[17], multiplying investments in infrastructures and in marketing as well as in negotiated planning initiatives aimed finally at identifying development opportunities related to something other than the automotive sector.

In the solutions proposed, the role of the "traditional" automotive sector was not however denied, but rather reinterpreted with a view to the passage from "industrial area for automotive", characterized by of a network of small and mid-sized sub-suppliers subordinate to FIAT, to a "technological district for automotive" [18]. According to this new vision, the relationship between FIAT and the Turin's industrial fabric underwent significant modifications: the number of businesses depending exclusively on big firms significantly reduced and there was also evidence of forms of technological transfer towards sub-supplying, which improved in quality and in independent research and design capacity.

The model of the Milan area proposed in the literature is instead that of the large economic and financial centre. In fact, the most common activities in the Milan metropolitan area are advanced services like consultancy, management, banking and financial services, etc. Not only: the Milan area presents itself on the international panorama also as the centre of modern district concentrations in the sectors of design[19], fashion, biotechnologies, and material science research. These concentrations that require the presence of an adequate structure for technological-scientific research and production are conceptualized through the interpretive categories of *metadistricts* or *thematic districts*[20]. Metadistricts identify the network of relationships set into play by district economies in order to project themselves towards global markets, giving life to productive contexts that are no longer circumscribed by a specific territory or linked to the principle of spatial contiguity: they imply thematic horizontal areas of intervention determined according to the intersectorial integration of different production systems defined according to the identification of a production chain.

In the *metadistricts* there is a concentration of public and private initiatives aimed at boosting competitiveness in the Milan system: activities for innovation centres, territorial marketing initiatives, and development agencies. This gives rise to an image of a unitary, modern, and competitive setting of international calibre. In reality, however, the Milan area is also the sum of many local identities and local communities composing the complex infinite city of the "Lombard foothills". The Milan area economic system (and that of Lombardy by extension) is thus portrayed as a diffused model of "molecular capitalism", which involves much of the foothill region and within which dynamics of financial-economic power define the emergence of a "*nouvelle bourgeoisie*" facing the challenges of modernity by connecting with global flows in the production and commercialisation phases.

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17 http://www.torino-internazionale.org/.

18 See Enrietti, A., Lanzetti, R. "Il distretto dell'auto: definizione, dinamica e politiche", in Rolfo, S., Vitali, G. (eds.), *Dinamiche competitive e innovazione nei settori della componentistica auto*, Franco Angeli, Milan, 2001.

19 Bertola, P, Sangiorgi, D., Simonelli, G. (eds.), *Milano distretto del design—Un sistema di luoghi, attori e relazioni al servizio dell'innovazione*, Ed. Il Sole 24 Ore, 2002.

20 With the resolution of October 5, 2001, the Lombardy Region identified the metadistricts (or thematic districts) in terms of thematic areas of horizontal interventions not limited by the territory and pushed towards a forceful intersectorial integration, characterised by the transfer of knowledge to the applied field. For further clarifications, see: www. lom.camcom.it/servizi/distretti-new/index_metadistr.htm.

b. An important element that contributes to the image of a "fragmented Italy of the north and centre" is indeed given by the transformation in the perception of *small and mid-sized business* systems, that commonly connote the Italian industrial system. In contrast to the proposal contained in some literature, this fabric does not fully overlap with the typology of traditionally understood industrial districts.

Above all, in the north-eastern regions we see that innovative poles characterised by the presence of specific competencies and openness to markets crossing national borders[21] are forming next to traditional districts of *Made in Italy*.

To this view, a significant case is that of Veneto that, even though it is part of the regions historically included in the Third Italy, it has recently developed policies in favour of innovative capacity. In 1991, the regional development agency Veneto Innovazione was founded in order to act as "control room" for regional innovation strategies. Following opportunities instituted by regional and national laws for financing and facilitation of technology transfer, three science parks were also financed: VEGA (Venice), GALILEO (Padua), and STAR (Verona)[22].

The Veneto science parks have initially aimed exclusively at high technology sector businesses; then, at a second phase, they set out actions for technology transfer also in mature sectors that actually characterise most of the industrial panorama of Veneto.

The structure planned *a priori* by decision-makers was supposed to be hierarchically organised in poles, nodes, and points. A single subject was to operate as process supervisor (Veneto Innovazione), coordinating the activities of the three science parks. The lower levels of the hierarchy were supposed to include multidisciplinary innovation centres (public and private) and specialized ones. The regional system of innovation in Veneto was soon modified into a progressive specialization of the parks: culture and local self awareness as well as protectionist measures played an important role in the differentiation and specialization of the initiatives.

The graph in Figure 3 represents the most significant relations between the subjects of the Veneto system involved in the development of innovation policies. A relevant degree of polycentrism can be noticed: the central role of Veneto Innovazione is "counterbalanced" by the presence of the science parks and public universities that occupy equally important roles. Geographic position plays a significant role as well: Venice, Padua, and Verona are located less than 100 km from each other, along an important infrastructural axis.

Another important innovation system on north-eastern Italy is that of the region of Friuli-Venezia Giulia. Without going into detail concerning the actors and initiatives in this region, it should be emphasized how the two regions of north-eastern Italy dealt with the issue of technological innovation with very different logics. If in Veneto there is an emerging polycentrism, in Friuli we can see how the initiatives and financing are mostly concentrated in Trieste and in the AREA science park of the city. In this region, the role of universities (Udine and Trieste) seems to have notably diminished, while industrial associations, the Chambers of Commerce, and regional agencies specially constituted to deal with economic development issues in mountainous areas have increased their activities. In Figure 4 the subjects involved in the innovation policies in the region of Friuli-Venezia Giulia are represented.

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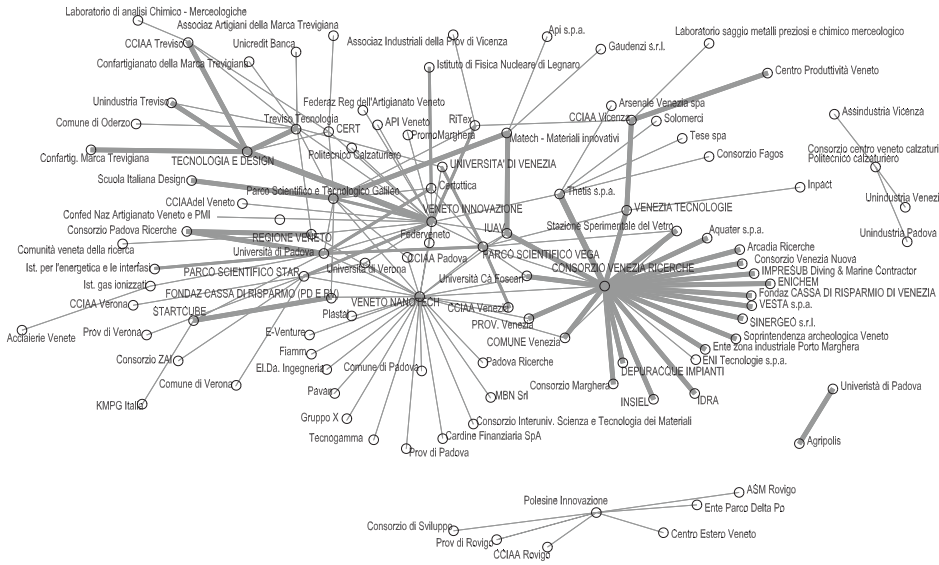
[21] Corò, G., Rullani, E. (eds.), *Percorsi locali di internazionalizzazione. Competenze ed auto-organizzazione dei distretti industriali del Nordest*, Franco Angeli, Milan, 1998.

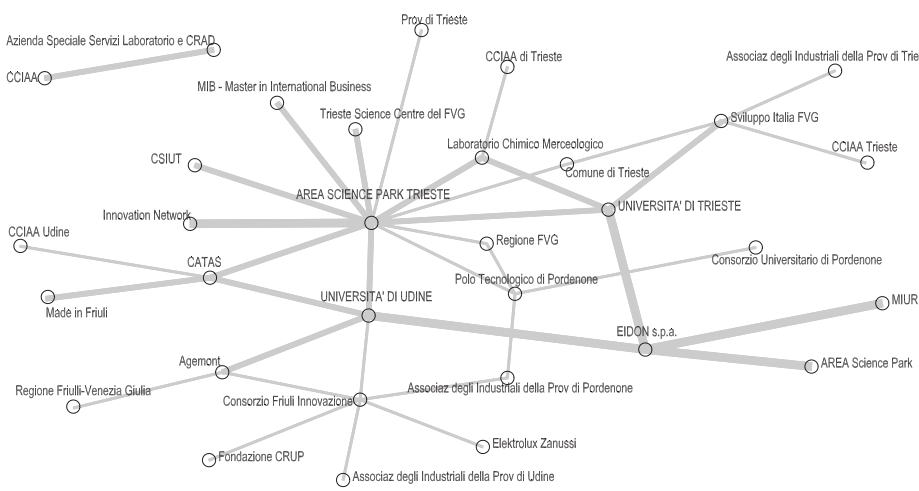
[22] The VEGA park was the first to be financed in the Veneto region: it was constructed in an abandoned area, also allowing the requalification of a part of the port of Mestre, which was once occupied by petroleum-chemical industries. The businesses in the park operate in sectors like new communications and information technologies, environmental chemistry, new technologies for the conservation of cultural heritage, biotechnologies, and nanotechnologies. The STAR park in Verona is, instead, based on a very different principle: the park does not have a fixed structure (in terms of facilities and staff), but operates through consultants who work to create synergies and partnerships between businesses with the purpose of starting up joint projects.

Figure 3. The Veneto innovation system



We find, therefore, how regions that are apparently similar in production and socio-cultural structures have, through the work of administrators and to the merit of different regional systems[23], interpreted the "strategic choices" for the new century according to profoundly different logics.

Figure 4. The Friuli Venezia-Giulia innovation system



c. The images of northern and central Italy are distinguished for the emergence of *forms of auto-organization in the more "peripheral" areas of the economy.*

[23] Friuli-Venezia Giulia (together with the Valle d'Aosta, Trentino-Alto Adige, Sicily and Sardinia) is a region with a so-called "special statute": this status attributes the regional government a higher number of specific competencies and a series of dispensations, also fiscal, in comparison to national legislation.

This refers, for example, to the experience of the Mountain Communities[24]. These are local organizations constituted among mountainous and partially mountainous towns (even if they belong to different provinces) for the improvement of mountain regions and for the individual and associated discharging of their own and assigned functions. At the origins of the institution of Mountain Communities there was the recognition of the isolation, backwardness, and economic marginality that, at the beginning of the 1980's, distinguished part of the Italian mountain territories. Massive migratory flows also determined the "greying" of the population and a progressive abandonment of the settlements. Over the years, the representation of the mountain was profoundly modified and attention to mountain areas changed from their description as a weak territory subject to disintegrating forces, to the recognition of the mountains and their differentiated local systems as socio-economic resources[25]. The institution of Mountain Communities belongs to this cultural passage: through adhesion to the Community, mountain towns reached the "critical mass" necessary to actuate territorial interventions, reinforce their own economy and construct a distinct identity. Furthermore, even though they are characterised by an economy based mostly on small and very small units, it is not possible to identify a single typology. Mountain Communities, which are distributed throughout the Italian territory, are distinguished above all for their role as agents to promote development and mitigate imbalances.

Due to these aspects and the recent recognition obtained following the constitutional reforms that favour the discharging of the functions of small towns and mountain towns in an associated form, Mountain Communities constitute important '*tesserae*' of the Italian mosaic.

5.2. The tumultuous and growing South

The experimentation of a new light industrialization[26] process in the Italian Mezzogiorno is conducted by involving mostly the coastal areas, where positive signs of activity could be found as early as during the 1950's. Regarding initiatives that generate economic value, there was mostly a spread of district type organization for production based on a network of small businesses. The districts in the Mezzogiorno, however, have little in common with those characterizing the production system of the Third Italy. From the results of some important empirical analyses[27],

[24] Mountain Communities are present in all Italian regions. However, the results of a recent study by the sociologist Renzo Gubert on the activities conducted by the Mountain Communities over the 1980's and 1990's, indicate that the Communities of the north and centre present a more pronounced physiognomy than those in the south which, with the only exception of the region of Sardinia, do not excel for any intervention and even have fewer frequencies in terms of interventions undertaken. Gubert, R. (ed.), *Il ruolo delle Comunità montane nello sviluppo della montagna italiana. Un'analisi valutativa*, Franco Angeli, Milan, 2000.

[25] See: CENSIS, *La montagna come risorsa. Geografia, società, governo e programme per lo sviluppo dei territori montani, Rapporto finale—sintesi*, 'Collana verde' n. 83, Rome; INSOR (1992) *Montagna 2000*, Franco Angeli, Milan, 1991; EC, *ESDP. European Spatial Development Perspective. Towards Balanced and Sustainable Development of the Territory of the European Union*, Office for Official Publications of the European Communities, Luxembourg, 1999; Ferlaino, F., *La montagna nei programme europei d'integrazione territoriale*, Working paper n.157, IRES, Turin, 2002.

[26] Bodo, G., Viesti, G., *La grande svolta. Il Mezzogiorno nell'Italia degli anni novanta*, Donzelli, Rome, 1997. Di Felice, M. L., Sanna, L., Sapelli, G., *L'impresa industriale del Nord Sardegna. Dai pionieri ai distretti: 1922–1997*, Editori Laterza, Bari, 1997. Cersosimo, D., Donzelli, C., *Mezzo Giorno. Realtà, retaliation e tendenze del cambiamento meridionale*, Donzelli editore, Rome, 2000. Viesti, G., "Le strade dello sviluppo: come sono nati i distretti industriali del made in Italy nel Mezzogiorno", in *Economia e politica industriale*, 2000, p. 106.

[27] For an account of recent regional districts in southern Italy, see: Trigilia, C., "La ricerca dell'Imes sull'associazionismo culturale nel Mezzogiorno", in *Meridiana*, n. 22–23, 1995; Cersosimo, D., Donzelli, C., "Mezzo giorno e mezzo no. Realtà, rappresentazioni e tendenze del cambiamento meridionale", in *Meridiana*, n. 26–27, 1996, pp. 23–73; Bodo, G., Viesti, G., *La grande svolta*, Donzelli, Rome, 1997; D'Antone, L., Straordinarietà e Stato ordinario, in Barca F. (ed.), *Storia del capitalismo italiano*, Donzelli, Rome, 1997; Bevilacqua, P., *Riformare il Sud*, in *Meridiana*, n. 31, 1998, pp. 19–44; Cassano, F., *Paeninsula. L'Italia da ritrovare*, Laterza, Bari, 1998; Viesti, G. (ed.), *Mezzogiorno dei distretti*, Donzelli, Rome, 2000.

there is evidence of the presence of a large variety of district typologies in southern regions, among which the technological district of the Etna Valley in Sicily stands out. The southern districts demonstrate a variety of development models that, until a few years ago, were mostly unknown because they were concealed behind the generalized definition (that was often associated with a negative impression) of the Mezzogiorno. The southern areas and islands of Italy today present themselves as a reality characterized by enormous variety and animated by endogenous micro-local initiatives, expressions of a rich business fabric, even if submerged, or initiatives promoted by public actions.

This image, characterized by dynamism, by an elevated number of start-up businesses, by a burgeoning territorial concentration of productive activities, and a spontaneous development that moves from underneath, counteracts a vision still linked to tradition that insists on the gap between north and south as evidenced by the distribution of indicators like the per capita GDP.

6. Territory, competitiveness and innovation

Phenomena like market expansion, access to new competitors made easier by telecommunication technologies, and the division of labour, which thanks to progress in transport and communications involves increasingly distant places, make the maintenance of *leadership* more difficult and require an incessant strengthening of the factors of competitiveness. The maintenance of *avant-garde* positions on international markets is linked to the maintenance of the identity of the manufactured goods, or to that peculiar something that local systems of small and mid-sized businesses are capable of incorporating into their productions and that competitors cannot replicate. That depends directly on the process of accumulation and transmission of knowledge produced locally.

This is a suggestion that has recently been faced in scientific debate and has found much support, especially in political discourses. To say that a territory produces knowledge is never a simple question. As emphasized by Giuseppe Dematteis[28], the idea of the territory as a producer of knowledge can also fuel resistance: while it seems evident that the territory produces *things* in the form of industrial products (machines, fabrics, food, etc.), the idea that it produces *knowledge* is less immediate. But not only: because knowledge is a mental fact: in accepting the metaphor proposed, the idea that the territory becomes something similar to a person is also implicitly accepted[29]. This finds confirmation in an interpretation of the territory as a "living element" that is not limited to being a mere, passive support of man's action. The territory constitutes an intelligent environment characterized by a competence that we could define as *topical*, that is heavily localized: the territory, according to geographical interpretation, is presented as the result of a co-evolutionary relationship in which experiences, capacities, and know-how is continually accumulated[30]. The know-how may be technological, but not only: places are also depositories of other forms of know-how accumulated locally, like architecture, museums, languages, traditions, and institutions. Even these types of non-technological knowledge can be used to produce added value and increase productivity.

Through the metaphor of the territory as a producer of knowledge, we can explain the emergence (or even only the survival), in Italian capitalism, of paths of local development that are "alternative" to traditionally district-based ones. Non-technological knowledge, although linked

[28] Dematteis, G., Ferlaino, F. (eds.), "Il mondo e I luoghi: geografie delle identità e del cambiamento", Ires Piedmont, Turin, 2003.

[29] *Idib.*

[30] A measure used to quantify the concentration of innovative activities is patents. However, some authors maintain that this data is limited to the quality of the functioning of the patent offices, therefore losing credibility.

to the territories and their histories (*know-how*, tacit and widespread knowledge), are used in economic processes as development factors.

A fundamental component of the interpretation of the territory as a producer of knowledge is the role of networks that develop within local systems and with other systems. In various parts of Italy, the territory generates true *geo-communities* according to at least three different options[31]:

a. *by developing synergy to promote a common objective:* the synergy can be *positive* if the local community is mobilized to attain an image or carry out a project useful to the public, or *negative* in the form of obstructionist movements;
b. *integrating in order to compete.* Increased international competition causes increases in the number of integration among different production systems: these are mostly spontaneous "bottom up" initiatives that result in some industrial districts, especially in central areas of Italy, elaborating coordinated development strategies;
c. *creating alliances in order to grow.* Alliances of this type develop according to very different modalities and dimensions. In particular, horizontal types of alliances are seen—that is to say alliances between territorial systems of the same level (towns with towns, regions with regions, etc.) and vertical types of alliances between different territorial levels.

The geo-community may be defined in terms of a vast, inter-provincial area with intrinsic common denominators to be reinforced, and where it is possible to identify a collective subject that assumes direct responsibility for the future of development and territorial reorganization[32]. In Italy there is such a constantly growing number (from the "Lombardy-Veneto-Emilia Hinge", to the geo-community of "la Maremma", from the Infracom experience on the Verona-Trieste axis, to those of the "axes of territorial development" of the Lombardy foothills and the Adriatic-Marche line) that it can be seen as the most distinctive trait with which Italy faces ongoing change. The scopes pursued by the geo-communities are numerous and vary from place to place: the development of infrastructure, fair events, the promotion of tourism, cultural, research, and technological innovation poles, economic "typicity", production systems. The choice of development alternative to the formation of alliances and cooperative relationship networks passes through competition. However, it seems that most Italian cases choose a cooperative option rather than a competitive one: it is probable that the scarcity of resources and absence (typical of the history of the organization of the Italian administrative machine) of large inter-administrative agencies with independent management and accounts plays in favour of this option, as do those who operate in other examples of European urban realities.

A proper example of this are the negotiations started to create the horizontal "MITO" city between Milan and Turin. These two metropolitan poles that, together with the city of Genoa, in the past were already projected into a perspective of joint development, especially of an industrial nature, today return to confront the possibility of identifying common logics. The cooperation will be facilitated by the construction of the high-speed railway between the two cities and will be carried out along broader lines: high formation, health care metadistrict, fairs and conventions, cultural systems, and media. Possible extensions may be developed with the cities of Genoa and Venice. Among the first strategic collaborations to be hypothesized there is, in fact, the proposal for an international architectural competition for the design of the city of MITO, which would take place at the 2006 Biennial. Venice, on the other hand, has already been actively seeking horizontal alliances for some time now. A recent research[33] concerning the development of regional capital

[31] CENSIS, XXXVII Rapporto sulla situazione sociale del paese, 2003, http://www.censis.it/

[32] *ibid.*

[33] Rullani, E. and Micelli, S., "Immaterial production in Venice: towards a post-fordist economy", in Musu, I. (ed.), *Sustainable Venice: Suggestions for the Future*, Fondazione Eni Enrico Mattei, Kluwer Academic Publishers, Dordrecht, 2001.

cities identified some possible scenarios, among which was the realization of a single metropolitan area between Venice, Mestre, the port of Marghera, and also including Padua and Treviso. In this scenario[34], it was emphasized how these cities are so close as to form a continuum: the progressive specialization of each reality would allow businesses and inhabitants of the area to exploit services and opportunities offered by an "extended" urban area. The specialization of Venice and the post-fordist transition are the factors that push the city to look not only at the "local" metropolitan area, but also and above all at its integration and competitive capacity in the "global" network; and one of the elements upon which the city intends to base its own course of "sustainable" development over the long term is yet again the production of knowledge, innovative capacity, and investments in scientific research.

Among the other cases of cooperation between cities we can mention the case of the region of Tuscany, which is working to develop strategic alliances and clusters of small and mid-sized businesses in the automotive and motorcycle component sectors, and the one of the cities of La Spezia, Trento, and Pesaro, which have constructed an alliance finalized at reinforcing the exchange of experience in the processes of construction and actuation of strategic plans. Significant cases of alliances among regions are those of the Third pole of Central Italy with the regions of Abruzzo, Marche, Molise, and Umbria, and the constitution of a new macro-region in the north-west among Piedmonte, Lombardy, and Liguria[35].

Regions, Provinces, and Towns are finally active in the development of vertical types of alliances to be actuated above all through participatory planning instruments.

7. Possible paths of development

In the first part of this paper we attempted to reconstruct the dynamics and the representations that have distinguished Italian industrialization over the course of the 20th century: from the dualism between the developed north and the underdeveloped south to the "three Italies", from the phenomenon of peripheral economy to the rediscovery of industrial districts. More specifically, we have seen how the facts and the representations have not always found confirmation in the works of academicians and in political discourses. Often intervention policies elaborated and enacted then proven to be of dubious results or even detrimental. Finally, by introducing the metaphor of the "Italian mosaic", we have proposed a representation, or better still, an interpretative logic, that we believe can truly reflect the reality of the contemporary Italian economy.

With regard to the challenges of competition and innovation, the mosaic geography of the Italian economy implies advantages as well as disadvantages. The advantages undoubtedly include the recognition of the opportunities linked to the variety of economic, social, territorial, cultural, and administrative conditions that connote the country. On one hand, the widespread presence of local competitive systems throughout the territory that are capable of attracting investments and activities favours a more balanced and polycentric national development. On the other hand, the recognition of the existence of different development models allows activities that increase the specialization of local systems, increasing competitiveness. It was, however, impossible to identify a single national development strategy on a central level. The variety connoted by the

[34] The authors hypothesize another two scenarios. A model of endogenous and spontaneous development, without interventions decided publicly; a model with a view towards radical environmentalism and sustainability, in consideration of the peculiar characteristic of the city that make it extremely fragile with regards to environmental issues.

[35] In alternative, the literature also indicates the proposal for the identification of a new axis of development that crosses the northern regions of the country from east to west.

Italian mosaic requires different interventions according to the scale and context intervened upon: this therefore requires a burdensome effort by local communities (in terms of men, means, and resources) in the planning of their own future. With reference to the economy in southern Italy, for example, notwithstanding positive signs resulting from the spread of local development processes in various areas of the south, the data confirm the existence of serious difficulties in starting intense and long-lasting courses of development. These difficulties are due mostly to serious institutional deficits that mark the south and reflect the existence of inadequate public institutions incapable of establishing transparent rules of conduct.

From the observation of the Italian experience, we can obtain some indications concerning the logic with which we can interpret the challenges that the new Europe poses to the territories in terms of competitiveness and innovation. In the first place, the examination of the Italian situation introduces a reflection on the links between the facts and the representations, or between the true functioning of the economic systems and the theoretical elaborations of researchers. The history of Italian industrialization that we have briefly summarized, clearly demonstrates how changes in the interpretation of the facts can result in a modification of their representation as well as changes in intervention policies.

In order to interpret the functioning of the Italian economic system through the mosaic metaphor we need to recognise and appreciate the existence of different development models. In the Italian case, this recognition is affirmed through the progressive discovery of the importance of immaterial assets that determine the competitive edge of businesses and territories. Competitiveness depends more on organizational and institutional aspects which can then be improved through interventions that promote communications, cooperation, and the reinforcement of the network of relations among actors.

Finally, from the Italian experience, the importance of the local scale in development processes emerged. As can be understood from the words of Borja e Castells[36], through opportune combinations of technological infrastructure, human resources, and flexible systems management on a local level, it is possible to establish long-standing and sustainable development.

Beginning with this local scale and the relations that develop within it, it is then possible to hypothesize some development scenarios for Italian capitalism. From among the potential courses of development for local systems, three would seem to be most probable:

— cooperation with nearby systems with different vocations. In regional innovations systems, for example, different local systems are often part of a single innovative chain. In these cases it is necessary to think of how to improve the relationships between businesses and the other operators of the innovative process. The contribution that can be made to the development process by the university operator or by public and private research centres, etc. is a fundamental one that is expressed in terms that certify the process itself;
— cooperation with distant systems but with common vocations. The recent progress in network technologies offer excellent potential for the development of communications between local systems and allow various forms of cooperation[37]: not only among contiguous systems, but also among distant systems united by common interests or by their participation in production or cognitive chains. In both cases, the competitiveness of businesses is guaranteed by a form of *solidarity* or, in any case, of trust established thanks to a relationship that we could define as a "proximity" that it not necessarily spatial;

[36] Borja, J. and Castells M., *Global and Local. The Management of Cities in the Information Age*, Earthscan London, 1997.

[37] Micelli, S. and Di Maria, E. (eds.), *Distretti industriali e tecnologie di rete: progettare la convergenza*, Franco Angeli, Milan, 2000.

— cooperation among various levels and isolation with regard to horizontal relations. The advent of globalisation, of ICT's, has not detached businesses from the territory, but has simply contributed to supplying another operative dimension that adds to, but does not substitute, the local scale. This must be seen as a mutation in the territorial scale according to which the local production system is constructed and structured. Special thought should also be given to the dangers related to an excessive concentration on local dimensions, which leads to the disregard of the influence of the fundamental elements of higher contexts on local development processes.

ANNA GĄSIOR-NIEMIEC

"POLISH PIEDMONT": a Social Constructivist Perspective on Regions and Regional Trajectories in Europe

Introduction

Europe is facing several strategic choices, as Kuklinski's six methodological reflections included in this volume clearly show. The choices concern normative options to be followed in all of the main areas of social life, beginning with demography, economy, technology, science, education, and ending with culture. It is worth remembering that apart from the difficulty related to making normative choices as such, the European choice-making is more and more implicated in exigencies of an emerging system of multi-level governance. A variety of actors, both public and private, of transnational, supranational, national, regional and local provenience, are invited to be more or less directly involved in the decision-making processes in Europe, and elsewhere (see Dror 1999).

The phenomenon of multi-level governance constitutes an enormous challenge in terms of both efficiency and accountability of the European system (see Kohler-Koch 1996). Therefore it is by no means a univocally beneficial mode of governance, however, by enabling different sets of actors to participate in the system evolution, it also constitutes an invitation to an increased scope for the formation and exercise of their subjectivity and thus responsibility for their own growth and development. This seems to be particularly pertinent to regional and local actors all over Europe, who have already gained a lot of room for voicing their preferences and needs in the 1980s and 1990s. Although the initial enthusiasm and belief in the possibility to create a "Europe of Regions" have in the Western Europe gradually faded away, their reflection appears to have gained a new foothold in some, at least, societies—and regions—of Central and Eastern Europe.[1]

European regions, in general, have certainly benefited much from the opportunities offered by the system of regional policy in the EU (EC 2004). However, at the beginning of the XXI century it is becoming more and more clear that the system may need a further reformulation, both in terms of its ideological assumptions and procedural schemata (Kuklinski 2003; Gąsior-Niemiec 2004). This is especially visible when the majority of the new accession regions are taken into account. Arrested, on the whole, in the center-periphery trap, the new accession regions[2] seem to

[1] The Polish region of Wielkopolska (Greater Poland) may be offered as a case in point (see e.g. Gąsior-Niemiec 2003).

[2] The term region is used for the sake of convenience in the paper, even though (enlightened) regional elites are an obvious addressee (or an object) of the statements.

be more often than not tempted—or forced?—to follow a clientelist path as regards their inclusion in the EU system of regional policy instead of seeking ways to discover, formulate and follow their own developmental trajectories.

Lulled by the standard criteria of applying for EU support, which are based on *negatively defined indicators*, such as lower than average GDP per capitaor higher than average unemployment etc., regional elites *de facto* may often opt for a *dependent developmental model*. The developmental options they might choose to support by means of structural funds usually amount to investments in necessary but *per se* unproductive infrastructures, be it new roads, bus terminals, sports facilities or material bases for systems of vocational training. Moreover, the fact that the investments are frequently guided almost exclusively by the logic of calculation (let's invest in whatever may be EU-funded), leads to a reinforcement of patchy, temporary and passive character of regional resources in CEEC.

At the same time, the potentially emancipatory, schemata for multi-level governance (e.g. a variety of networks and steering committees), enforced by the EU procedures at the regional level, may be vulnerable to corruption since their role in strategic design and guidance of developmental processes appears negligible, not to say decorative. Marginalization of the new regions could be seen as a direct result of the dominant logic of calculation that was mentioned above. Instead of creating regional projects that are based on region-specific, visionary strategies of development that could enjoy *competitive advantage* and possibly trigger changes not only in the regions concerned but also in the EU system as a whole, elites in those regions follow routine patterns that were coded—in the idiom of *comparative advantage*, with a view to obtaining EU funding—in strategies of regional development, mass produced in Poland in 2000 (see Gorzelak 2001; Grosse 2003; Gąsior-Niemiec 2003; Hausner 2001; Szlachta 2001). Thus, *nolens volens* they deprive themselves of the opportunity to participate consciously and actively in the multi-level mode of European governance.[3]

The paper does therefore generally fall in line with the argument (cf. Kuklinski, 2003; Grosse, 2003; Gąsior-Niemiec, 2004) that a thorough reconsideration of the model of regional policy in the EU is needed. Moreover, an even deeper breakthrough is required in the ideational sphere, especially on the part of experts, scientists and elites that are involved in shaping regional trajectories. The paper includes some proposals that might seem rather bold in this respect. The boldness may be justified by the overall logic of the paper role, which is to prompt a discussion rather than offer a fundamentalist prescription how to cure the weaknesses of the current model of EU regional policy and the concurrent deficiencies of strategic thinking about regions. One of the seemingly more technical tenets includes an idea to separate the issue of investments in hard and soft infrastructures at the regional level. Relegating the former, in terms of planning and financing, to the national and European level would, among others, mean that regions (meaning regional elites by and large) themselves are forced to focus on and demonstrate their capability to create strategies for *long-term*, *productive* and *innovative* investments in *region-specific* developmental paths.

In other words, what would be needed first of all in the context of the new approach to regional policy in Europe, is again an increase in the scope for regional subjectivity and ... accountability. The core issue that is inscribed in the approach involves a mental change that is related to a switch from "lagging behind" to "catching up" and "overtaking" model of thinking about regions (see Kuklinski 2003). The model of regional policy in Europe must not inculcate in regional elites a culture of clientelism and learned (calculated!) helplessness that is rooted in the "philosophy" of lagging behind propped by the demonstration effect of a permanently winning

[3] This is further negatively reinforced by the proposed changes in the EU cohesion policy that even further undermine the status and voice of regional and local actors in the new accession countries (cf. Grosse, Olbrycht 2004).

non-development, i.e. the advantage of being classified as an Objective 1 region. A turn towards prospective thinking and regional foresight, including a revalorization and/or creation of regional resources, seems thus necessary if regions are to develop organically and are to be able to face the challenges of globalization (ibid.).

"Polish Piedmont" as a (re)formative idea

The second part of the presented paper offers a feedback to an idea of "Polish Piedmont" which was authored by Antoni Kuklinski in his Memorandum entitled "The Polish Piemonte. The research priorities" of 13 July, 2004. In the Memorandum, written on the occasion of the establishment of RECiFER (Research Centre for European Regions) affiliated at the WSB-NLU in Nowy Sącz, Kuklinski proposed to set up in the South of Poland a regional laboratory to test the conditions under which a development of Knowledge-based Society and Knowledge-based Economy could be triggered in Poland. The idea was to "invent", monitor and intellectually support a region where "the KBE and KBS [could be seen] in the holistic context of the transformation of the economy, society, science, culture and governance" ("The Polish Piemonte..." , p. 1).

In the Memorandum Kuklinski touched thus upon a few of the most salient issues concerning regional development in Poland in the context of the European Union. First, he pointed to a need to reorient regional developmental trajectories towards a holistic model hinged on the creation and interaction of Knowledge-based Society and Knowledge-based Economy. Second, he assumed the process of reorientation would have to be preceded by a mental and linguistic turn, which means a shift in the manner regions, regional development and regional policy are conceptualized and framed in Poland. Third, according to Kuklinski, the process to succeed needed to combine top-down and bottom-up initiatives. Fourth, he stressed the diagnostic, benchmarking and prognostic role of regional academic and research institutions in the process. Fifth, and more fundamentally, he claimed regions and regional trajectories are not to be taken for granted and seen exclusively in terms of path dependency; they can and may be (re)invented.

While I do not intend to discuss in this paper the issue of the prospects for the development of Knowledge-based Economy and Knowledge-based Society in Polish regions, nor to delve deeply into the role of regional academic and research institutions, I would like to dwell on three other assumptions mentioned above. I am particularly interested in considering the last of Kuklinski's theses that verges to a large extent on social constructivism. Not claiming that social constructivism is the only possible approach to think about regions and regional development, I will nevertheless argue that routine exclusion of this type of approach by regional planners and regional elites renders regional policy and the practice of regional development on the one hand unnecessarily dependent on external factors, on the other—on legacies of path dependency.

The theoretical part will be followed by a brief sociological introduction to the *status quo* in the actual addressee of the idea of "Polish Piedmont", i.e. the assembly of the five Southern regions in Poland that Kuklinski proposes to view as a single "imagined" community. The introduction responds, by necessity rather cursorily, to some of the research priorities that were listed in Kuklinski's Memorandum. They concerned evaluation and creative thinking in terms of:

— regional and local communities of Polish Piemonte
— the role of social and cultural capital in the development of the Polish Piemonte
— the regional and local governance in Polish Piemonte
— the Polish Piemonte in the framework of the New European Space (Kuklinski 2004).

The paper is concluded with a table that presents basic statistical figures concerning the regional units that would constitute the Polish Piedmont as imagined by Kuklinski.

"Polish Piedmont": A Tradition to Be Invented?

What Kuklinski's idea amounts to is a challenging offer directed to the five regions stretching along the Southern, mountainous fringe of Poland from the West (Dolnośląskie Voivodship) to the East (Podkarpackie Voivodship). The offer concerns a radical shift in the perception and conceptualization of the regions, which is to be reflected in a new language of opportunities used to describe them as well as in a new formula of synergetic cohabitation that is to overcome the current state of zero-sum game rivalry, both within and between the regions *vis-à-vis* the European and domestic system. The opportunity may be claimed to be premised on a thorough reconstruction of weak and/or narrow, local rather than regional, identities there and building a common, holistic macro-image. Instead of sticking to the patchwork of otherwise fragmented, diversified and largely peripheral, mountainous borderlands of Poland, Kuklinski proposes an invention of a new entity—the "Polish Piedmont" as a way to manage the diversity and capitalize on it. Not promising any automatic transfers of benefits, the idea seems to rely on the "power of identity" (Castells 2000) and multiple networks that might make the new entity a visible hub on the map of the New European Space.

For all of its striking novelty in Poland, the idea to invent a certain social entity anew seems well rooted in philosophical, anthropological and sociological theories of social space, identity and development. As such it could be considered by regional, and region-oriented elites with a great interest as an invitation to take an active and forward-looking stance to policies (*and politics*) of regional development, especially in so called lagging regions whose trajectories seem to be stuck at path dependent nodes of deficient economic, social and cultural conditions. In other words, it may be regarded as an invitation to practical regional foresight[4] whose ultimate aim is to make regional elites realize that future is flexible and malleable, depending to a great extent on the will to create and exercise one's own collective subjectivity.

Seen in this light, Kukliński's Memorandum might be thus treated as an invitation to open up of a new chapter in the history of regional development in Poland by trying to make work in practice the sophisticated social science discourses that point to the significance of mental schemata and symbolic images in the recognition and deployment of developmental chances that the new European and global space appears to hold in store for regions. The idea of the Polish Piedmont might for instance prompt regional elites to think differently of regional space and to look differently at their own role in the development of the regional space. What it requires is however a dedication to the project of re-invention of the regional space ... and regional identity (meaning in reality an identity of the regional space!). A symbolic re-translation and re-combination of the differing regional pasts, traditions and developmental options could eventually lead to an emergence of a completely new, alternative regional trajectory[5] and a new "developmental style", since as Kukliński tells us:

"The developmental style is a pattern of thought, motivation and action creating an intellectual and pragmatic climate in a given country [or region—AGN]. This climate is expressed in an interaction of political, social, economic and cultural dimensions which answer the question—how a given country [region—AGN] is overcoming the inertia of failure and creating the momentum of success" (Kukliński, 2003: 18; cf. also the concept of regionality as habitus and *imago regionis* in Gąsior-Niemiec, 2003).

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[4] Cf. *Practical Guide to Regional Foresight*, 2003; *The Third Periodic Report of the European Commission*, 2004).

[5] "Trajectories are self-fulfilling prophesies based on the actors' decisions and expectations of the future. Like any institutions they are sustained not by 'naturalness' but by the interests that develop in their continuance and the belief that they will continue" (quoted after Kukliński, 2003:13)

For the sake of clarity, a due reservation is to be added at this point, stating that the author of the essay is aware that apart from the desired transformation of mental and behavioural schemata the regional actors display, other factors of the regional project's success—much less symbolic in nature—need to be named. Namely, attracting necessary external financial and institutional support for the project as well as mobilizing the endogenous capital(s) are crucial to help institute the symbolic change and possibly turn it into a set of practices capable of producing regional growth and development. What needs to be specially stressed is the dialectic relationship between the two types of factors—tangible and symbolic, which is well captured by Kukliński's hypotheses (Kukliński, 2003), especially the ones concerning the "catching up vs. lagging behind mentality", "mechanistic vs. organic regional policy".

The usefulness of the social constructivist approach

As already mentioned, social science has a lot to offer in support for the idea of social inventiveness and its usefulness in overcoming the weight of path dependencies. The core message hidden in theoretical and empirical analyses of the kind reflects a rather well known, albeit much disputed thesis concerning the power of ideas to change existing reality, or to create it as if anew[6]. Let us consider a few theoretical insights of the kind, which have been inspired by Pierre Bourdieu's (1991; 2001), Anssi Paasi's (1990; 1999; 2002), Eric Hobsbawm's (1983) and Benedict Anderson's (1983) theses and observations. A directly pertinent in the context of regions and regional communities quotation from Anderson will serve as an apt introduction to the topic, which reflects a belief in the power of imagination and identity:

"In fact, all communities larger than primordial villages of face-to-face contact (and perhaps even these) are *imagined*. Communities are to be *distinguished not by their falsity/genuinness, but by the style in which they are imagined*" (ibid.:5–6, emphasis added)

Following insightful philological analyses of Benveniste, Bourdieu (1991: 220–228) in turn offers region as an instance of a heretical discourse whose aim is to *regere fines*, that is to disrupt and constitute social space anew, while Anssi Paasi in a similar vein forwards a conclusion, stating that: "[t]erritories and their identities and boundaries are social, political and economic constructs that contrary to traditional vernacular cultural regions that emerged from the life of social communities—may be relatively well separated from the every-day lives of ordinary people, i.e. they are public representations which literally take place in the sphere of these discourses" (Paasi, 1999:217).

Therefore, while being dynamic and flexible constructs, especially under the new regionalist paradigm, regions are generally better viewed as spaces of multi-level dependencies, viable interfaces between different spheres of life, different types of actors and different levels of policies, which are able to accommodate and reconcile in a non-exclusive manner the divergent pressures coming from the inside and the outside of the territory.

On the one hand, to be binding (i.e. evoking voice and loyalty, cf. Hirschman, 1970), the socially constructed regions need to be premised on the act of drawing boundaries (anew) and sanctioning some differences—marks of identity. However, to be functional in the spaces of flows, the boundaries and differences need to be constructed as non-exclusive and inviting, promising some sort of gains to all. Such a redefinition of territorial boundedness requires a substantial shift in the way territorial identities, loyalties, interests, and linkages are created and justified. In a deeper sense, the shift is premised on *mythopoiesis*, that is skilful construction and spread of an

[6] Let us not discuss the issue of voluntarism and determinism in this paper.

adequate mythology of region (Gąsior-Niemiec, 2003) or to use the more established Hobsbawm's terms (1983)—on the invention of a (regional) tradition.

In the brilliant book on the subject of invented traditions, Hobsbawm et al. (ibid.: 8ff) argue for the essential malleability of the modern narratives that encode societal norms and values as well as defining overall goals reaching which a society/community aspires to (these could be seen as "developmental trajectories" of a kind). What the authors show is how various "established", "time-immemorial" "traditions" might be traced back in time and deconstructed as contingent, consciously created and/or subconsciously emerging discourses and practices of rather recent origin which—in particular historical circumstances and owing to particular social actors—became set and sedimented in social memory. The universal and highly selective nature of the process of the invention of tradition is the most striking finding of the research. Drawing on numerous case studies, the authors point to 3 basic areas or spheres in which the invention of tradition might take place:

— the establishment/authorization of the social cohesion and/or belonging to the given community
— the establishment/legitimization of institutions, statuses, authorities within the given community
— the reproduction/socialization to/commemoration of beliefs, systems of values, patterns of behaviour obtaining within the given community.

The concept of "invented" nature of traditions points thus directly to the **constructive and transformative power that regional narratives might exert** provided they are persuasively devised, designed, communicated ... and attuned to particular historical conditions circumscribing the room for malleability in a given society[7].

In the context of the idea to "invent" the "Polish Piedmont" it must be stressed again that inventing region-building traditions requires close co-operation of political, economic, social and cultural elites in the overlap of their, respectively, top-down and bottom-up spheres of influences, interests and types of capital they dispose of. The prevalence of heated, ideologically motivated discourses on the part of potential region-builders would constitute a serious obstacle in the production of adequate regional mythology. Conversely, it might also reinforce deeply ingrained unwillingness and/or inability to undertake collective action which through shared efforts, could help overcome the limitations of the shared "world of limited goods" and contribute to re-routing of the regional trajectory. Therefore, the myth-making capacities of regional elites and the degree to which they succeed in **overcoming the self-defeating legacies** of the distant and near past as well as the limitations of the fragmented present are of vital importance.

The more different the new identity and the new developmental style from the ones that used to be familiar to regional communities is proposed, the greater seems to be the role that such invented traditions and mythologies of the imagined community could play in the shaping of functionally viable "structures of feeling" (Williams's phrase), "structures of meaning" (Warren's phrase), "habituses" (Bourdieu's phrase) or "structures of expectations" (Paasi' phrase) which:

"[...] form a frame that is bound to a specific region. This frame is quite permanent and is represented in the form of time-space-specific, region-bounded, institutionally embedded schemes of perception, conception and action, which can comprise real, imagined, and mythical features of the region" (Paasi, 1990:249; cf. Bourdieu, 2001; Gąsior-Niemiec, 2003).

To be fully legitimized and acted upon they need to be expressed in the language of myth which enables **a symbolic fusion of Knowledge, Truth and Power**. The regional myth is created

[7] Hobsbawm's theses reverberate for instance in multiple contemporary analyses that dwell on the creation of so called "new locality" in Poland (cf. Burszta, 1998; Jawłowska, 2003). The analyses reveal how local histories, legends, customs, feasts ... and virtues are (re)produced and invented for purposes ranging from the need for personal belonging to commercial profit. Cf. also analyses of Bali and Maori territorial identities and developmental trajectories that have been straightforwardly *invented* in the XX century (Burszta, 1998; Greenblatt, 1991; Hanson, 1999).

in order to tell individuals and communities "where the territory has come from and where it is going to" (Paasi, 2000:10). The regional myth-makers' task is to reconstruct then or *invent* a broken bridge between the past and the future and by structurating the present cognitive and behavioural schemata to show how a new destiny is to be accomplished. Obviously, the degree to which the process may succeed is contingent. In the case of regions that dispose of politically meaningful local governments, the success of the process is premised first of all on the degree of legitimacy and political will of the elites, second—on the presence of adequate capital resources (economic, social, cultural), and third, last, but not least—on the feasibility of the proposed vision.

To sum up, Kuklinski's idea to "invent" a new regional entity in Poland, called the Polish Piedmont, certainly opens up a new perspective in the debate over regional trajectories in Poland. The perspective, quite distant from typically technocratic or narrowly political discourses on Polish regions and their future within the New European Space, has several merits. It points, among others, to the role that imagination, supported by a thorough knowledge of a given regional space, creating prospective myths (developmental visions), identities and traditions may play in overcoming mental stereotypes and adverse discourses that block initiative and innovation.

Successfully invented, a new regional space with a distinct regional identity, specific "style" of regional management, and an innovative developmental project supported by a new quality in the area of research and generation of regional knowledge may prove to be key elements in building regional capacity in the new European regions. They need to be accompanied by a new language frame (discourse) that will enable a regional subjectivity to emerge both in the interior (regional space) and the exterior (national and European space). To join the multi-level order of governance actively, it is not enough to demonstrate statistical tables proving socio-economic backwardness of the regions or to reproduce standard, routine developmental priorities that are exemplified in manuals that e.g. accompany training sessions in structural funds.

Instead of concentrating on well rehearsed and universal weaknesses and difficulties typical of all peripheral regions, perhaps it would indeed be more beneficial to engage in creating holistic, complex visions of alternative developmental trajectories starting from the idea like Kuklinski's. It goes without saying that this is not possible without reaching a certain critical mass of political will and intellectual innovativeness. Regional academic and research institutions could play an invaluable role in accumulating and activating such a critical mass.

The idea to invent and promote a new identity for the five regions situated in the Southern fringe of Poland—"the Polish Piedmont" on the axis Wrocław—Rzeszów, and, more broadly, Berlin—Dresden—Cracow—Kiev, seems in the context quite inspiring. Certainly, an identity like this, if it could be created and operationalized, would greatly increase the visibility of the regions *vis-à-vis* the New European Space, and thus possibly add to their developmental chances. What is even more important, it might constitute a stimulus and an opportunity to change the regional trajectories, including a modernizing shift in regional habituses (structures of expectations). However, the difficulties inherent in the project, especially lacking political will, seem rather formidable, at least at the moment and in this particular case. Also, the wealth of socio-economic and cultural "differences" inherent in the five regions poses a serious challenge to the idea of their common management. On the other hand, sociological insights draw attention to certain premises to which the idea of the holistic perception, development and promotion of the Southern regional strip of Poland as the Polish Piedmont[8] could be related.

[8] It is to be noted that the term "Polish Piedmont" had already been used in the Polish scientific discourse before Kukliński's Memorandum. Among others, a historian, Józef Buszko employed it while discussing the diversity of socio-cultural relations in the province of Galicia (the Austrian partition) in the XIX century. Indeed, **diversity and its successful management** appear to constitute the core message encoded in the term as it is used in the Polish academic discourse, which lends itself rather easily to the new deployment of the term by Kuklinski.

A sketch to a profile of the Polish Piedmont communities

All of the five regions concerned are situated literally at the foot of the mountains (*pie di monte*), hence the existence of the natural physical boundary is their common experience. From the point of view of the state frontiers, these are moreover borderlands characterised by a history of border mobility. Uncertain, undecided territorial, national and ethnic belonging coincides therefore with labile social identities on the part of a considerable proportion of the residents. At the same time, on the whole[9], these are regions typified by a heightened sense of Polish national identity, which however is clearly rooted in strong attachment to a given locality, religion and a considerable social traditionalism.

Moreover, these are the regions (in particular the voivodships of Opolskie, Dolnośląskie, and Podkarpackie) which have experienced mass migration both in the XIX and XX centuries. The migrations (both in- and out-) were motivated both by political-administrative and economic factors. Furthermore, because of their natural beauty, the majority of the regions (most specifically the voivodship of Małopolskie—Podhale and Podkarpackie—Bieszczady) apart from the inflow of tourists, have been regularly targeted by migrants from metropolitan cities, traditionally, many artists among them. These have brought with them and/or produced specific *external* identitarian discourses and practices that to a greater or lesser degree have influenced the regional spaces.

The migrations have on the one hand reinforced the multi-cultural profile of the regions[10], while on the other have generated many—both positive and negative—processes and social phenomena. In a sense, they have also almost literally spanned, in social and cultural terms, the two regions located at the extreme ends of the strip, Dolnośląskie and Podkarpackie, since in the 1940s and 1950s many residents were forced to move to the former from the latter (cf. e.g. Akcja "Wisła"). A direct railway connection linking Wrocław (Dolnośląskie) and Przemyśl (Podkarpackie) constitutes a not necessarily exclusively symbolic link between the two regions. One more experiential issue derived from the migratory experience, which might be common to some at least parts of the regions, could be found in the so called syndrome of post-immigrant society characterised by different than elsewhere in Poland patterns of social organization, integration, interaction and participation in public life (cf. e.g. Sakson 1998).

Additionally, the repeated experience of economically driven outmigration from the Southern strip of Poland overseas, especially to the USA and Canada (most particularly from the voivodships of Podkarpackie and Małopolskie) has led to the creation of significant, regionally flavoured, diasporas abroad and strong linkages with them. Multiple social networks bound the regions within and withal. Combined with the already mentioned inflows of tourists and artists, whose impact on the local identities of the local residents is best exemplified by the case of highlanders (górale podhalańscy), the experience results in specific attitudes to tradition and identity. The communities exhibit a historically proven capacity to intercept and adapt in a creative manner ideas, patterns, and models coming from the exterior. Moreover, the capacity enables them to reinforce and enrich their own territorial identities with the external elements. The flexibility and mutability of the tradition is reconciled with strong social traditionalism.[11]

The feelings of belonging to a local (rather than regional) microcosm are correlated on the one hand with a high level of participation in multiple local *cultural* associations, while on the other hand with a higher than in other areas of Poland level of religious participation. Religious participation, predominantly related to the Catholic Church, may also be characterised as specific,

[9] With a possible, though disputable, exception of Śląskie voivodship.

[10] Meaning e.g. both, coexistence of the different ethnicites, nationalities and cohabitation of various levels and types of culture.

[11] Cf. Gąsior-Niemiec 2003 on the role of mythical thinking in spatial relations.

largely qualifying as folk religiosity, with strong involvement and attachment to the Marian cult. Both forms of participation are related to strong attachment and involvement in cyclical, publicly reproduced rituals, which may testify to widespread sensitivity to collective symbol-making activities. To a much lesser degree, the communitarian orientation is related to a common work ethos. On the other hand, it seems to sustain and conserve traditional division of labour and gender roles. The features may also be correlated to the significant number, traditional residential patterns and status of the peasant population within the regions, with a possible exception of Śląsk (Silesia), which is highly urbanized.

Strong and dense social networks constitute thus a model feature of the majority in the regions of the Polish Southern strip. Apart from the above mentioned examples, the linkages and social capital associated with them come to the fore in the form of a generally strong preference and support for local government and a dense network of voluntary associations of various kinds, including self-help. This is facilitated by residential patterns, which in a majority of the regions are constituted by a dense network of small and medium size towns which enjoy well documented historical heritage. Apart from the five regional metropolises (to which actually only Wrocław—Dolnośląskie and Kraków—Małopolskie may be included by general European standards, i.e. number of inhabitants exceeding 500 000), the Southern strip seems to be animated largely by vibrant and dynamic secondary regional centres, such as Nowy Sącz, Cieszyn, Bielsko-Biała, Przemyśl. The cities and towns form local nodes which *via* economic and academic centres established in them link the regions with global networks. The advantage they offer is a possibility to preserve and enjoy localness while being networked with global markets. Not infrequently, the localness constitutes one of the major assets in the brand names associated with the places and the institutions.[12]

The above sketched "general" profile of the supposed Polish Piedmont is by necessity simplified and cursory. It is also biased towards these features that exemplify the commonality of experience and therefore might constitute sources of specific forms of cultural and social capital in the region. Flexibility, adaptability (e.g. modular forms of tradition) and capacity to maintain social cohesion as if despite objective indicators seem most prominent in this respect. What needs to be further emphasized is the rather successful cohabitation and coexistence of the various forms of actual and perceived internal diversity within the area, which incidentally resembles the historical image of the Italian region of Piedmont. All of them seem to testify to the fact that the theoretically already well grounded openness of regional narratives to constant reinterpretations of their images, identities and thus developmental options could be and is practiced by means of a mixture of spontaneous (bottom-up) and guided (top-down) interventions.

The essential malleability of regional and local traditions might therefore be taken into account by regional elites should they embark on the task of re-creating or "inventing" regional imagery and regional identity with a view to the enhancement of strategic developmental choices. However, a word of caution is also needed in the context. Namely, a sound judgement is necessary not to confuse visionary strategic planning with opportunist, instrumental social engineering. Lastly, even though the practice of inventing traditions, identities and images appears to have no limits, it is to be admitted that socially created spatial structures, such as regions are constituted not only by ideas but also by material forms, be it "natural" or "artificial". As such they are also governed by a certain inertia (cf. Braudel's concept of *longue duree*), which may radically counteract the attempts at large scale reformulation of regional space.

Leaving the issue of spatial inertia aside, it remains to be stated that while at the moment it would be rather difficult to persuade politically differentiated regional elites in the five Southern

[12] Cf. WSB-NLU in Nowy Sącz or Żywiec Brewery in Żywiec.

regions to embrace an idea like Kuklinski's Polish Piedmont, it nevertheless should not mean abandoning the theory and practice of regional foresight altogether. The experiences described in the EC report (*Regional Foresight...*) seem encouraging enough to further promote exercises in experimental thinking about regional spaces and their future trajectories. It might be worth undertaking exercises in regional foresight that, among others, include mental experimenting with regional images. Such experiments could both reveal already possessed but hidden assets and resources and trigger imagination that may lead to creative asset-formation. Such mental exercises are specially recommended in the so called "lagging behind" regions which in reality stand little chance of "catching up" with the most advanced regional leaders by application of routine solutions offered by European and domestic regional policy models. These, at present, may rather be classified as survival procedures and not so much developmental options.

Table 1

The "Polish Piedmont". Basic statistical figures

Region/Capital city	Area in sq km	Population in thous	No of counties	No of cities	No of academic institutions in 2002	Support for European integration in 2001 in %
Dolnośląskie (Lower Silesia)/ Wrocław	19 948	2 970,1	26	169	27	56
Małopolskie (Little Poland)/ Kraków	15 144	3 240,9	19	56	28	59
Opolskie/ Opole	9 412	1 080,5	11	34	5	71
Podkarpackie (Sub-Carpathian)/ Rzeszów	17 926	2 131,4	20	45	16	49
Śląskie (Silesia)/ Katowice	12 294	4 830,5	17	70	36	67
Polish Piedmont	74 724	14 253	93	295	113	52
Poland	312 685	38 632,5	371	884	367	58

Sources: *Powiaty w Polsce*, GUS, 2003
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ANTONI KUKLIŃSKI

SOCIAL CAPITAL AND THE PERFORMANCE OF POLISH REGIONS IN THE ENLARGED EUROPEAN UNION

Introduction

The membership of Poland in the European Union will create a quite new situation for the competitive performance of the Polish Regions. In 2004 the 16 Polish Regions will be an integral element of the dynamic galaxy of the 250 Regions of the European Union.

The development of social capital could be seen as an important trajectory for the qualitative improvement of the competitive performance of the Polish Regions in the framework of the European Union. This trajectory has 3 features:

1) it is a long term phenomenon,
2) it is a phenomenon integrating the mechanisms of spontaneous and guided change,
3) it is a phenomenon integrating the economic, social and cultural dimensions of development.

Following these assumption I will organize my paper as a sequence of 6 topics:

I. The region and the architecture of Europe of the XXI century.
II. The region and the architecture of Poland of the XXI century.
III. The dilemma strong versus weak regions and the center-periphery gap.
IV. The development of social capital as a trajectory of transformation of weak into strong regions.
V. The case of Poland.
VI. Towards a new regional policy in Europe.
VII. The regional problem in Italy and Poland. Experiences and prospects.

I. The region and the architecture of Europe of the XXI century

The dilemma of strong versus weak Europe[1] can be seen as one of the most important choices of the XXI century. There is no doubt however that in the development of strong Europe

[1] Compare: A. Kukliński, B. Skuza (eds) Europe in the perspective of global change. Polish Association for the Club of Rome, Warsaw 2003.

the region will be a key element of the European architecture. Strong Europe as a grand actor of the XXI century will have 4 interrelated features:

1) competitive Europe
2) innovative Europe
3) federal Europe
4) regionalized Europe

In this model the leading function of European regions is to build up the global competitive capacity of our continent.

II. The region and the architecture of Poland of the XXI century

The dilemma strong versus weak Poland is a dramatic or even tragic dilemma of our country in the first decade of the XXI century[2]. Poland is a dual country—with dual society and economy.

The duality of Poland is reflected in the developmental gap separating the strong and weak regions. In any conditions the region will be an important element of Poland's architecture of the XXI century.

III. The dilemma of strong versus weak regions of the center-periphery gap in Europe and inside some European countries[3]

Our Conference[4] is accepting the distinction of more and less favored regions. We can formulate a question—Less favored by whom? By nature, by history, by global society and economy?

The term "less favored region" can be interpreted as a shift of the responsibility for the development of the regions from the domain of endogenous phenomena—to the domain of exogenous phenomena of geography and history. In the interpretation of the wealth and poverty of nations and regions I would like to follow the inspiration of D. Landes[5] stressing the prevailing role of endogenous responsibility.

Therefore—I prefer the distinction of strong and weak regions—implying a better balance of endogenous and exogenous factors than the distinction of more and less favored regions. In this perspective Europe is a dynamic galaxy of strong and weak regions.

The center-periphery gap in Europe is expressed in the dominance of strong regions in the center and of weak regions in the periphery. In this dynamic galaxy we can see 3 patterns:

1) the pattern of continuity—the long duration in the status of many strong and weak regions, the inertia of the center-periphery gap in Europe and the inertia of the center-periphery gap in some European countries including Italy and Poland,
2) the pattern of decline—transforming some strong regions into weak regions,

[2] Compare: A. Kukliński, Economic transformation. Experiences and prospects in Poland 1990–2010 and A. Kukliński, What will Polish EU Membership Mean for the EU and for Europe at Large (in:) H. Bunz, A. Kukliński (eds) Globalization. Experiences and Prospects. Friedrich Ebert Stiftung. Warsaw 2001.

[3] Compare: A. Kukliński, T.G. Grosse, Education and the challenge of dual societies in Europe. Warsaw—Trieste 2003.

[4] **Rethinking Regional Development Policies—The role of social capital in promoting competitiveness in Less Favored Regions. Directorate General—Regional Policy, Universita degli Studi di Lecce—ISUFI—Ostuni, July 2–5 2003.**

[5] D. Landes, The Wealth and Poverty of Nations. Little Brown and Company. London 1998.

3) the catching up pattern—transforming some weak regions into strong regions.

In the remaining part of this paper I will concentrate attention on the third catching up pattern.

IV. The development of social capital as a trajectory of transformation of weak into strong regions

The catching up pattern—has two interpretations[6]:

1) a narrow economic interpretation,
2) a broad holistic interpretation in the framework of cultural anthropology—demonstrated recently by C.J. Dahlman and J.E. Aubert[7].

I am convinced that in this broad framework of the holistic interpretation there is a prominent place to recognize the social capital as a trajectory of the transformation of weak into strong regions.

The starting point of my approach are two observations of R. Putnam presented by S. Baron, J. Field and T. Schuller[8]:

Primo—"*In that piece, Putnam offers a succinct definition of social capital: 'by "social capital" I mean features of social life—networks, norms, and trust—that enable participants to act together more effectively to pursue shared objectives*'" (Putnam 1996:56).

Secundo—"*But overall, trustworthiness 'lubricates social life'. It promotes the kinds of interaction which reinforce norms of generalized reciprocity. This generalized reciprocity is the touchstone of social capital. It is, Putnam observes, 'so fundamental to civilized life that all prominent moral codes contain some equivalent of the Golden Rule*'" (Putnam 2000: Ch.1).

The "networks"—"trust", "generalized reciprocity", "shared objectives", "joint effective activities"—can be recognized as five pillars of the trajectory of transformation of a weak into strong regions. The goal of transformation must be internalized and shared by four actors of the scene of the weak regions:

— the business community,
— the academic community,
— the community of NGO,
— the community of public authorities representing the local, regional and national level.

The development of social capital is the main engine transforming the weak into a strong regions.

Third Italy is the most famous example of a success in this field—The Italian Mezzogiorno—is the most difficult and complicated case study, where the verdict of failure is emerging very often. The rich Italian experiences should be seen as an inducement to develop a grand European research project testing the role of social capital in the transformation of 20–30 well selected regions of the European periphery especially in Central Europe.

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[6] A. Kukliński, Knowledge Based Economy—The Global Mission of the World Bank (in:) A. Kukliński, B. Skuza, op.cit.

[7] C.J. Dahlman, J.E.Aubert, China and the Knowledge Economy seizing the XXI century. WBI Development Studies, World Bank 2001.

[8] S. Baron, J. Field and T. Schuller (eds) Social Capital—Critical Perspectives. Oxford University Press 2000, p.9 and 11.

V. The case of Poland

Let me repeat the hypothesis presented in the introduction of this paper—"The development of social capital could be seen as an important trajectory for the qualitative improvement of the competitive performance of the Polish Regions in the enlarged European Union". The concept of social capital is a source of inspiration to formulate 6 recommendations to be internalized by the Polish Regions:

One—develop the art of networking both inside the region and in the framework of the European Union.

Two—promote the climate of trust inside and between the four regional communities—the business community, the academic community, the community of NGO, the community of public authorities governmental and self governmental.

Three—reinforce the norms of generalized reciprocity both inside the region and in the framework of the European Union.

Four—pursue the long term shared objective to transform the region and improve its competitive performance.

Five—design a long term strategy to achieve this objective.

Six—design a *modus operandi* to act together more effectively.

These recommendations could be tested in imaginative and innovative empirical studies, answering the question—to what extent this interpretation of social capital—is already present on Polish regional scene. The first step on this way was already created by Z. Chojnicki and T. Czyż[9] and T. Zarycki[10]. The social capital approach to the improvement of the competitive performance of the Polish regions should be tested in two different situations, sources of motivation and political climate.

The first situation is related to the *grosso modo* passive attitude of some Polish regions concentrating attention on their status in the European Union as objective one region entitled to "automatic" support via the mechanism of structural founds. This status may lead to a psychology of resignation—to be a long term member of the galaxy of weak European regions lagging behind the strong globally oriented regions.

The second situation is related to the *grosso modo* active attitude of some Polish regions recognizing the objective one status as a short transitory phenomenon on the way of transformation from a weak to a strong region. Those regions are interested not only in the absorption of structural founds but in the holistic interpretation of all conditions, opportunities and challenges created by European Union. This holistic interpretation is a *conditio sine qua non* of the catching up psychology—using the social capital approach to transform the region to join the galaxy of strong regions in Europe. This dramatic dilemma of "lagging behind" versus " catching up psychology" is not only a dilemma of the Polish regional Scene but also a grand dilemma of Poland as a dual country divided by the development gap between the catching up avangarde and lagging behind scansen[11].

[9] Z. Chojnicki, T. Czyż, Poland on the road to a knowledge based economy: a regional approach (in:) R. Domański (ed.) Recent advances in urban and regional studies. Polish Academy of Sciences, Warsaw 2002.

[10] T. Zarycki, Kapitał społeczny i trzy polskie drogi do nowoczesności—Social capital and three Polish routes into modern—in print, Warsaw 2003.

[11] Compare: A. Kukliński, footnote 2.

VI. Towards a new regional policy in Europe

The two decades—1990–2010—are creating an important turning point in the global history of regional policies[12]. It is a transition from socially to globally minded regional policies. This transition is visible on the national scene of numerous countries inside and outside Europe.

The European Union for understandable historical, political and social reasons is still dominated by the ideology of socially minded regional policies. This domination is however challenged by the new situation of the European Union of the XXI century facing a ruthless competitive pressure of the USA and China.

In this situation the model of globally minded regional policies must be sooner or later accepted by the European Union. I know very well that this change may be very unpleasant for Poland—much more inclined to think in the terms of socially minded regional policies both internally and externally. The new model of regional policy will probably change the modus operandi of the European Union. The regional policy of the Union will probably drop the approach of a quasi automatic and universal support for those regions which are lagging behind. Most probably a new selective and competitive approach will emerge.

In this new framework the European Union will accept the catching up ideology to support those regions which:

1) present well documented strategies—to transform the weak regions into a strong regions,
2) present well documented strategies—to improve the competitive global performance of dynamic European regions.

This will be a great turning point in the psychology of regional policies. The core of attention will be not oriented to those who are lagging behind but to those who have a well documented self-determination to catch up. This change of psychology means not that the weak regions are just forgotten. The weak regions are supported very firmly—but not in an universal semi-automatic framework. In this grand turning point of regional policies—the concept methodology and ideology of social capital will be very important[13].

VII. The regional problem in Italy and Poland. Experiences and prospects

The path breaking contribution of Robert Putnam[14] and the challenge of Ostuni Conference are creating an inspiration to design and implement an European research project "The regional problem in Italy and Poland. Experiences and prospects".

This will create an opportunity to develop a deep comparative inquiry into the regional problem in Italy and Poland. In the enlarged European Union—Italy and Poland are two countries where the regional problem is most pronounced and dramatic. In both cases the role of social capital in the solution of the regional problem is very important.

I am convinced that both countries and the European Commission would be interest to create a new network of Italian—Polish Cooperation in this field, seeing both the bright and the dark dimension of the Italian and Polish Scene.

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[12] Compare: A. Kukliński, Towards a new model of regional policy—in this volume.

[13] Compare: The volume "Social capital" in the Canadian Journal of Policy Research—Isuma, Spring 2001.

J.O. Baerenholdt, N. Aarsaether, Coping Strategies, Social Capital and Space European Urban and Regional Studies, 2002(9)2.

[14] R. Putnam, Making Democracy Work. Civic Tradition in Modern Italy. Princeton University Press 1993. The Polish edition—"Znak", Kraków 1995.

Conclusion

This outline is not a finished and comprehensive presentation. It is rather a set of preliminary and controversial notes which may be a modest input into the international discussion on social capital and regional policies. I would be most grateful for critical comments and evaluations as a guidance for my thinking on this subject in the future.

Warsaw-Żoliborz
May 3rd 2003.

Annex I

ANTONI KUKLIŃSKI

THE REGIONAL PROBLEM IN ITALY AND POLAND
Experiences and prospects
A first tentative outline of an international research project

Introduction

It is interesting to note that in the climate of warm Italian—Polish relations no place was found for a comprehensive research project as an inquiry into the nature of similarities and differences linking these two countries in the perspective of history and the future. The suggested research project is a proposal to open a new trajectory of Italian—Polish cooperation leading the elimination of this omission.

This tentative outline will be developed around the following topical sequence:

I. The Italian—Polish *genus proximum*
II. The Italian—Polish *differentia specifica*
III. Italy and Poland as dual countries
IV. The Italian and Polish internalization of the center periphery gap in Europe
V. Tertia Italia *versus* Tertia Polonia
VI. Italian *versus* Polish Mezzogiorno
VII. The inspiration of the path breaking contribution of Robert Putnam
VIII. Vivant sequentes

I. The Italian—Polish genus proximum

The pattern of similarities linking the Italian and Polish experiences is very strong.

Primo—both countries are very deeply embedded into the great foundation of Latin Civilization. This civilization is a constant factor in the history of both countries. The same can be anticipated for the future.

Secundo—in the long duration of Italian and Polish development the strong path dependency is both a blessing and a disadvantage.

Tertio—Italy and Poland are a textbook example of dual countries. This duality is a very persistent economic, social and political phenomenon.

Quarto—Italy and Poland are now the two most outstanding examples of pronounced and durable regional problems in Europe.

The list of similarities is much longer. Let me mention only a striking similarity in the national characters and in the deep pattern of religion and culture. These similarities are necessary foundation and inducement to design and implement the Italian—Polish research project.

II. The Italian—Polish differentia specifica

There is a deep developmental gap—separating Italy and Poland. To what extend the Italian experiences could be an inspiration for the Polish catching up theory and practice.

Will Poland be strong enough to diminish this gap in the near future developing its capacity to participate in and draw benefits from European integration.

III. Italy and Poland as dual countries

A comparative reflection on the duality of Italy and Poland is a fascinating test for social sciences. How to explain the path dependence of these dualities? How to explain the economic social, political and cultural dimension of these dualities? How to explain the weakness of social, economic and regional policies facing the persistent nature of these dualities?

The Italian—Polish reflection will be an input not only in the explanation of the experiences of these two countries but also an inspiration to study the changing scene of dual economies and societies in Europe.

IV. The Italian and Polish internalization of the center periphery gap in Europe

The European center periphery gap was internalized by the Italian and Polish experiences. This means that the developmental gap Mezzogiorno versus the rest of Italy and the developmental gap Eastern Poland versus the rest of Poland have not only national dimension but also European dimension. A holistic inquiry into the persistent and at the same time changing nature of these gaps will be a challenging test of our project.

V. Tertia Italia versus Tertia Polonia

The demonstration effect of Tertia Italia in Poland should be very strong and productive in theoretical and reflection and in pragmatic activity linking the academic, business and social experiences of Tertia Italia and Tertia Polonia. I am deeply convinced that a trio of Polish regions is well prepared to start the dialogue "Tertia Italia—Tertia Polonia". I mean three regions—Greater Poland (Poznań), Little Poland (Cracow), Lower Silesia (Wrocław).

These three regions have the following features:

1) a strong perception of regional identity
2) a strong academic community
3) a relatively strong and innovative business community
4) a relatively strong civic society
5) a relatively strong regional and local government

VI. Italian versus Polish Mezzogiorno

To my mind Eastern Poland can be correctly described as the Polish Mezzogiorno. Both regions will be most dramatic examples of the regional problem in Europe of the XXI century.

The challenge is just immense—will the XXI century find a pattern to solve the problem of the Italian and Polish Mezzogiorno?

VII. The inspiration of the path breaking contribution of Robert Putnam

This research project will have the challenge and opportunity to use the great and brilliant body of knowledge especially in the field of social sciences related to the inquiry into the nature of the experiences and prospects of Italy and Poland.

However for the philosophy and intellectual contribution of the project one contribution is especially important. This is the contribution of Robert Putnam[15] as an inspiration to study both the Italian and Polish experiences.

VIII. Vivant sequentes[16]

I am convinced that this research project will open a new chapter in the history of cooperation of Italian and Polish academic, business and self-governmental communities.

Warsaw, Żoliborz, June 6th 2003.

[15] R. Putnam, Making Democracy Work. Civic Tradition in Modern Italy. Princeton University Press 1993. The Polish edition—"Znak", Kraków 1995.

[16] Compare: A. Kukliński. An inquiry into the development of Social Capital in Poland. Warsaw, June 25th 2003.

KRZYSZTOF PORWIT

COMMENT ONE

I.

I am in agreement with the intentions and with most of suggestions expressed in the aforementioned text. This applies in particular to the following points:

(i) a particular relevance of **building up social capital** in endeavors to solve many contemporary socio-economic problems in regional development,

(ii) an emphasis placed on the role of "**endogenous responsibility**"[1] in considerations of the way **to overcome differences in performance** observed **among regions** (in particular—in the context of the role to be performed by social capital in promoting development chances for weaker regions),

(iii) looking for **inspirations and assistance through comparative research and studies of Italian and Polish experiences** (accumulated in the past and expected in the forthcoming years).

As I understand—the main issue raised by A.Kukliński is to indicate the need to intensify research of practical experiences and of unsolved problems in Poland in the problematique mentioned above (i.e. [i] and [ii]) and it is hoped that this task would be assisted through some lines of cooperation with Italian scholars.

My comments are meant to express concern for several feasibility issues (obstacles and chances) in scenarios aimed at greater roles of social capital in regional development. In this context I am drawing attention to opinions which make a distinction between qualitatively different kinds of social capital i.e. not only "positive" (with socially desirable effects) but also "negative" cases, when seemingly similar features of trust and loyalty may be used within undesirable or potentially harmful networks or hierarchies. In that context—we need more concern for quality i.e. for replacing "negative" with "positive" features.

II.

Just as a reminder—it is usually assumed that the quality of social capital depends mainly on the interplay of its causal factors identified as **trust** and corresponding behavioral **norms**

[1] Kukliński makes this point (op.cit p.2) in discussing the reasons which make some regions relatively stronger or weaker and he is referring to the inspiration due to D. Landes. He argues for a shift of attention in regional approaches to development (with related motivations) from an adjective "favored" (less or more) to "weak" or "strong", i.e. it means that instead of an approach aimed at getting (somehow) more favours (as exogenous resources which would compensate backwardness at home) the main problem will consist of strengthening endogenous potential (which is also likely to attract more resources from outside, so that both forces, endogenous and exogenous, will work for development). This does not preclude transfers from outside and both ways are "path dependent" but there is a change in nature from "compensating for unjust heritage in interregional performance and living standards" into " overcoming obstacles and deficiencies in development potential inherited from the past". The last mentioned focus implies a leading role of social capital (in mobilizing human wisdom and skills for the sake of development).

(**ethics**) which characterize the **networks** of participating persons kept together by the bonds of **generalized reciprocity** (based on trustworthiness)[2].

These factors are reflecting the qualitative status of corresponding informal institutions (societal "rules of the game" in a behavioral, interpersonal sense)[3]. Their desired quality cannot be decreed i.e. it does not suffice to issue corresponding orders from above like a new law or like some regulation reflecting a new line of public policy). **The extent of really existing social capital, and its quality, depend primarily on corresponding behavioral features of the people involved—in particular the moral code they apply.** Social capital may flourish and contribute to the welfare of mankind if the human persons involved are inclined to shape their own actions in conformance with a moral code which is firmly oriented on honesty, fairness and mutual trust[4].

The history of mankind shows that many human persons prefer to follow such behavioral patterns although these preferences may seem too idealistic or simply queer—especially to such observers and analysts, who assume that most normal people are bound to follow predominantly egoistic motives.

In my opinion—one should take into consideration that the preference for and the practice of applying a moral code of desired high quality can be attained if the persons in question are firmly resolved to behave in accord with a Christian transcendent ethical base[5].

There are other arguments, remaining within the sphere of mundane premises, which keep assumptions of egoism but they refer to the cases when even an egoistic, less demanding, type of motivations can incline some persons to honesty[6] in interpersonal human relations if the attitudes of all concerned are shaped and sufficiently governed by the principles of reciprocity[7]. However, there are various kinds and roots of reciprocity.

Quite often such relationships are likely to exist among persons who participate in common endeavors in order to attain certain commonly valued effects (goals), which happens in families or in various organizations (economic, professional, political, religious).This happens particularly among the members, who are sufficiently motivated by premises of participation, partnerships, responsibility for organization's success. It is true that these effects of reciprocity are quite useful for particular organizations (or families) involved . However, there are frequent conflicts between the interests of organizations, which means that the people loyal to any of them are confronted with difficult moral issues i.e. to be honest in relations with partners (for the interests of one's own organization) but at the same time—to be double-faced—trying to cheat aliens, the

[2] I am referring here to the arguments given in Part IV of Kukliński's text and to the notions recalled there (p.3) from Putnam's studies. Some of my comments are related also to the discussion of this problematique in Tom Schuller, Stephen Baron and John Field *Social Capital: A Review and Critique* (chpt 1 in *Social Capital Critical Perspectives* edited by the same authors, Oxford University Press, 2000 (I am following here the path indicated by Kukliński).

[3] In other words our problem is tantamount to adequate improvements of institutions (making them more effective for social development).

[4] I have in mind a moral code expressed basically by an "internal voice" of a human conscience i.e. not necessarily an impact of exogenous norms codified in a formal sense. Essential are such moral standards which exclude insidious scheming as well as consciously fraudulent and malevolent attitudes in all kinds of social relations (in business, public, local and other interpersonal matters).The emphasis on a moral code (within informal institutions) does not mean that codified law and formally binding institutions are underestimated; however—without adequately strong morals it proves hopeless to attain a workable legal order based on a formal branch of institutions. Norms are written and decreed but they are neglected in practice.

[5] See: Krzysztof Porwit *Reflections on Christian Inspirations for Future European Institutional Changes* pp 19–40 in Europe in the Perspective of Global Change, eds. Antroni Kukliński and Bogusław Skuza, The Polish Association for the Club of Rome, Warszawa 2003

[6] In that context "being honest" means primarily being "reliable", "sincere", "trustworthy", "having a full sense of responsibility".

[7] It is assumed then that we are honest [in our bonds of mutual trust with other people] because we are counting on similarly honest attitudes of them to us (i.e. they "pay back" for our honesty expressed towards them).

persons in pursuit of alien aims (in order to prevent their success). Moreover, the tasks of solving such conflicts in motives and in criteria of choice cannot be practically left to individual persons involved (and to their horizontal networks) but there are inevitable preferences for hierarchical relationships (of administrative or "patron=client" type).

III.

Altogether—there are reasons to argue that one can hardly expect desirable phenomena of social capital to evolve if the societal structure consists of multiple sub-sets (organizations), which are in potential conflict one with another and the nature of reciprocity is not adequately generalized (not shaped by universally accepted values). These conflicts seem likely as long as there are no universally honored moral values but each subset is following its own aims and respectively derived axiological criteria used in defining morals of reciprocity (a narrower one, specific for each organization)[8].

The societal outcomes in just mentioned cases are diametrically different from those implied by desired qualities of social capital[9]. They represent warfare approaches which draw motives for common actions from the will to fight against someone or something. This is very distant from peaceful endeavors to agree on commonly accepted human values, which would eventually allow to extend the areas covered by mutual trust (with networks based on a generalized reciprocity and on a firmer ethical base).

The crucial issue is how to promote evolution of the last mentioned type. Only then one can hope that resulting bonds of mutual trust and cooperation would contribute to a strong version of democracy and of an efficient economy This generalized type of reciprocity is characteristic for horizontal bonds of a civic society (which represent a stable type of societal order, where—according to Putnam's diagnosis—one meets the most favorable conditions for extending and for strengthening the social capital of high quality).

There are observations which exemplify and prove the primordial role of effective institutional order, as a factor contributing to economic development. This factor has been even found relatively more effective in comparison with governmental policy and with natural (geographical) endowments[10]. Simultaneously—there are reasons to argue that the practice of an institutional order depends strongly on similar ethical factors (related to human behavior and interrelations) to those which are known to influence the quality of social capital.

Consequently—it may be useful to consider the question, in what way the abovementioned qualitative aspects (of "social capital and institutions for development") are interdependent with the most frequently met and best known in Europe kinds of socio-economic ideas and political

[8] In these opinions I am sharing assessments which question widely prevailing assumptions that the arrangements of competitive market economy and of a parliamentary democracy are sufficient to ensure holistic harmonization attributes of a socio-economic order, even if all human persons and their organizations are egoistically inclined and if they do not follow any common ethics and morals (i.e. without a generalized kind of reciprocity, still more—without Christian virtues and commandments of evangelic mutual love). I am convinced that acceptance of such assumptions may lead to detrimental consequences, which was indicated in explicit warnings of Pope John Paul II, that the practice of democracy will deteriorate towards totalitarian regimes, if the basic human values and respective moral standards are not honored.

[9] The aforementioned review of social capital issues (Schuller, Baron and Field, *op.cit.* p.31) notes that "*...there has been a significant debate over whether social capital is to be reserved for exclusively positive aspects of social life, such that there is a direct relationship between high levels of social capital and the quality of life. In Putnam's original formulations this was the case, and this has persisted in implicit form in much subsequent writing. However, there have been many instances of 'negative social capital', where trust levels are high within efficiently functioning networks which would nevertheless be generally regarded as socially undesirable...*"

[10] E.g. the leading role of effective institutions as the main factor of economic development (more important than natural endowments and governmental policies) has been found in international comparative research reported in *The Economist* (October 5, 2002) . p.86—*Economics focus—Roots of development.*

programs, as well as—with the chances of such ideas to play prominent roles in the future of Europe. Some features of the latter were discussed lately in a volume "EUROPE in the Perspective of Global Change " edited by Antoni Kukliński and Bogusław Skuza (Oficyna Wydawnicza "Rewasz" * The Polish Association for the Club of Rome. Warsaw 2003. May be the Italian -Polish cooperation (if it comes into life) will allow to carry the last mentioned line of research and considerations.

ANNEX:

I am presenting here two sets of excerpts from publications concerned with some issues which are topically similar to those discussed in this text. The first of these sets **(A.)** deals with ethical aspects of institutions and institutional changes, i.e. with the issues relevant for emergence of positive (desirable) social capital. The second excerpt **(B.)** presents the ways which allow to promote innovations (and other measures of disseminating knowledge) by means of social capital

(A.)[11]2 If any concrete forms of Italian—Polish cooperation enter into the field of social capital studies then it would be useful to take up and to continue some lines of thoughts presented in 1994 by **Silvana Malle** (from the University of Verona), whose reflections on **institutional ethics** are topically close and have retained relevance in considerations of actual societal ailments (in particular—those reflecting deficiency and failures in societal immunological arrangements).

Here are some characteristic excerpts from the final parts of this paper.

One refers to the nature of mafia economy , which is used in contemporary debates to exemplify "negative social capital" and is usually seen as identical to organized crime , vice industries etc. The Author cites the definition of mafia economy (taken from Chambers' Dictionary) as expressing "*..a spirit of opposition to the law, hence a preference for private and unofficial rather than legal justice*" (p.32). Referring to Italian practice the text goes on to say that "*... The mafia economy is not primarily characterized by crime, but by a behavior in which ...prevarication on the part of political and discretionary power, uncertainty and subordination of administrative and financial intermediaries to political commands replace contracts enforceable by law; in short—a behavior characterized by ambiguity as opposed to the certainty of law.* "

Referring to priorities in transformation of our economies in transition the Author advised: "*What needs to be stressed in the shaping of workable capitalist institutions ... is not the criminal prosecution of long-rooted ill-business and public administration practices, but the need for a reshaping of institutions and norms up to advanced European standards. These standards are known by most professionals and are required in business within the international community.*" (p.33)

However—the processes of change are necessarily long and contradictory because the crucial roles in required institutional evolution will have to be played by the people, their professional qualifications but also axiological wisdom and moral attributes. Expected difficulties are described as follows: "*There will be contradictions between the demand for modern education, impartial judiciary, new behavioral codes and the supply of existing teachers, magistrates and leading senior staff at any level. Newly elected MP-s and new governments are often unprepared to understand and to apply the rules of the game in advanced capitalist markets and to adjust the legislation to their requirements*" (p.33)

One should add here that still more difficult is the adjustment of judiciary practice and obtaining adequate socially effective institutions.. This wider emphasis is also expressed by the

[11] I am referring here to the paper of Silvana Malle *From market to capitalism: the building* of*institutional ethics* (pp. 22–34) in **Experience of Economic Transformation in Central Europe-Lessons for the Future,** Conference papers published by Polish Economic Society and PHARE ACE Programme 1993, , Warszawa April 1994

Author by a generalized reflection on the nature of a constitutional order: "*The respect for individual rights and liberties belongs to a constitutional order in which each person has a direct economic interest in the ethical or moral characteristics of the behavior of the other. Like in the goods market, it is the demand for moral standards of the other party in the game which imposes individual moral codes. The constitutional order is difficult to attain and may be unattainable at a given stage by a given society...*" (p.34).

(B.)[12] According to Swedish experiences and concepts the attributes of social capital (as related to more extended and deeper cases of social cohesion) are also relevant for economic matters approached in a manner compatible with present knowledge—based challenges. Social capital is seen as the source of crucially important factors, which have essential functions in contemporary processes of economic growth, especially if they are seen correctly, as a rather complex whole the substance of which results from competitive selection and depends on knowledge and manifold competences characterizing diverse actors.

In practice diverse clusters of mutually interdependent actors are conceived as "the competence blocks"[13]. Each block (with its activities) is constituted by an interplay of respectively different kinds of competence i.e. (i) competent and active **customers**, (ii) **innovators** who integrate technologies in new ways, (iii) **entrepreneurs** who identify profitable innovations, (iv) competent **venture capitalists**, who recognize and finance the entrepreneurs, (v) **exit markets** that facilitate ownership change, and finally (vi) **industrialists** who take successful innovations to industrial scale production. Realization of these interrelations cannot avoid in practice experimental trials and unavoidable mistakes, which involve a danger of growing costs (depending on frequency and number of "trial and error" phases). The tasks of minimizing costs can be feasible only in conditions of loyal cooperation and of mutual trust among all the participants of these processes. It is easy to imagine diverse scenarios of failure, either because of too low competences (which in itself means a breach of promise) or because some participants are consciously engaged in mischievous schemes and wish to win at the cost of others.

[12] I am referring here to the work of Gunnar Eliasson *Knowledge and Social Capital in Economic Growth* (presented at a conference in Warsaw-Konstancin in June 2001) and his other publications concerned with his theory of Experimentally Organized Economy (EOE). Conference materials were available in a (mimeographed) volume entitled *The Development of Knowledge-Based Economy in Europe*, edited by Antoni Kukliński, Warsaw August 2001.

[13] The structure of a competence block is taken from G.Eliasson's text , *op.cit.* p.88. The original source for that presentation is G.Eliasson, A.Eliasson 1996 The Biotechnological Competence Block *Revue d'Economie Industrielle* 78–4 Trimestre.

TOMASZ ZARYCKI

COMMENT TWO

It would be difficult not to agree with most of the Antoni Kukliński propositions regarding the importance of the social capital as a crucial dimension of the development of the Polish regions. Social capital is recognized more and more widely as a useful notion allowing to describe the key factors conditioning the social and economic development at any level of territorial organization. It is especially interesting to use this notion as a tool of comparative analysis of regional development especially today, in the period when regions become much more independent agents in the global scene.

Professor Kukliński's call for a comparative analysis of the Polish regions from the point of view of their social capital assets and the Polish-Italian comparative study seems timely and valuable. I would suggest in particular relating such a study with the core-periphery structure of Europe. As its seems, the main difference between the Italian and Polish situations could be described in the following way: while the Italian developed North is part of the old European core zone, the Polish regions can be only divided between those belonging to the higher and lower level of European periphery.

At the same time Polish case seems to be relatively more complex and in effect possibly more interesting as the pattern of centre-periphery does not seem to be so clear-cut as the Italian North-South differentiation. I would of course agree with Professor Kukliński that the Polish Mezzogiorno is to be found in the Eastern part of the country, more precisely in the former Russian sector of the 19 century partition of Poland (particularly in its Eastern part, East of Vistula river). In the same time, one could agree that the "Tertia Polonia" as it was proposed by Antoni Kukliński to call the more developed part of Poland, could be identified with the regions of Lower Silesia, Greater Poland and Little Poland. In this case however, we should be conscious of the considerable differences between these three regions which today form separate administrative entities. Thus, the most fascinating question in the given context as I would argue, could be linked with the nature of comparative advantages of each of the three above mentioned Polish regions. While their superiority over the former Russian partition zone, the Eastern Poland is unquestionable, the question which of them will prove to be the most competitive actor on the European and Polish regional scene does not seem to be so easy to answer. This could be one of the potential starting points for the research project suggested by Professor Kukliński. This question would have not only descriptive character but also considerable theoretical relevance. This is because to answer it one would need a deeper inquiry into the nature of social capital that is characteristic each of the three regions. In the later stage we could ask the question which of the types of social capital will appear most useful in the contemporary economic and political environment. We should not forget that the notion of social capital is a very capacious one and if

defined in specific way can even include contradictory elements[1]. Thus for example, social capital can imply in the same trust in formal institutions or in informal social networks, it may pertain to state structures or rather private institutions, it may be seen as a product of activity of churches and religious communities or rather secular civic society institutions as associations and clubs. This list of dilemmas related to the questions of sources and agents creating the networks of social capital could be continued almost endlessly. One could point out that these questions have both empirical and theoretical character. In the theoretical aspect, such issues seems particularly relevant as coherent identification of fundamental models of social capital ideal networks and their political implications. Taking into account the fact that the sphere of the social capital is highly charged in political and ideological sense, awarness of this dimension of the debate on social capital seems necessary. In a more practical dimension a question to which extent different forms of social capital are mutually exclusive could me mentioned among several others. In any case, I would strongly argue that given the vagueness of the term of 'social capital', already in the first stage of the project the researches should decide which particular definition would be the main point of reference for future discussions and empirical studies.

This can be exemplified on the Polish example. The three regions mentioned by Professor Kukliński as Polish leaders are undoubtedly characterized by quite different types of social capital which lay at the foundations of their present strength. More interestingly, the communities of these regions could be seen as products of three quite different historical trajectories, or as some would even argue, different civilizational heritages. The regions of Greater and Little Poland while historically always belonging to Poland, during the crucial period of the 19 century, the time of creation of modern nations states with their institutional and cultural innovations, belonged to different states: while the Greater Poland was part of the Prussian State, the Little Poland was part of the Austro-Hungarian province of Galicja. Than, the Lower Silesia has been populated with the current Polish inhabitants only after the Second World War and can be to the large extent considered as a social product of the Polish Peoples Republic (although the greatest single share of the settlers come from the Austro-Hungarian Galicja).

In effect, until today we have regions in which social capital networks have quite different origin, nature and carriers. Most clear contrast seems to appear between the Lower Silesia and the Little Poland. On one hand we have a highly secularized region with relatively active network of institutions of civil society as NGOs[2]. On the other hand we have a region of highest religious activity and strongest role of the Catholic Church in social and political life in Poland. It is here were traditional values, family relations and informal structures play most important role in the organization of social life in the country[3]. One could risk a thesis that the three above mentioned regions represent three different versions of the Polish national identity, three versions of Polishness. Which of them will prove most successful in the context of the challenges of European integration and globalization and why seem to be a fascinating empirical and theoretical questions. Here one can not exclude the necessity of a multidimensional approach to the problem. Successes of particular regions can appear to be partial—they may concern only

[1] See for example my article in Polish: T.Zarycki (2004) Kapitał społeczny a trzy polskie drogi do nowoczesności. Kultura i Społeczeństwo, rok XLVIII, nr 2, pp.46–65.

[2] A very interesting question concerning the region of Lower Silesia could be asked about the origins of its obvious advantage in the dimension of social capita over the other former German regions of Pomerania or former Eastern Prussia (the Warmińsko-Mazurskie voivodship). While all of them have experiences the exchange of population after 1944, for some reasons the post-war Lower Silesia emerge as one of the most promising regions of the modern Poland. Taking into account the relative similarity of the starting conditions the question of the roots of the Lower Silesian success seems particularly relevant in both theoretical and empirical dimension.

[3] See for a detailed case study in Polish my book on region as context of political behaviour: T.Zarycki (2002) Region jako kontekst zachowań politycznych. Wydawnictwo Naukowe "Scholar", Warszawa.

particular dimensions of the inter-regional competition. Thus for example, one of the regions can appear more successful in the purely economic point of view, another can become a leader in the production and attraction of the cultural capital. In this context one can also not forget the role of other types of capital as factors of regional development, in particular the cultural capital. Taking into account of these premises can make the project proposed by Professor Kukliński a major breakthrough not only in the understanding of the dynamics of the Polish regions in the transformation period but also lie the foundations for a wider and deeper study of regional development in European Union.

TOMASZ GRZEGORZ GROSSE

COMMENT THREE

The main research area of my part of the project is the organizational system of regional policy in Poland. This is a new system which was introduced during administrative reform in Poland in 1998–1999. This system includes institutional framework of central, regional and local administrations, as well as partnership between central government, self-government, private enterprises and non governmental organizations. This system also includes cooperation with European institutions responsible for regional policy (cohesion and structural policy). This is the cross-national system of governance linking private and public actors in new, innovative ways.

The main ideas of the administrative reform in Poland was to improve quality of public administration and initiate collaboration between public administration and private sector. The system of regional policy in Poland supports modernization and development in regional and local level, provides new methods of local and regional planning, changes administrative culture and adjust Polish administration for European system of regional and structural policy.

I would like to focus on new instruments of regional policy in Poland, especially European ones: pre-accession funds and structural funds. It is important to examine how do such instruments in administrative practice operate. How do they interact with old modes, culture and administrative practice? How do cooperate various level of public administration, especially central and voivodship governmental administration with regional and local self-government etc. But my research is going to be particularly sensitive to new developments happening outside the frame of existing structures.

We would like also to assess "soft" as well as "hard" policy instruments. That means legal procedures, institutional competences, financial, planning and implementation sub-systems but also administrative and political culture, new management modes and practices etc. It is interesting to compare traditional methods of working (especially linking to the communist period) with new stile of public administration functioning. What are the origins of this new methods (European integration, globalization or systemic transformation), and in which way could this experience be strengthened?

The main areas of my interest will focus on tree basic questions:

1. **Is there any relation between effectiveness of regional planning and regional development and decentralization of public administrative structure as well as civil participation**?

I would like to investigate the main institutional factors of regional policy improvement. What kind of impact have the emergence of new forms of economic cooperation among diverse types of private and public actors? What sort of challenges and dangers brings such collaboration?

2. **The second question is focusing on possible impact of new governing modes and management rules of the structural funds in Poland on the changes in political and administrative culture**.

Is there any positive impact on limitation of political clientelism, corruption or old socialistic rules of public administration behavior? My hypothesis is that such influence is very imperfect and at beginning we would have post-socialistic cultural norms and political style in new institutional and procedural framework.

3. **The third question is concerning with economic adequacy of EU cohesion policy instruments for solving the regional problems in Poland.**

Is European institutional framework for cohesion policy an instrument of real development? Or maybe there is only political will to spend as much as possible European money?

During my research I want to examine 4 main political science factors:

1) The first of these is the distribution of preferences and interest among the main actors of regional policy system.
2) Second, the behavior and autonomy of those actors depends crucially on the institutional decision rules governing the delegation of powers and procedures of regional policy. So, I would like to base on theoretical foundation of institutionalism in political science and economic sociology.
3) Third factor is the distribution of information and financial resources, as an instrument of power and influence in regional policy.
4) Fourth, I want to investigate new forms of social inclusion as an example of the hidden principal—agent relation. My hypothesis is that the main actors could influence non-governmental organizations and administrative agents as representatives of their interest. Those organizations could bypass these actors and support their interests. So, I find the standards of principal-agent theoretical model as most suitable for this level of research.

I would like to investigate Polish central governmental structures, self-local government administrations, regional agencies, NGO-s and private enterprises. I would base on interviews, research on documentation.

ANNA GĄSIOR-NIEMIEC

COMMENT FOUR

Antoni Kuklinski's tentative outline of an international research projects draws our attention to a potentially very promising comparative research area that focuses on persistent regional disequilibria in Italy and Poland. The outline lists several features that may be treated as a starting point for further considering the idea of the comparative research agenda. The list includes factors as diverse as the impact of Catholicism, the weight of path dependency, persistence of a "lagging behind" instead of "catching up" thinking, ideational and institutional weaknesses of regional policy etc. in both of the countries. Lastly, the issue of social capital is brought to our attention while investigating the problems of regional development.

Both the durable marginalization and non-development of the Italian *Mezzogiorno* and the overcoming of the duality of the Italian regional economy with the discovery of *Terza Italia* are offered as cases to be studied in great detail in Poland where, according to Kuklinski, we are witnessing similar phenomena. Moreover, both of the countries deserve special attention in this respect with a view to future developments in the European space. The amount of common European money allocated to bridging the regional gaps in both countries constitutes not the least of the reasons for the attention.

Before I point to some further reasons to consider seriously such a research agenda, let me add one or two more remarks following the assumptions of Kuklinski's outline. First, one could point to other important commonalities between Italy and Poland, namely the relative recency, weakness and instability of both statehoods, the diversity of cultural and economic influences from different European countries on the different regions within the two countries, excessively expanded (and far from Weberian standards) public administration, delayed and partial decentralization of the state, faulty institutionalization of regional (development) policy, prevalence of localism (*localismo*) over regionalism in most of the regions concerned, concentration of bonding instead of bridging and/or linking types of social capital among the local communities, frequent overlapping between politics and economy at all levels of the state organization, strong support for rightist/populist political parties, still well entrenched closed and exclusive in nature, traditional family and gender patterns etc.

Second, one may venture other sets of similarities concerning the organization of local/regional economies (cf. Trigilia 1992; Anielli 2001; Donolo 2001). Agriculture and rural areas still belong to dominant traits of the lagging regions' landscapes. Informal economies generally seem to constitute considerable shares in both countries, especially in their lagging regions. European regional policy might be further attributed with a reinforcement of dependent development in some regions in both countries. Finally, prolonged migratory experiences, make the poorer parts of the countries both economically and socio-culturally quite similar. Likewise, the patterns of

investment and consumption in the lagging regions, when researched, would also, in my view, reveal striking similarities between the lagging regions of Poland and Italy.

Kuklinski's outline identifies the following Polish counterparts for the Italian regions: the Polish East as an equivalent to *Mezzogiorno* and the group of 3 central-Western regions (Little Poland, Lower Silesia, Greater Poland) as an equivalent to *Terza Italia*. The juxtaposition needs to be marked with some more comments. Indeed, the area of the so called Polish Eastern Wall could be considered, roughly, as a Polish equivalent to *Mezzogiorno*. Although, Zarycki in his comment rightly points to the different historical paths (partitions) of the regions constituting that part of Poland, generally, Podlaskie, Lubelskie *and* Podkarpackie all persistently show both objective (infrastructural gap, poor socio-economic indicators, claimant attitudes) and subjective (traditionalism, lacking regional identity, inferiority complex) features of Poland B (cf. also Gorzelak 2003, 2003a).

Internal differentiation of patterns of political, economic and cultural participation between the regions, or rather sub-regions within the 3 regions makes the comparison with the Italian *Mezzogiorno* all the more pertinent in light of the most recent research (cf. Gąsior-Niemiec, 2003). Moreover, the general prevalence there of folk Catholicism and rural traditionalism coupled with closed social networks and so called bad social capital (cf. amoral familism, Banfield 1967, Tarkowski 1991) as well as an aversion to institutional and social change would also seem to support the relevance of the juxtaposition. Lastly, the experience, at least partially comparable, of intense external investment made at some points in the history of the regions (via *COP* in Poland and via *Cassa per il Mezzogiorno* in Italy) might make the comparison worthwhile.

The other part of juxtaposition raises some reservations, though. As I do not want to repeat Zarycki's remarks in this respect, I will only venture a suggestion to limit the search for a comparative research agenda to a few localities where traces of clustered local production systems, quite similar to those of *Terza Italia*, might be identified in Poland. Clusters of traditional, craftsmanship SMEs in and around Kalwaria Zebrzydowska in Little Poland or Swarzędz in Greater Poland could perhaps be pointed to as promising in this respect. Newly established or reinvigorated clusters of innovative high-tech SMEs related to aviation industry in/around Bielsko-Biała (Silesia) and Krosno/Rzeszów (Podkarpackie) could be also indicated in the context.

In my view, the comparative research agenda on Italy-Poland proposed by Kuklinski appears promising for several reasons:

- first, it offers an invitation to investigate center-region relations in states that are weak but inclined to centralization;
- second, it opens up the issue of the relationships between localism and regionalism;
- third, it evokes the problem of social capital formation and transformation as a factor in regional development;
- fourth, it points to the need to evaluate change (or lack thereof) brought about by the EU regional interventions;
- fifth, it invites an inquiry into a more general issue of the possibility of bridging developmental gaps, durability or fragmentation of the core and the periphery patterns in Europe, planned and guided from above vs. spontaneous nature of developmental processes;
- sixth, and more importantly, it encourages asking a question whether a mental change, a shift from "lagging behind" to "catching up" thinking is a necessary prerequisite for such a developmental take-off in regions;
- last but not least, it justifies paying attention to the role that discourses and images may play in reinforcing/changing regional trajectories (cf. Gąsior-Niemiec 2003a).

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DANIELE IETRI
FRANCESCA SILVIA ROTA

COMMENT FIVE

In his research proposal Prof. Kuklinski points out the pillars of the trajectory of transformation of weak into strong regions: networks, trust, generalized reciprocity, shared objectives. These pillars—that are constitutive elements of what is called 'social capital' (see also Coleman 1988[1])—are recognized as key elements of the success of regional development strategies.

In the Italian case, the experience of 'Third Italy' is pointed out as an example of the success in this field: the rich economies of the Italian North-Est-Center (NEC) regions are represented as the result of an industrial *modus operandi* based on a network of small and mid-sized firms and the production (via the diffusion of trust, reciprocity and long term relationships) of norms that are often referred to as *institutions*[2], *Cambridge University press.* . The Italian Mezzogiorno (that comprehends the southern part of the country and the Islands) is instead described as a failure of the political efforts to improve the local economic and social development. An image of the Italian territory divided in two macro areas thus emerges: strong and developed Italy against weak and stagnant one.

But as we will argue in our contribution to the volume "Europe—the strategic choices", the Italian geography is far more complex than that emerging from the literature. Italian territory is more likely to be a mosaic, in which the local dimensions, with their cultural, historical and institutional differences, affect the development paths deeply.

The recognition of this gap between representation and facts leads us to an approach which takes into account the local geographical dimension and complexity. A in-deep analysis of the current relationships between individuals, firms, organizations at the local/regional scale is thus seen as the starting point of any policy initiative at every scale. In this way we would be able to discover how, among the regions forming the 'Third Italy', differences are strong and rooted into public government and firm organization as well as we could find out that not the whole Mezzogiorno is a depressed territory.

We might also discover (this a hypothesis to be still verified) that Poland as well is characterized by a territorial conformation that goes beyond the center-periphery model to get closer towards to the mosaic one.

Then, as for Prof. Kuklinski's proposal for an international research project on the common regional problems in Italy and Poland, we believe that a possible outcome of the Polish-Italian

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[1] Coleman, J.C. (1988) "Social capital in the creation of human capital", *American Journal of Sociology* 94: S95–S120

[2] We refer to the definition of institutions provided by, among others: Hodgson, G. (2001) How economics forgot history: the problem of historical specificity in social science, Routledge or Schotter, A. (1981) The economic theory of social institutions

cooperation could be the mutual discovery of the theoretical passage from a dualistic to a pluralistic representation of the national economic system. The research project may lead to the re-discovery of facts about Polish and Italian industrial geography and a re-definition of their representations.

ANTONI KUKLIŃSKI

REGIONAL DYNAMICS[1] IN GLOBAL PERSPECTIVE

In the border land of part III and IV of our volume it is necessary to mention four contributions which may be useful in our cognitive and pragmatic effort:

— primo—the contribution of J. H. Dunning[2] outlining the new regional reality emerging in the processes of globalization,
— secundo—the contribution of D. Konstadakopulos[3] presenting a rich and innovative comparative reflection related to the regional scene of Europe and South-East Asia,
— tertio—the contribution of T. Taşan-Kok[4] analyzing the institutional and spatial change emerging from the experiences of Budapest, Istambul and Warsaw,
— quarto—the contribution of C. G. Pickvance[5] introducing interesting methodological reflections expanding our knowledge in the field of comparative analysis.

To my mind these four contributions may provide some inspirations for the design and implementation of different research projects outlined in the Twin Volumes.

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[1] Compare: W. Świtalski, Regional dynamics and regional dynamism (in:) A. Kukliński et alia (eds) regional dynamics of socio-economic change, Finnpublishers, Tampere 1979.

[2] J. H. Dunning, Regions, globalization and the knowledge-based economy, Oxford University Press, 2000.

[3] D. Konstadakopulos, Learning for innovation in the global knowledge economy. A European and South-East Asian perspective, Intelect, Bristol 2004.

[4] T. Taşan-Kok, Budapest, Istambul and Warsaw. Institutional and spatial change, Eburon Academic Publishers, Delft 2004.

[5] C. G. Pickvance, Four varietes of comparative analysis, Journal of Housing and Built Environment, 16.01.2001—quotet after T. Taşan-Kok, op.cit.

Part Four

Corpo Regio Programme

ANTONI KUKLIŃSKI

THE MANAGEMENT OF THE FUTURE —THE STRATEGIC PARTNERSHIP OF CORPORATIONS AND REGIONS

A proposal to establish in the framework of RECiFER An international research publications and conference programme Corpo Regio Programme

Introduction

There are four most **important** actors of the global scene of the XXI century:
- the transnational corporations (T.N.C.)
- the regions
- the states—countries
- the international organizations

In the CRP we will concentrate attention on the strategic partnership of corporations and regions. This is a challenging problem which could be a great inspiration for theoretical reflection and pragmatic action. In this paper will present some opening remarks related to the following topics:

I The TNC as an inspiration for regions
II The regions as an inspiration for TNC
III CRP as an inspiration for meta-disciplinary approaches in managerial and regional studies
IV The management of the future
V The four perspectives
VI The three dimensions
VII RECiFER and the institutional pattern CRP
VIII The first stages of CRP organized by RECiFER

I. TNC as an inspiration for regions

Following the observations of S. Boisier[1] we can say that in the framework of Old Regionalism the region was seen as a quasi state—in the framework of New Regionalism the region should be seen as a quasi corporation. In this context the TNC is a model for the reconstruction of regional governance leading to the reduction of relations based on political power and increasing relations based on management.

This means that the first item of CRP is the corporational reconstruction of regional governance.

II. The region as an inspiration for TNC

It is well known that the current reconstruction of corporate governance is changing the relations between the classical stiff approaches of functional universalism to elastic approaches allocating an important place to spatial units in the management of the corporation.

The spatial units are getting a growing autonomy in the decision making mechanism (decentralization). This autonomy is pushing the TNC into a growing recognition of the genius loci represented by the individual identities and assets of different regions.

This means that the second item of CRP can be defined as the role of the regional genius loci in the global success of TNC.

This line of thinking is presented in the relevant paper of J. Lambooy[2].

III. CRP—as an inspiration for meta-disciplinary approaches in managerial and regional sciences

The managerial and regional sciences are two different domains of academic reflection and pragmatic activities. The CRP will supply a rich field of cooperation and inspiration for meta-disciplinary approaches emerging in this two domains facing the challenge of the strategic partnership of corporations and regions.

This means that the third item of CRP are the meta-disciplinary approaches developed by managerial and regional sciences in the inquiry of the strategic partnership of corporations and regions.

IV. The management of the future

This is a most challenging formulation both in theoretical and pragmatic reflection. In the framework of CRP we should try to face this unique intellectual challenge. This is the fourth item of the CRP Programme.

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[1] Compare: S. Boisier, The elusive goal of regional development. Between the black box and political agenda—Essays Series, Document no 95/30 Santiago de Chile 1997, ILPES

quoted in: A. Kukliński, Studia Regionalne i Lokalne, Np. 4/2003, Warsaw.

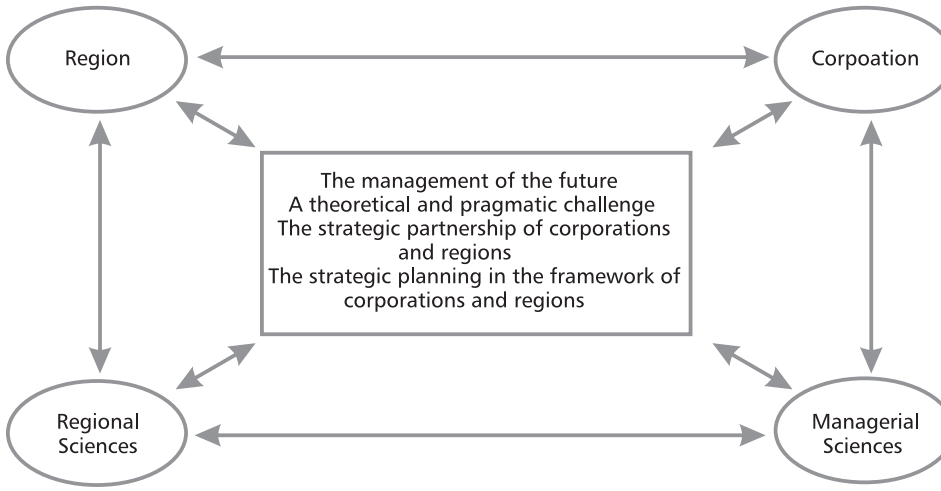
[2] Compare: J. Lambooy, Globalization—Regional context and governance. A relational perspective (in:) H. Bünz, A. Kukliński (eds) Globalization—Experiences and prospects, F. Ebert Stiftung, Warsaw 2001

V. The four perspectives[3]

In the paper four perspectives were introduced:

1) the regional governance in the perspective of TNC
2) the corporate governance in regional perspective
3) the perspectives related to the mutual interaction of managerial and regional sciences
4) the perspectives involved in comprehensive approaches to the management of the future

Table I
The four perspectives



VI. The three dimensions

The network of reflection related to CRP could be developed as a field of interaction of three dimensions:

1) the theory of the region and the corporation, the theory of the management of the future,
2) the empirical studies related to the experiences of strategic partnership of 25 regions and 25 corporations,
3) the pragmatic studies outlining the corporate reconstruction of the regions and regional reconstruction of the corporations.

VII. RECiFER and the institutional pattern

RECiFER will be the institutional focus of the CRP. However in a relatively short time we should try to develop this institutional pattern via the expanding association ofat least 10 academic institutions, 25 corporations and 25 regions.

[3] Compare: OECD—Governance in the 21st century, Future Studies, Paris 2001.

VIII. The first stage of CRP organized by RECiFER

The first stage is related to the preparation of a pathbreaking volume to be published in in September 2005 and a pathbreaking conference in Spring 2006. This will be the third volume of the Eurofutures Publication Series.

Conclusion

This paper is an attempt to open an E-mail Discussion Forum which in a relatively short time will be an efficient intellectual and pragmatic vehicle leading to the creation and development of CRP. Yours brainstorming contributions are most cordially invited. Two types of contributions could be envisaged:

— *primo*—incremental contributions presenting a deeply critical evaluation of the paper accepting however the basic scheme of thinking proposed in this paper,
— *secundo*—structural contributions proposing an alternative vision of CRP based on different empirical, methodological, and pragmatic assumptions.

Now the judgment is yours Ladies and Gentlemen. I hope however that this judgment will support the general idea of CRP as a valid international research, publication, and conference programme—designed and implemented in global and European scale.

Nowy Sącz—W.S.B.—NLU—RECiFER
August 18th 2004.

SERGIO BOISIER

COMMENT ONE

I have been surprised by Prof. Kuklinskiïs proposal on strategic partnership of corporations and regions. My surprise arises because I thought the original concepts I introduced in the literature a couple of decades ago, had disappeared in the turbulent waters of new ideas.

Let me make clear that when I wrote the original paper, almost twenty years ago, I used a couple of metaphors to talk about decentralization on one hand and regional management on the other.

In relation to decentralization my attention was concentrated in countries with unitarian political systems (which are the overwhelming cases in Latinamerica) and I wondered how much political decentralization could be given to regions under these conditions, in other words, how much of the "nature" of the State could be transferred to regions without hampering the Nation-State. I recalled that Harold Laski had provided us with a neat definition of the nature of the State saying that the State was a voluntary institution created by men having three characteristics: a) a territorial delimitation; b) a compulsory membership and; c) the legitimate monopoly of the use of power. Then I wondered how much of these characteristics could be transferred to regions created by a political decision, either by the Executive or by the Parliament or both.

The conclusion was that territorial delimitation could be transferred without serious problems and I had in front of me the case of Chile, a country whose Political Constitution declares that the country is a unitarian republic whose territory is divided into thirteen neat regions; no problem so far. The compulsory membership (citizenship) could not be transferred to regions if we are talking about natural persons, but then, what happens with moral or juridical persons, for instance, firms? I let the answer open to empirical analysis, since from the theoretical point of view is a feasible operation; just pass a law imposing firms to have HQ in the same regions where its main activities are developing and think about the fiscal consequences in favor of the region. The monopoly exerted by the State with respect of the use of power cannot be transferred to sub national "governments" if we talk about physical power (armed forced) but Laski referred obviously to the imposition power of the law and certainly there are many examples of regions which have Regional Councils with normative and legislative powers on competences transferred to them.

So I concluded that it is perfectible feasible to transfer—if not all—at least some of the essential features of the national State to regions even in Unitarian political systems and since I wanted to stress my conviction that regional development is—above all—a problem of political nature, I coined the term "region as a quasi State" to create a powerful expression.

Later on, I returned to the concept and I introduced considerations about the structure of domination/dependency which articulates—in my opinion—all the territorial component parts of

any country and I argued about the need, for all regions (with the exception of the one located in the top of the pyramid), of creating political power from its own society with the purpose of changing the regional position in the domination/dependency structure to facilitate a faster growth and, if possible, to facilitate the passing from growth to development. Once again, "region as a quasi-State" was a manner of describing that the region had accumulate enough political power so as to fight for a better position in the national structure. The analysis grew a lot in complexity.

In relation to regional management I coined the expression "region as a quasi firm" to call the attention to the fact that in practice we were seeing an increasing use of private corporations management tools in regional or local management. I refer—of course—to strategic planning in first place and I said that any region with a capacity of long run thinking should answer four pairs of questions, as any private corporation does: a) what should be produced and where to sell; b) what investment projects should be studied and what type of financial resources should be looked for; c) what type of human resources are at our disposal and how can we employ them and d) what type of corporate image should be built and how the marketing of the region as such should be done. Remember, I am talking of the years of the "reinvention of government" (Gabler and Osborne).

It is easily understood how far from traditional views I was.

I received in the last days two reactions to Prof. Kuklinskiïs proposal. One from Prof. Anna G. Niemiec, extremely good in my opinion; I really enjoyed reading it and I feel that I should reintroduce this topic in the various courses I give on regional development. Prof. Niemiec discovered new insights to couple corporations and regions. Another comment by Prof. Roman Galar is more skeptical to some extent, although he finds the idea of a strategic partnership of corporations and regions is a powerful idea. I am not sure wether I was well understood, since I never proposed a reduction of relations based on political power, quite the contrary. During the last years I have written a couple of times on social capital and its relation—a fundamental one—to regional development and even, for regional growth. But I do share some of the observations by Prof. Galar.

Now, what happens with these two concepts in the context of the XXI Century? Well, as it is clear looking at the EU (which is not my habitat), regions are more important from the political point of view, as far as the national State is being transformed and therefore, the image of a region as "a quasi State" is quite appropriate to the current time. And, if we take for granted globalization and the neo liberal model of political economy as dominating forces in the foreseeable future, I have no doubts that territorial governance will require more use of administrative tools which come from the world of corporations, for instance, concerning competitiveness, decentralization, horizontal networks and so on.

Finally, I suggested Prof. Kuklinski to add a fifth actor in the global scene of the XXI Century: CIVIL SOCIETY. Both in Europe (and I am thinking of the former countries under the soviet regime) and in Latinamerica there is a truly explosion of civil society. Many people are accepting that from now on, the main social actor with the main responsibility of conducting the process of social modernization is no longer "a lonely ranger" (the State, the working class, the Church, the oligarchy, the military, etc.) but it is now a collective actor, "all of us", that is, the civil society, certainly, in association with the State.

Social life in the next future will circulate among the Palace, the Temple, the Agora, the Atheneum, and the Market. Public sector will be an actor, for sure, but probably not the most important.

ROMAN GALAR

COMMENT TWO
Adaptive feedbacks between regions and corporations

Kukliński's memorandum *The Management of the Future—the Strategic Partnership of Corporations and Regions* proposes a research program that would probe into the area of existing and possible interactions between regional governance and corporate management.

This is certainly a topic worthy of considerations in times when more and more real power is devolved to both establishments. The following comments are my reactions to some ideas presented in this Memorandum.

I am not sure that parallelism between regions and international corporations is as fundamental as suggested by Kuklinski. Let us notice few basic differences;

- Corporations might go bankrupt and disappear, their assets being absorbed by the more able competitors. The Schumpeter constructive destruction effect might even benefit economy as the whole. Unfortunately, the bankrupt region remains—a sore place full of broken lives and wasted opportunities. There are a lot of such places.
- Corporations might hire and fire its workforce at wish, pruning it according to developments. Regions generally have to do with their native population as it is. They can lure some but cannot oust anybody; they can't even regulate migration, which is a competence of states.
- Corporations might generally move where they wish, looking for the best business opportunities. Regions are put where they are, bound by geography and demography and political fortunes of their states.

While skeptical about the concept of *Corpo-Regio* convergence, I find the idea of *the Strategic Partnership of Corporations and Regions* quite convincing. With all the talks about quicksilver dynamics of multinational corporations, which tend to go without sentiments after the best business opportunities, their headquarters tend to be well rooted in their regions. Understanding the reason for this somewhat surprising loyalty might be illuminating for the regions with ambition to host a big corporation itself not just its outsourcing outlet.

The Boisier's postulate of *reduction of relations based on political power and increasing relations based on management* implies that the problem is in its nature technical and seems to miss a point of regional viability and competitiveness, which are based on the elusive social capital. Lambooy's *genius loci* seems in this respect more inspiring.

I am not a great enthusiast of the future management, especially in its most alluring form of putting all imaginable resources into rosy scenarios. I would rather opt for the future alertness. As it seems, history consequently points this way. Such approach enables fast adaptations and enhances innovative awareness. It seems that corporations have learned to understand this aspect

much better than the regions. Regions are too often playgrounds for inexperienced but ambitious politicians who try to make careers by making irresponsible promises. A dose of corporate accountability would do a lot of good for regional politics.

From the other side, corporations get used to treat people as any other resource, what is a shortsighted policy. The resulting degradation of human capital inside corporation structures is responsible for a number of ills that are harassing their efficiency—from exuberant management fees to innovative sterility[1]. Well doing regions, which base their success on transferring human capital into social capital, might be a source of meaningful inspirations for the corporate management.

The postulate of interdisciplinary approach to the problem can be only applauded. Corporations and regions seem to exploit different parts of the developmental know-how. Blending them should increase adaptive capacities of both. In this context my doubts concerning their convergence might be constructive with regard to the aims of *Corpo-Regio* project. Strategic partnership to be viable must be based on complementary rather than competitive interactions.

[1] Galar, R, Knowledge Economy and Evolutionary Traps, (in:) Kukliński A, W.M. Orłowski (eds), The knowledge based economy, The global challenges of the 21st century, Rewasz, Warsaw 2000

ANNA GĄSIOR-NIEMIEC

COMMENT THREE

I shall take up the invitation by Professor Kuklinski to join in the Discussion Forum dedicated to the Corpo Regio Programme (C.R.P.) which he proposes in the Memorandum I of August 18th, 2004, entitled "The Management of the Future—The Strategic Partnership of Corporations and Regions". My point of view will be that of a sociologist interested in the theory of regions and regional development. My remarks concern what I call residues of traditional—mythical thinking about regions. Notably, they are intended as a discussion prompt rather than a set of fundamentalist propositions. In addition, I make a small mental experiment and think of some essential features of a region in "corpo*rational*" terms.

The idea to link intellectually—and functionally—regions and corporations or to liken regions to firms seems still rather challenging. It still needs to be encouraged despite the fact that it has already appeared in a few contributions[1], out of which Boisier's essay appears as truly path-breaking. More than a moderate response to the idea so far might mean that it runs counter several deeply rooted biases. These biases could be blocking a possibility to transmit positive experiences between entities that are perceived as belonging to different types of order. In my view, these biases are to a large extent embedded in traditional-mythical thinking about regions.

However, the perception of firms/corporations and regions as totally alien in terms of their statuses, functions and goals cannot be maintained any longer if a closer look is cast on their performances and qualities. This requires that some of the biases following from traditional, divisive (disciplinary) thinking based on binary oppositions between, say, economy and culture, *Gemeinschaft* and *Gesellschaft*, market and society etc. need to be revised. Below I have put six, admittedly overstated, stereotypes that could be negatively affecting inovative thinking on regions and regional development and the possibility to graft some of the corporate experiences on to them.

The reluctance to think about regions as about a kind of firms/corporations and thus to radically reform our thinking about their status/function/goal is frequently justified in the following manner:

1) firms and corporations are subjects, while regions are objects in the global games
2) firms and corporations are businesses (associations) while regions are not (they are well, communities)
3) firms and corporations are all about money while regions are mostly about people
4) firms and corporations must develop while regions may and/or must endure
5) firms and corporations are human creations while regions either just are or result from cultural-political-administrative processes

[1] See for instance Boisier 1997 quoted in Kuklinski 2004; Cooke, Morgan 1998; Gasior-Niemiec 2003.

6) firms and corporations are managed while regions are administered or ruled.

I shall try to deconstruct the biases briefly:

Ad 1) **"Firms and corporations are subjects, while regions are objects in the global games"**. Firms, corporations and regions may be both subjects and objects of the globalizing process, depending on their having a strategy and a mission. Both need to be flexible, however, as it is rather obvious that a strategy of opening up and coming out in the global world offers at present greatest opportunities to become an *actor*, that is a subject of the processes. This, in turn, requires that a mission, a goal to be reached should be defined clearly. Both, a strategy and a goal, to be operative, need to be rooted, or at least anchored, in a sort of identity or, in other words a *brand name*[2] that is recognized globally.

Ad 2) **"Firms and corporations are businesses (associations) while regions are not (they are, well, communities)"**. Firms, corporations and regions are both associations and communities, or rather a mixture thereof. First of all, they function due to certain stocks of capital. The capital may take different forms[3], ultimately, however, all of them need to be convertible to economic capital. Moreover, running both firms, corporations and regions incurs costs. The point is to minimize the costs and thus to increase efficiency of the entities. Nevertheless, to be operative all of them need to be bound by some kind of normative framework out of which trust, voice and loyalty as opposed to exit[4] could result as their members' (employees', clients', voters' etc.) dominant strategies towards the entity. While this again, brings us back to the issue of identity and community, both regional and corporate, it is to be remembered that contemporary regions, like firms and corporations, are mostly imagined communities.[5]

Ad 3) **"Firms and corporations are all about money while regions are mostly about people"**. As pointed above, neither firms and corporations or regions are able to function without stocks of capital, including economic capital. Similarly, neither can disregard people. Both firms, corporations and regions may only be successful owing to people they attract, inspire, use and ... shape. Human capital is thought to constitute a major factor in the developmental chances of any collectivity. Money and people are related in many ways. It is worth bearing in mind that the richer the firm or the region the more it may and will invest in its people. And conversely, poor regions like unsuccessful firms are instrumental in degrading people and destabilizing inter-human relationships.

Ad 4) **"Firms and corporations must develop while regions may and/or must endure"**. In the contemporary world whatever/whoever does not develop, cannot endure. Firms and corporations that do not develop, go bankrupt and disappear. Regions that do not develop, become deserted by people (out-migration etc.), marginalized (lose autonomy, become overly dependent on the state etc.), and degraded (lost transportation links etc.). The persistence of "lagging behind" attitude among many regional actors[6] obscures the growing improbability of continuing the outdated model where regional stagnation is "fed" by automatic redistribution of means from some central budget. The responsibility for development rests with whoever manages a firm/corporation. I do not see why such a responsibility could not be more emphasized and institutionally demanded from whoever heads a region.

Ad 5) **"Firms and corporations are human creations while regions either just are or result from cultural-political-administrative processes"**. This puts us, as a matter of fact, at the very heart of traditional-mythical thinking about regions, which makes it difficult to conceive their existence in terms of purposeful process and change. Therefore, it is much more fruitful to perceive

[2] Cf. Gasior-Niemiec 2003 on *imago regionis*.

[3] Cf. Bourdieu 2001.

[4] Cf. Hirschman, 1970.

[5] Cf. Anderson 1983; Hobsbawm 1983.

[6] Cf. Kuklinski 2003.

both firms, corporations and regions as social constructs.[7] Leadership is thus a prerequisite for the establishment, institutionalization and development of both. Change is related to purposeful, endogenous action then and not only results from exogenous shocks, if at all. Passivity and "lagging behind" attitudes are no longer fully justified by anonymous forces of history that might, indeed, be inimical to certain regions. Such an approach does not, by any means, neglect the importance of myth-making in the creation and development of regional entities. The myth-making process needs to be forward-looking however, as is most often the case with successful firms and corporations.[8]

Ad 6) **"Firms and corporations are managed while regions are administered or ruled"**. This point, unfortunately, more often than not seems to be true. Regions often fall prey to politics that frequently exceeds their boundaries. Their administration is intertwined with electoral cycles. The qualities of whoever heads them are not always known or checked in advance. Moreover, regional space is populated by a multiplicity of actors whose interests, competences and relations with the region are variegated. All this undoubtedly makes regional government a difficult task. One of the solutions is offered by a progression from government to governance that has a lot in common with corporate experience of management. Strategic thinking, decentralization, strengthening horizontal and/or multi-level linkages and intensive (external *and* internal) marketing belong to its instruments. Regions cannot escape politics altogether, however they could certainly fare better if it were complemented with strong orientation toward management of the future of a given regional space.

Finally, let's make a small mental experiment and think for a while through the metaphor of a region as a *quasi-firm*.[9] Such an entity needs to be both internally and externally oriented. Ideally, the «firm» is a global player. It implements a strategic vision that is in general approved by its shareholders. Since it is sensitive to competitive pressures, its management, apart from the strategic action, must also take into account and deal with short-term fluctuations on the market. Hence, market and competitiveness are the two major concerns in the external orientation of the «firm». On the other hand, the «firm» implements the strategic vision, owing to concrete human resources that are within the «firm» bound by a certain culture and style of work. Their essence is caught and coded in a consciously formulated and promulgated "mission" of the «firm» and in its "image".

In short, the «firm» devises and implements in parallel two types of policy: external, which is ruled by the principle of profit maximization and dominated by the idea of competitive advantage and internal, which is ruled by the principle of trust maximization and dominated by the ideas of building voice and loyalty (or in other words, participation and creativity). Striking the balance between the two types of policy enables the «firm» to succeed. What is particularly important is the fact that the metaphor of region as a firm allows for a reconciliation between two, seemingly, mutually exclusive understandings and approaches to regions: this of a technocratic business association and that of an affective community.

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[7] Cf. Paasi, 1990, 2000.

[8] Cf. Gasior-Niemiec 2003 and 2004.

[9] This is by no means a thorough or complete description of such an experiment.

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DIMITRIOS KONSTADAKOPULOS

COMMENT FOUR
Regions and Corporations: the importance of technological transfer

Kukliński's memorandum on *'The Management of the Future: The Strategic Partnership of Corporations and Regions'* is both interesting and challenging. I make the following observations, based upon my own recent work on regional agglomerations, technological advancement and firms' behaviour. In doing so, I am taking into account the fact that technological innovation manifests itself in different ways in the various regions, depending on the region's industrial structure, as well as the prevailing socio-political and cultural conditions.

Firstly, there is little doubt that policy-making has shifted away from national administrators, up to the supranational level and down to the sub-national (regional or local) level[1].

I agree with other commentators on this memorandum, such as Roman Galar, that the parallelism between regions and TNCs postulated by Kukliński is weaker than he suggests. In my view, substantive differences exist between regions and corporations, but nonetheless some common elements are indeed apparent:

- The disposition of many European regions towards collaboration rather than competition, in supporting technological advancement, assisting firm networking and fostering the development of social capital.
- The propensity of TNCs to cluster in regional agglomerations, forming technological alliances with indigenous firms and generating opportunities for innovation through technology spillovers, information sharing and exchange of knowledge.
- The clustering initiatives of many regions, targeting particular industries and sectors, and developing an industrial policy to fill the gap created by the free market and by the fact that supranational entities have limited industrial policy, or none at all.
- The regionalisation strategy of TNCs, which tend to agglomerate their production in a few selected localities rather than disperse their value-added chain activities in a wider geographical area.

Without effective transfer of technology from TNCs, some regions might not be able to climb the technological ladder. TNCs locate within a region not only because of the presence of direct factors of production (good road infrastructure, availability of skilled staff, etc.) but also because of indirect factors (entrepreneurial and innovative culture, an attractive local environment and

[1] Eser, T. and Konstadakopulos, D., (2000), 'Power Shifts in the European Union? The Case of Spatial Planning', European Planning Studies, 8(6), pp. 783–798.

amenities, etc.). These indirect factors are not properly addressed by the traditional locational models found in regional science[2].

There are many cases where a region has been successful in forming a technological alliance between TNCs and some of the local firms, making it an attractive location for R&D facilities. This confirms Kukliński's point of view that strategic partnerships of corporations and regions are worth exploring[3].

In an increasingly integrating world, knowledge is becoming the driving force behind the economic growth of regions and states. The emergence of this 'new economy' depends on how well economic actors, and particularly firms, exploit new scientific and technological knowledge in the form of new product or process innovations, and make use of their intangible assets, such as skills and creativity. Knowledge management is undoubtedly an important constituent of the management of the future, but generally corporations are more efficient in this respect than are the regions. For some time now, these corporations have been creating knowledge management programmes and appointing executives to manage their intellectual capital and R&D efforts in a globalised environment. It is only very recently, however, that the concept of knowledge management has started to feature in strategies for economic development adopted by the regions in Europe and elsewhere in the world[4].

I strongly agree with Sergio Boiser's extension of Kukliński's model of four perspectives, to include a fifth: civic society. The extensive literature on innovative milieux and Italian industrial districts has shown the importance of this dimension. Increasingly, economists, geographers and sociologists are focussing on cultural attributes of society, such as the disposition towards cooperation based on trust, wider participation, creativity and entrepreneurship in the context of an enlightened civic society. Furthermore, the social embeddedness of corporations within their respective regions, as well as localised forms of knowledge, are becoming important issues for discussion amongst economic geographers and regional analysts and merit inclusion within this fifth perspective. (For an excellent review of the literature on embeddedness, see Schnell and Sofer (2003)[5].)

Kukliński's proposal for an interdisciplinary study on fostering a strategic partnership between TNCs and regions could be useful, especially to those peripheral regions that view TNCs as one of the most important agents in regional development.

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[2] Konstadakopulos, D., (2004), 'The Success Factors of Small Towns in England and Wales', paper presented at the Transatlantic Science Association, University of Dundee, July 12–14.

[3] Konstadakopulos, D., (2004), Learning for Innovation in the Global Knowledge Economy: A European and South East Asian Perspective', Bristol (UK) and Portland, OR, (US): Intellect, 154 pages.

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[5] Schnell, I. and Sofer, M., (2003), 'Embedding Entrepreneurship in Social Structure: Israeli-Arab Entrepreneurship', International Journal of Urban and Regional Research, 27(2), pp. 300–318.

BOGUSŁAW SKUZA

LOCATION POLAND

The experience of the Transnational Corporations (TNCs) A research, conference and publication program-outline up-date

In the quest for the position within modern world of politics and economics Poland and entire Region of CEE widely opened its doors to Transnational Corporations (TNCs) at the beginning of the transition process in the 90's. Last decade brought to the Region numerous foreign investments deeply influencing not only local economy but also leaving their very strong footprint on the local social, cultural and moral behaviors.

The role of TNCs are no longer hidden behind their brands and logos, TNCs are subject of public attention and debate on the role that their play in the national economy. Also their interacting with politics and public administration are the issues of interest. However most of the studies undertaken in that respect concentrate on evaluating start-up research, strategies and patterns of entering those markets. Few deal with protection of local interest and values in interacting with TNCs.

It is proven that investments made by TNCs have on average positive result for local market, however under specific conditions entry of TNC might cause danger to local society and local economy.[1] That danger comes with number of characteristics owned by TNCs and introduced to local society and market which in most cases is not aware of those and does not have ability to deal with them. The size, financial strength, cross-border experience, legal and administrative support, determination and many other characteristics of TNCs make them extremely capable in achieving their objectives which could differ from those of local policy makers.

May 1st 2004 marked new era of Europe with long expected accession of 10 new countries to United Europe. Poland, Slovakia, Slovenia, Hungary, Baltic States, Czechia more than ever will be subject of TNCs penetration. New markets, new opportunities, new challenges that is the never-ending mean of TNCs development and quest for better return, bigger market share, higher earnings and dividends on the most competitive global market place.

Polish Association for The Club of Rome has come to the conclusion that a new angle of that process must be explored. The angle of economic and social advancement that TNCs and their presence in the local economy bring to Poland. The new initiative aims to answer several important questions that need to be addressed. Why Poland? How decisions were made? Which

[1] Maciej Smętowski "Przedsiębiorstwo zagraniczne w otoczeniu lokalnym" Studia Regionalne i Lokalne Europejski Instytut Rozwoju Regionalnego i Lokalnego UW; Sekcja Polska Regional Studies Association

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elements had most important role on the choosing location and time of investment? Did local administration help TNCs entry? Did legal and tax environments support investment decisions? But at the same time more important issues must be dealt with;

a. how efficient are TNCs in Poland and Central and Eastern Europe?
b. is local public administration prepared to deal with and interact with TNCs and their technical, legal and tax requirements?
c. what role international organizations like World Bank, OECD, IMF play in bridging between transition economies of Central Europe and TNCs?
d. what are the global versus local interests and links in the economy?
e. do we have models and instruments to measure TNCs role in the local and global economy?

Polish Association for the Club of Rome foresees the need to establishing open and strong links with TNCs as highly required partners in realization of core goals that The Club of Rome was set for from its beginning:

" A group of world citizens, sharing a common concern for the future of humanity and acting as catalyst to stimulate public debate, to sponsor investigations and analysis of the "problematique" and to bring those to the attention of decision-makers" (Uwe Möller" The Club of Rome at The Millenium Threshold", Globalization. Experience and Prospects. 2001)

Polish Association for The Club of Rome makes efforts of launching its new initiative as three stage program containing following elements;

1. Research and analytical phase—commissioning of TNC's operating in Poland under general headline " The location in Poland—The experience of Corporation X", based on agreed and approve methodology, selection process and Authors formation seminar.
2. Conference and publication phase—provides that enough research material will be obtained an academic conference analyzing the results of those reports should be organized driving towards synthetic evaluation of the performance of TNCs in Poland. Also a political debate should take place to answer some of the questions on the role of TNCs in the local economy. Governmental and parliamentary views on TNCs but also on the public authorities and administration dialogue with TNCs must be collected and recorded. Going further an international conference involving IMF, OECD, World Bank, UN, Club of Rome could be organized with objective of evaluating the role of TNCs in transformation of CEE and beyond.
3. Execution phase—based on the research results and public debate outcome it should an effort to create a complex education program for the public authorities and administration to facilitate relations and interacting of TNCs with local environment to better understanding and cooperation in solving most important economic, social and cultural issues. If scientific research is to help local societies that phase becomes the most important part of the entire program.

Polish Association for The Club of Rome is in the process of setting up necessary links to the selected number of TNCs which are present in Poland and marketing our initiative to their decision makers seeking their intellectual support and financial assistance in program realization.

Unfortunately program success depends on its intellectual quality and managerial performance, but also on the ability to overcome its financial barriers. Polish Association for The Club of Rome estimates that Program will require between 200 to 250 thousands EURO. But even more importantly it depends on the ability to break through the barrier of TNCs reluctance to open doors for such studies. Experience shows that extensive study program meets several objections form TNCs local management.

Status of project:

- Initial discussions with potential partners (TNCs) show their interest to that initiative which does not translates at any point directly into program participation and its financial support.

- Realization of the Program will require lengthy negotiations!!!!
- There is some interest of local business organization and associations of foreign investors to support our efforts but again that interest ends in the preliminary discussions.
- Realization of the program in phase 1 must be viewed within the 12 months i.e. till the end of 2005. Phase 2 and 3 do will be feasible only upon collection of sufficient number of individual company (TNCs) reports and their academic elaboration.

Given the unsuccessful results of the efforts made in year 2004 Polish Association for the Club of Rome seeks new approach to that initiative. More dialogue with TNC's operating in Poland and other potential supporting parties is scheduled in the beginning of the year 2005.

Polish Association for The Club of Rome should be very much obliged for the intellectual and institutional support that The Club of Rome may provide to the realization of that new initiative.

The Club of Rome focuses its activity on the processes of globalization. The role of TNCs in those processes can not be overstated. TNCs mean globalization and therefore The Club of Rome must have its very close working relations with TNCs. Those relations will carry out forward the mission and vision of The Club of Rome.

The initiative of Polish Association for The Club of Rome sets grounds for establishing contact and initiating dialogue of The Club of Rome and TNCs. This may be read as controversial and create an open debate within the Members of The Club of Rome, but we shall not be afraid of being controversial, The Club of Rome should have its courage to drive into controversial issues and discussions.

While spending time on debate concerning Europe in the perspective of global change The Club of Rome shall not forget the role that TNCs play and will continue to play in that process.

Warsaw, January 8th, 2005

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BOLESŁAW DOMAŃSKI

COMMENT ONE

There is no doubt that transnational corporations TNCs are the key player in contemporary global economy. They have also made a strong impact on the postsocialist transformation of Polish economy, contributing to its growth and enhanced competitiveness. Poland has attracted the largest amount of foreign direct investment (FDI) among the postsocialist countries since 1990, though some smaller states were more successful in terms of FDI per capita. TNC activity have created new strong links between Poland and global economy. The important point is that foreign companies stimulate general modernization and progress in organization and management occurring among their domestic competitors and suppliers too. And last but not least, TNCs have constituted a powerful force lobbying for Poland's swift integration within the European Union.

The initiative of a new programme focused on transnational corporations (TNCs) put forward by Bogusław Skuza deserves wholehearted support. Our understanding of the role of TNCs in the postsocialist economy of Poland is far from satisfactory (see Błuszkowski and Garlicki 1996; Durka 1999; Domański 2001, 2003; Zorska 2003). This is especially important at the time of Poland's accession to the European Union.

What I perceive as strength of the programme is its focus on the relationships between the functioning of TNCs and various local actors and interests. I would like to comment briefly on some of the issues (from *a.* to *e.*) suggested by Bogusław Skuza.

The question of the efficiency of TNCs in Poland and Central and Eastern Europe is connected with the role of a Polish subsidiaries within the entire corporation and hence in relations between the former, the mother company and its affiliates in other countries. This reflects the character of activity carried out in Poland, e.g. high/low-value added, specialised/standardised, final product/component, type of customers, the extent of intra-firm supplies and exports/imports. The position of Polish affiliates can be entrenched or gradually upgraded, for example by the augmentation of production competences and/or acquiring marketing, design and R&D functions. This can be viewed from the perspective of value chains.

The relationships between global and local interests can be approached in terms of local embeddedness of TNCs. There is contradictory argument about the embeddedness of foreign investors in Central and Eastern Europe. The salient component of this embeddedness are networks of suppliers of various components and services. All these linkages bring about local and regional multiplier effects. There are also local income multiplier effects generated through employment. In addition, the local integration takes the form of company support for various institutions and events, and the involvement in infrastructural investment. All these provisions make the firm "a local citizen", together with tax payments, respect for the environmental regulations and good labour relations. Lastly, there are relations with the local government and other institutions and a broader influence on local firms and community by means of personnel

mobility, social contacts and imitation behaviour. The embeddedness of TNCs can be seen as a prerequisite of their positive impact on the capacity for sustained national and regional economic development (Phelps 2000; Domański 2004a, 2004b).

Finally, it seems interesting to explore how TNCs change Polish labour (Gradev 2001). Successful national economic policy requires knowledge of how the quality of labour and labour force attitudes have been transformed. The qualitative influence of foreign-owned enterprises on local an regional labour markets may differ, for example in metropolitan and non-metropolitan areas.

I am sure that better understanding of TNCs activity in Poland will bring policy-relevant effects.

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PIOTR CIECHANOWSKI

COMMENT TWO

Transnational groups transfer their knowledge and organization style through the countries they operate. They interact with local social, economic and legal environments on various dimensions. I fully support the idea of researching those dimensions, proposed by Mr Skuza and believe that ABB, being first transnational group operating in Poland, will give important contribution into proposed program.

Local presence of Transnational Corporations (TNC) has to be seen from Globalization and Knowledge Era point of view. The world has already entered the knowledge based economy epoch. Information and knowledge capital are as important as production infrastructure and financial capital. Globalization, growing global civil society and technological innovations are the most important factors forcing companies to shift the fundamentals of business conduction. The speed, at which a corporation can learn and employ new knowledge, is a decisive factor in the competition. Presently, most of leading firms are, or are trying to be organized around information.

What do the mentioned above realities mean for a transnational company like ABB?

Briefly, they mean that the information and knowledge have to be managed in an efficient way, both internally and externally applied in the product offer. On one hand global customers are served with products at a uniform level of quality, on another hand local standards, habits and conditions will always require localized products.

Internal Knowledge Management

Global companies have to realize cultural and organization change in countries they operate. Knowledge and information existing at all levels has to be utilizing in possibly most effective way.

Efficient internal knowledge management is a must. Studies show that 20–30% of average company's resources are wasted due to recovery of the wheel. Presently there are no secrets in the market. The internet, among other things, proves that companies compete transparently, in pricing, specifications, etc. Now the whole organization has to be customer focused, consequently knowledge management and fast responds to present and future client expectation are the main focus. Managing and utilization of individual and collective knowledge for this purpose is all about running a company.

The program called Step Change was designed to lead ABB there. The main goal of the program is cost saving but cultural and organization change are critical dimensions. The way of information and knowledge sharing, their transfer and distribution have to be optimal across the whole organization. The company structure should be simple and clear in order to be able to profit from customer centric approach.

Product Knowledge Management

Knowledge being a part of the offered product system is another story. ABB is a power and automation technology group with substantial production facilities. Its core business is power transmission, distribution technologies and automation for industry. One can say—old economy example, but ABB already knows that a proper balance between knowledge, production and financial capitals has to be sustained. The ABB offer consists of product system solution. Most of the products have their own intelligence, own means of related information and knowledge resources handling. For nearly a decade, ABB has been engaged in a sweeping program of technological and cultural change geared to optimizing the way in which its broad offer works together: products from every ABB business are being re-engineered into compatible, "information enabled" building blocks. This concept is called Industrial IT, and is being developed to help customers navigate and manage thousands of plant devices as easily as browsing the files on a desktop PC.

First pilot, Industrial IT enabled production line has been applied in Poland. Polish ABB company in Łódź, has been chosen to show the advantages of the new approach. This company is a focused factory—the only ABB European unit for production of medium-sized distribution transformers. The Łódź model is scheduled to be copied at other ABB distribution transformer factories around the globe.

R&D and international network of researchers

Global Corporations have a pioneer role in Central & Eastern Europe Transformations. Europe has progressed its integration process during last decade fairly due to early 90' and subsequent joint ventures and investments. In some cases it was not just technology transfer and investment in low cost labor. ABB Corporate Research in Kraków has been operating since 1997. That was in line with conviction that for long-term presence at this part of the world investment in knowledge-based economy is needed.

What is essential for a company for creation of industrial R&D unit in a country?

Firstly lets define Industrial R&D. USA is ahead of Europe in new technologies but implantation of existing technologies is a field of equal chances. The aim of Industrial Research and Development activities is to initiate those implementations.

And now coming back to the question, in short for effective R&D once needs:

skilled people, communication, laboratory infrastructure as well as support from a high education centers. Outsourcing of a research works requiring expensive laboratory works at local institutions is a cost effecting solution. But costs are not the only critical factor, more important is obviously quality of work and the result delivery time.

As it has been found in Polish ABB case all those aspects could be found in Central and Eastern Europe countries. In majority of cases laboratories are well equipped and under utilized. Young skilled scientists there are efficient and swift in their work, as they well know that more effort is required from them to become an equal partner at global organizations.

Young generations do realize that EU enlargement is their chance of a lifetime, and they are probably more determined than their western colleagues who could be already accustomed to prosperity of stable economies. This should give some "fresh blood" to new Europe so needed in global competitions.

Sustainability and innovations—social and environmental dimensions

Ability to find new solutions for old problems, to apply solutions for changing conditions and to offer new systems is an R&D organization task. Also, there is no sustainability (understood as balance between economy, environmental protection and social responsibility) without R&D.

Most of TNCs support the concept. One of the reasons could be Dow Jones Sustainability Index where ABB is toped ranked as in most countries it has a leading position in Environmental Management System implementation and development of Environmental Product Declarations according to ISO 14000 series. Implementation of Social Policy complement ABB's Sustainability Program.

Conclusions

The knowledge-based economy requires cultural and organizational change from companies. Integrated solution based on common communication platform, assuring comprehensive information handling, can provide competitive edge itself.

Transnational groups acting globally, transfer their knowledge and organization style through the countries they operate, are setting international standards and values including environmental protection as well as social responsibilities. They also profit, not only in traditional economic sense, they acquire a new knowledge that comes from doing and teaching others.

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Part Part Five

The Weimar Triangle—Illusion versus Reality

ANTONI KUKLIŃSKI

THE WEIMAR TRIANGLE—THE HISTORICAL ILLUSION OF THE XX CENTURY VS. THE STRATEGIC REALITY OF THE XXI CENTURY*

"If the supreme goal of the international policy of our state is the achievement of full membership in the EU, then we should do everything to stress our links with Western Europe, contrary to the wall of separation built by the communistic dictatorship. The Weimar Triangle should be transformed into a important instrument of our political return to Western Europe designed in such a way that it will serve our interests but also appear as useful and promising to our partners."

Jerzy Łukaszewski, Warsaw 2000

I. The historical illusions of the XX century

The political scene of the XX century has created the Weimar Triangle as an instrument of cordial and comprehensive cooperation of Germany, France and Poland. It was assumed that the historical experience and the geopolitical location will be an inducement for the Three Countries to create a New Entente Cordiale of integrated activities and policies designing and implementing the vision of strong and united Europe.

The bitter experience has demonstrated that this was to a large extent an historical illusion. Especially bitter are the experiences of the first years of the XXI century when the network of the Triangle was very weak and very often destroyed by highly divergent activities and approaches.

* This paper is a follow up of the contribution of A. Kukliński—"Europe, Germany, Poland—Three Dilemmas and Two Scenarios", Warsaw November 4th 2003. This contribution will be quoted as "Three Dilemmas".This paper was presented at the International Conference—Mądralin 18*th*–19*th* June 2004—"Poland and Germany in the enlarged European Union". The conference was organized by Prof. Witold Małachowski as the Leader of the Project. Some elements of this paper are published in the volume: W. Małachowski (ed.) Poland—Germany and the enlargement of the European Union, Oficyna Wydawnicza SGH, Warszawa 2004.

A comprehensive evaluation of the relative share of the three countries in the creation of this miserable political landscape is outside the scope of this short paper. For the sake of clarity and sincerity let me add only that unfortunately the negative input of Poland was highly visible although it would be wrong to shift into the Polish field the total burden of negative responsibility.

II. The strategic reality of the XXI century

The bitter experiences of the past should not eliminate the firm value judgment that the Entente Cordiale of the Weimar Triangle should be transformed into a strategic reality of the XXI century.

The Triangle should transform itself into a political, economic, social, academic and cultural community—creating jointly an integrated network dedicated to the Bright Future of the three countries and Europe *in toto*. In the new stage of the development of the European Union the discussions related to the Triangle are especially important.

III. The integrated network of the New Entente Cordiale

In this short paper I will not try to outline a comprehensive vision of the New Entente Cordiale as a Strategic Reality of the XXI century Europe. I will try to outline only some elements of a Grand research Programme which would be able to create a vision of convergences and divergences linking the experiences and prospects of the three countries. The potential to create a network of learning processes able to improve the performance of the three countries is really very great.

The Grand Programme will be designed and implemented by a consortium of nine Institutions: three German, three French and three Polish. The Benchmarking approach could be used in a very efficient way in this grand Programme (see Annex One).

IV. France–Germany–Poland —The fields of convergences and divergences

As far I know the Polish Social Sciences—it is impossible to find contributions analyzing an integrated field of comprehensive reflection incorporating jointly the French–German and the Polish Scene. We have some Polish–German and French–Polish Research Projects but the analysis of the Triangle *in toto* is totally missing. The social science community related to German–Polish studies is practically self-contained and isolated from the Francophonic community involved in comparative studies—Poland–France.

We should try to create bridges of cooperation linking the two social science communities in Poland. In the next stage of our Programme we can envisage a grand scheme of cooperation of French, German and Polish Academic Community involved in a deep and comprehensive analyses of the integration of French, German and Polish analytical scene.

V. The convergences and divergences inside the Weimar Triangle—The five testing fields

In the first stage of our programme I would like to propose to test five fields related to the performance of the Weimar Triangle:

1) The demographic drama
2) The challenge of the reconstruction of the Welfare State
3) The challenge of the Knowledge—based economy (K.B.E.)
4) The new dynamics of the regional scene
5) The approaches to the construction of a Strong European Union

VI. The demographic drama

The demographic scene of France, Germany and Poland will be dominated by the same trend: The drastical change in the balances of the young and old generation is creating the demand for a new set of demographic policies. It is an open question when France, Germany and Poland will recognize the urgent political, social and cultural necessity to promote pronatalistic policies.

Anyway, the joint French–German—Polish reflection on the demographic future of Europe is a challenging topic.

VII. The challenge of the reconstruction of the Welfare State

In this field the convergence is highly visible. The integrated learning process should be promoted both in political and academic dimension. The classical welfare state of the XX century will not survive. However the idea of the welfare state cannot be totally eliminated in Europe. So we have an open challenging question in France, Germany and in Poland—How to design an efficient welfare state of the XXI century?

VIII. The challenge of the Knowledge-Based Economy

Also in this field the convergence can be observed. Unfortunately this convergence is in the sphere of declarations of the fidelity to the Lisbon Agenda. In real terms, Poland is lagging behind Germany and France in all efforts to create a strong KBE. The German and French demonstration effect should be studied very carefully in Poland.

We have to see however the weakness of the German and French performance in the Euro-creativity Index. See Annex One in this paper.

IX. The new dynamics of regional scene

Germany and France have opened a new chapter in this rich field of cooperation. This is the cooperation of the French Regions and the German Lander. The Polish Regions are well prepared

to join the Regional Community of the Weimar Triangle. A big push on this scene will create excellent results.

X. The approaches to the construction of the strong European Union

The final and the most important testing field is the presence or absence of a joint approach to the construction of a strong EU. This is a great historical decision for Poland to join the German and French efforts in the construction of strong EU or to play a game which probably is leading to the reality of weak EU and weak Europe *in toto*.

XI. Four dilemmas—two scenarios

The performance of the Weimar Triangle can be expressed also as a set of Four Dilemmas and Two Scenarios.

The four dilemmas are:

— strong versus weak France
— strong versus weak Germany
— strong versus weak Poland
— strong versus weak European Union

In the matrix notation the panorama of these four dilemmas can be seen in the following way:

Dilemma	Dilemma							
	Strong France	Strong Germany	Strong Poland	Strong E.U.	Weak France	Weak Germany	Weak Poland	Weak E.U.
Strong France	A							
Strong Germany		A						
Strong Poland			A					
Strong E.U.				A				
Weak France					B			
Weak Germany						B		
Weak Poland							B	
Weak E.U.								B

This panorama of the different situations expressing the relative power and weakness inside and outside the Weimar Triangle we will reduce to two paralellistic scenarios[1]:

Scenario A (optimistic)—Strong France–Strong Germany–Strong Poland–Strong EU

[1] Compare for example: K. Bennhold, France headed for stagnation, IHT, October 20*th* 2004.
C. Dougherty, Sluggish growth projected for Germany, IHT, op.cit.
Charlemagne The Lisbon Lament, The Economist, November 6*th*–12*th* 2004

Scenario B (pessimistic)—Weak France–Weak Germany–Weak Poland–Weak EU

Naturally we can consider an alternative set of non paralellistic scenarios. I am convinced however that the paralellistic scenarios have a bigger cognitive and pragmatic power related to a very clear choice of the optimistic versus pessimistic interpretation of the Weimar Triangle.

Conclusion

The whole system of the Weimar Triangle should be very deeply interested and motivated in the transformation of this Triangle into the Strategic reality of the XXI century. Naturally this transformation is a complicated political process developed by the respective political communities.Nevertheless the academic community of the three countries can create a modest but valid contribution in this field. I hope that this paper is a right step in this direction.

M. Laudler. Man who wrote book on German's reforms. Hartz becomes lighting rod in debate, I.H.T., November 26*th* 2004.

M. Marody, J. Wilkin (eds) On Course? Poland on the eve of EU accession. EU Monitory, Friedrich Ebert Stiftung, Kraków 2004. Compare German labour—The day the factories stopped, Economist, October 23, 2004.

The come-back Chancellor, Economist, February 5, 2005.

Annex One

The Benchmarking of the performance of France, Germany and Poland

Benchmarking is a special type of comparative analysis, trying to discover the best practices and the ways to transplant successfully these best practices from community A to community B (the catching up community).

In this context we would like to outline only the basic comparative data (table I) and a most interesting table—The Euro-Creativity Index—reproduced from the pioneer contribution of R. Florida and J. Tinagli—"Europe in the Creative Age", February 2004, Carnegie Mellon Software Industry Center (table II).

Table I

Selected general economic indicators and selected indicators of knowledge-based economy for France, Germany and Poland, at the beginning of XXI century

Indicator	France	Germany	Poland
Total area (thous. km^2)	552	357	313
Population, (thous.),) 2001	59037	82260	38644
Gross Domestic Product (mln euro), 2001, current prices	1463700	2071200	204300
Average annual GDP growth rate (%), 1998–2002	2,60	1,50	3,00
Imports, total, (mln euro), 2001	366910	549940	56035
Exports, total, (mln euro), 2001	361080	638160	40195
Foreign direct investment (% GDP), 1990–2000 average	2,90	5,60	3,90
Total expenditure for R&D, (% GNP), 2000	2,15	2,48	0,70
Researchers in R&D, 2002	160424	259214	55174
Researchers in R&D, (per 1 mln inhabitants), 2002	2737	3155	1482
High-Tech exports, (as % of manufacturing exports), 2001	23	18	3
Investment in telecom, (as % of GDP), 2000	1,01	0,37	0,88
Computers, (per 1.000 inhabitants), 2002	347	435	85
Internet users, (per 10.000 inhabitants), 2002	3138	4237	984

Source: Poland—The European Union. Central Statistical Orfice. Warsaw2003. 2004 Knowledge Assessment Methodology. http://www1.worldbank.org/gdln/kam.htm.
Table prepared by dr W. Burzyński

Table II

The Euro-Creativity Index

		TALENT INDEX			TECHNOLOGY INDEX			TOLERANCE INDEX		
Euro-Creativity Index		Creative Class Index	Human Capital Index	Scientific Talent Index	Innov. Index	High Tech Innov. Index	R&D Index	Attitudes Index	Values Index	Self-Express Index
Rank	Score									
1. Sweden	0.81	8	7	2	2	3	1	2	1	1
2. USA	0.73	1	1	3	1	1	3	n.a.	13	4
3. Finland	0.72	4	6	1	4	2	2	3	5	10
4. Netherlands	0.67	3	2	10	6	4	8	5	4	2
5. Denmark	0.58	9	15	4	5	5	6	7	3	3
6.Germany	0.57	11	4	7	3	6	4	12	2	9
7.Belgium	0.53	2	8	6	7	9	7	13	8	8
8. UK*	0.52	5	3	8	9	6	9	8	9	6
9. France	0.46	n.a.	11	5	10	8	5	11	7	11
10. Austria	0.42	12	14	11	8	10	0	9	10	5
11. Ireland	0.37	6	10	9	11	12	1	5	15	7
12. Spain	0.37	10	4	12	13	13	3	1	12	14
13. Italy	0.34	13	12	13	12	11	2	4	11	12
14. Greece	0.31	7	9	15	14	14	5	14	6	13
15. Portugal	0.19	14	13	14	15	15	4	9	14	15

Note: The number in column 3–11 indicate the relative position of the specific country with respect to the dimension reported in the column header (i.e. number 1 on the Human capital Column indicates that the country ranks first on human capital dimension). In bold, tied results.

*The scores on the Values Index and Self Expression Index refer to Britain (excluding Northern Ireland), for all other indexes scores refer to United Kingdom (Britain and Northern Ireland)

ANTONI KUKLIŃSKI

THE WEIMAR TRIANGLE An International Research and Publication Programme*

Towards a New Paradigm

We should find a new paradigm for Weimar studies trying to outline new research questions, and new answers outside the domain of conventional wisdom and political correctness.

The way leading to the new paradigm is a different trajectory of trial and error. We should have the wisdom, courage, and imagination to face this challenge. To start this brainstorming discussion let me present for your most critical and comprehensive evaluation three notes:

I. The global significance of the experiences of the Weimar Triangle
II. The spectre of the bankruptcy of Europe as a global power—The challenge for the Weimar Triangle
III. The Weimar Triangle and the reinvention of the West
IV. The Weimar Triangle after all

I. The global significance of the experiences of the Weimar Triangle

In the International Herald Tribune we find an optimistic and inspiring comment[1] *"Germany and Poland a reason to celebrate"*. Let us present two quotations from this contribution:

"Relations between states are seldom as moving as those between people, governed in general by dry formulations rather than the unpredictable fluctuations of the heart. But there is something in the postwar reconciliation of Germany and Poland, the most improbable of diplomatic triumphs, that stirs the spirit as much as any human drama.

If, after the Nazi transformation of Poland into the epicenter of its program for the annihilation of European Jewry, after Auschwitz and Majdanek, after the German slaughter of millions of Christian Poles and millions of Polish Jews, after the ghettos and the executions, after the

* This paper is a follow up of my contributions published in the volume: W. Małachowski (ed.) Poland–Germany and the enlargement of the European Union, Oficyna Wydawnicza SGH, Warszawa 2004

[1] R. Cohen, Germany and Poland. A reason to celebrate, I.H.T., August 7^{th}–8^{th} 2004. Roger Cohen can be reached at: rocohen@nytimes.com

crushing of the Warsaw Uprising and the street-by-street destruction of Warsaw—if, after all this and more, Germany and Poland have within three generations come to a point where civility governs their close relations, that is reason for celebration."

"If Poles and Germans can reconcile, so, too, can the most bitter of foes, even Israelis and Palestinians. The method? Define your borders in the knowledge that they become less relevant as trade and people-to-people contacts expand. Create a regional political and economic framework that binds and is supportive, Set aside differences over property in the overriding, interests of peace and let the courts decide individual claims. Above all, accept that agonizing history cannot be undone, but it can be overcome by looking, together, to the future."

These quotations are an inducement to see the experiences of the Weimar Triangle in a global perspective. In the complicated and tragic landscape of the XX century the French–German reconciliation and the Polish–German reconciliation are optimistic experiences which could be an inspiration for other conflict regions around the world.

In our new research project the global significances of the reconciliation experiences inside the Weimar Triangle should be seen as an important element of our studies. To my mind this would be a totally new approach into the nature of the global success of the Weimar Triangle as a field of two important dramatic historical reconciliations—the French–German and the German–Polish reconciliation.

Maybe Mr. Roger Cohen would accept our invitation to join our Weimar Programme?

II. The spectre of bankruptcy of Europe as a global power. The challenge for the Weimar Triangle

This note will be formulated in a dramatic language trying to say that the bankruptcy of Europe as a global power of the XXI century should be seen as the crucial real problem in our studies.

The International Herald Tribune[2] has published a contribution outlining the new economic order Anno Domini 2050. In table 1 we are presenting the most important features of the global landscape of 2050[3].

Naturally this information should not be taken too dramatically. The presented projection is probably the extrapolation of the present structure of the rates of growth which *hinc et nunc* are very unfavorable for Europe. This situation may be changed in the next decades assuming that, Europe will again be a strong and dynamic continent.

Nevertheless responsible and outstanding personalities of the European Union[4] have formulated the following dramatic question:

"Are we going to accept that the EU will be eventually overtaken by India and China?". This is most probably the most important problem of the XXI century for Europe *in toto* and for the Weimar Triangle.

Will this Triangle transform itself into a leading engine of European development or will this Triangle transform itself into a symbol of weak stagnant and paralyzed Europe. The answer to this dramatic question we will not find in the theory and practice dominated by political correctness and conventional wisdom in the framework of short term opportunistic approaches.

[2] The new alliances—A shifting geography of trade—Developing countries economic clout grows—The new economic order 2050, I.H.T., July 10th–11th 2004.

[3] Please compare the Global Landscapes Anno Domini 2000 and Anno Domini 2050.

[4] M.Harney, L.J. Brinkhorst, H. Grethen, P.Hewitt, The consecutive Presidents EU Competitiveness Council. We can still make the EU Competitive. I.H.T., July 3^{th}–4^{th} 2004.

Table 1

The global landscape 2050

	GDP in trillions* USD	GDP per capita
United States	35.1	83.7
Japan	6.7	66.8
Britain	xx	59.1
France	xx	51.6
Russia	5.8	49.6
Germany	xx	48.9
Italy	xx	41.0
South Africa	1.2	39.5
China	44.4	31.3
Brazil	6.0	26.6
India	27.8	17.3
Europe	**17.5	xx

* — billions in European convention
** — projection corrected by Antoni Kukliński
xx — data not available in the article

A really new paradigm of European Development[5] should be discovered maybe via coherent innovative and dynamic activities in the framework of the Weimar Triangle. Will we find the knowledge, the imagination, and political will to design and implement this grand mission of the XXI century?

Naturally this opinion is not expressing the only one possible point of view. Europe can represent a different approach—saying: "We are not in a race with the U.S.".[6] This is however a false hope. In real terms the economic weakness will create sooner or later the social and political weakness of a continent reduced to the status of a New Global Periphery.

There is no hope for "Dolce Vita" in this periphery.

III. The Weimar Triangle and the reinvention of the West

A brilliant Frenchman[7] has published in the US[8], in Germany[9], and in Poland[10] a challenging paper arguing that the grand vision of the West as a field of strategic cooperation of the US and Europe must be invented again to provide a new future for the Atlantic Community.

[5] Compare: Third European Report on Science and Technology Indicators. European Commission, Brussels 2003. In this Report we find a very mild idea of the new paradigm of European Development. This mild formulation is fully kept inside the limits of political correctness and conventional wisdom. We need however a new paradigm which is at the same time a radical turning point in the development of Europe.

Compare: A. Kukliński, The Future of Europe. Prospective reflection. Four basic concepts. Long durations, turning points, trade offs, strategic choices. July 2004.

[6] K. Bennhold, Continent guards its right to leisure: "We are not in a race with the US"., I.H.T. July 19th 2004.

[7] D. Moisi, Institut Francais des Relations Internationales (IFRI), Paris.

[8] Foreign Affairs, December 2003.

[9] International Politik, December 2003.

[10] D. Moisi, Wymyślić na nowo Zachód, Przegląd Polityczny, No 65/2004.

Compare also: Diplomacy à la française, Economist—October 25, 2004; J Vinocur, A bold Bush—2 Gesture towards Europeaan Allies, IHT, October 26, 2004.

This reinvention of the West is not only the strategic choice of the Atlantic Community—it is also a great strategic choice in the framework of global development which is just impossible without the solidarity of the US and Europe.

The special charm of the paper of D. Moisi is the application of the French strategic thinking to the analysis of the past, the present, and the future of the Atlantic Community.

The mindset of D. Moisi is extremely interesting also from the point of view of the Weimar Triangle which can perform an important role in the reinvention of the West of the XXI century.

We should try to invite Professor Moisi to join our Weimar Programme.

IV. The Weimar Triangle—after all

Our political and academic experiences has fully confirmed the view, that the Weimar Triangle should be selected as an object of an effective programme of European studies for the years 2005–2008. The pragmatic weakness of the Weimar Triangle co-operation does not alter the fact that the Triangle should be seen as a source of valuable traditions creating social and political capital which should be used and developed in the first decade of the XXI century.

The proposed programme of German–French–Polish studies should incorporate a broad field of social sciences and especially economic, sociological, political, geographic and historical sciences.

This is only a preliminary proposal seen as a beginning of creative discussion. In this discussion the following methodological assumptions can be accepted:

1. The Weimar Triangle is an important element of the European and global scene. It is a potential instrument of the creation of strong Europe as an important actor of the global scene[11].
2. In the proposed programme the important functions are not only the external relations of the three countries but also the comparative analyses of their respective internal scenes—political, social, economic, scientific and cultural.
3. The programme should overcome the limitations imposed by the conventional wisdom and political correctness. The programme should not hesitate to discover and analyze the weakness of the French, German and Polish scene. The programme should generate the trajectory to eliminate these weaknesses.
4. The main institutional and scientific axes in the creation and implementation of this new programme can be established in the framework of the Polish Association for the Club of Rome and the WSB–NLU–RECiFER Nowy Sącz.

Let the smile of good fortune bless the activity of the new programme both in cognitive and pragmatic perspective.

Warszawa–Nowy Sącz
October 3th 2004.

[11] Compare: Kac Olaf Lang, Abschied von der Romantik Das Weimar Dreieck in der erweiterten Union
Piotr Sztompka, Die integration wird Kein Neues Trama werden
Thorben Albrecht, Die Zukunff des sozialen Europas
Rafał Trzaskowski, Ungenutztez Potential Uber the polnish französischen Beziehungen, Dialog Deutch–Polonishes Magazin, Nr 66/67 2004.

DIETER KRIMPHOVE

THE "WEIMAR TRIANGLE" AND ITS MULTINATIONAL ROLE IN CONFLICT-MANAGEMENT AND RECONCILIATION
An economical approach

1. Introduction

When I met Prof. Kukliński on the *Trilateral Conference on the Future of Energy in the Enlarged Europe: Perspectives for R&D Co-operation* 7–8 October in Warsaw, where I took place as Secretary General of the Committee to promote the French/German/Polish cooperation called "Weimar Triangle", Prof. Kukliński inspired me with an interesting and idiosyncratic idea, namely the question: whether it will be possible to talk about the "Weimar Triangle"—which, in the last decades, has stabled and intensified the political, cultural and scientifically contacts between the former war enemies Poland, France and Germany—as a role-model of reconciliation. In other words: Will it be possible to exploit the experience Poland, France and Germany have made in the last century for other conflicts especially for the durable long conflict between Israel and Palestine?

As Professor Kukliński friendly invited me to take part in this conference, suggesting to refer over the "Weimar Triangle" and its impact on the Polish, Germany and French relationship I at first felt honoured having the opportunity to talk to such an outstanding audience on the occasion of this conference. Than I quickly got aware, that this invitation will or must be even more than an honourable offer to join a conference. In my very critical eyes it will not do to provide you with some "political" statements concerning the "Weimar Triangle" and its purpose. Contrary this theme builds a scientific challenge to elaborate and present some very new general ideas concerning peacemaking and reconciliation of international regimes.

The fundamental scientific problem I faced was, how it will be possible to compare the historical situation in Europe especially between Poland, France and Germany in the last century with the present Israeli–Palestinensian conflict of our days.

I decided to exploit an economical approach from which I do hope this scientific approach will not only enable us to objectify conditions and methods of reconciliation but also to generalize them so that results or conclusions can be transferred to every other political quarrel especially to the conflict between Israel and Palestine.

According to this aim I organized my speech around the following four main parts:

1. I start my presentation with some essentials about the "Weimar Triangle"
   a. In this part I would like to address the historical situation in Europe from the early beginning of the last century up to now.
   b. This leads me to the key issue as well as to the political and cultural benefits of the "Weimar Triangle".
2. Then I will move on to a succinct outline of my methodological approach for answering the question if the success of "Weimar Triangle" can be transferred to other conflicts.
3. I will sum up by emphasizing some parallels between Polish, French and German appeasement and the situation in the "Near East".
4. At the end I will conclude by outlining the results of my efforts and maybe by taking questions from the floor.

Even if the spirit of the "Weimar Triangle" has become weak in the last years, and even the "Weimar Triangle" has to be renewed two years after Poland has become member of the EU, this presentation will outline the durable signification of the "Weimar Triangle" in its international context as a role-model of reconciliation. May this signification of the "Weimar Triangle" contribute also to the promotion, regeneration and modernisation of "Weimar Triangle".

As my methodical approach is a very pioneering one, it will be a great privilege for me to present my ideas to public firstly on this conference, and I do hope—even if you will not agree with all of my ideas—this "premiére" will open up a new field of scientific interdisciplinary research.

2. The historical framework of the relations between Poland, France and Germany

I would like to start my presentation—without any further ago—by asking you all to picture the historical situation of the last century:

After the First World War which affected mainly France and Germany and which led to 13.5 million death and after the disastrous Nazi-Regime which slaughtered millions of Polish citizens, after ghettos and executions of polish hostages and citizens, after the brutal crushing of the Warsaw Uprising, after the street-by-street destruction of Warsaw in 1944, Poland, France and Germany quickly regained civilized and closed relations. In an extreme short period of 50 years after the Second World War the Germans have maintained reconciliation.

The question which now arises is, how such an outstanding reconciliation has been possible. Or in other words, can we discern the framework or the conditions enabling this stupendous process of reunion, appeasement and better understanding.

I will try to look at the historical situation a little bit closer:

The process of reconciliation can be subdivided into two separate courses of historical development: The French–German relations and The Polish–German partnership

2.1. The French–German relations

The reconciliation between France and Germany took place in the middle of the last century.

First steps of the normalisation of mutual relations were not political ones but especially done by undertaking juridical bargaining. The first main instrument which focused on normalisation of

political relation between France and Germany was the ECSC-Treaty (or the Paris-Treaty)[1] from 1951. The ECSC-Treaty established the "European Coal and Steal Community". It has had—especially in its early stage of existing—also a military purpose: It was the aim of the ECSC-Treaty to bring under control the production of war materials (for instance steal and coal) and to prevent especially Germany from rearmament[2]

This intention was accomplished by signing the EURATOM-Treaty in the year 1958[3].

The military aspect of these treaties soon became obsolete in the relationship of the European partners France and Germany. In 1958 the six European Member-States signed the European Economic Community-Treaty (EEC-Treaty)[4] which did not arrange military affairs but which synchronized economical activities. This treaty led finally to the creation of the "European Union[5]" and the new EC-Treaty as amended on 26. 2. 2001 by the Conference of Nice[6] in our days[7].

2.2. The enveloping of Polish–German partnership

Establishing juridical frameworks between Poland and Germany like the French and German ones, have not been possible in the epoch of the "Iron Curtain", when the so-called "Cold-War" divided Europe into two separate parts of incoherent political ideologies.

Never the less the German–Polish relationship started changing modestly by signing the so-called "Warschauer Vertrag" ("Treaty of Warsaw"[8]) in 1970:

Art. 1 of this contract stabled the sovereignty of Poland and Germany by fixing frontiers and borderlines[9]. Apart from these mainly International-Law-orientated rules of Art. 1, Art. 3 section 1of the "Treaty of Warsaw" already has given birth to the Polish–German cooperation. This cooperation covers lots of diverse fields of every-day-live (e.g.: economics, scientist, arts, culture) and promoted the process of approach of these two nations.

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[1] Treaty from 18. 4. 1951 who established the "European Coal and Steal Community" (Official Journal C 340 v. 10. 11. 1997, p 1 ff.

[2] Introduction to Treaty from 18. 4. 1951 who established the "European Coal and Steal Community" (Official Journal C 340 v. 10. 11. 1997, p 1 ff.):

- *considering that world peace can be safeguarded only by creative efforts commensurate with the dangers that threaten it,*
- *convinced that the contribution which an organized and vital Europe can make to civilization is indispensable to the maintenance of peaceful relations,*
- *recognizing that Europe can be built only through practical achievements which will first of all create real solidarity, and through the establishment of common bases for economic development,*
- *anxious to help, by expanding their basic production, to raise the standard of living and further the works of peace,*
- *resolved to substitute for age old rivalries the merging of their essential interests; to create, by establishing an economic community, the basis for a broader and deeper community among peoples long divided by bloody conflicts; and to lay the foundations for institutions which will give direction to a destiny henceforward shared,*
- ...

[3] Treaty from 25. 3. 1957 establishing the European Atomic Energy Community "EURATOM" (Official Journal C 340 v. 10. 11. 1997, p 1 ff.

[4] Treaty from 25. 3. 1957 establishing the European Economic Community (Official Journal C 340 v. 10. 11. 1997, p 1 ff.)

[5] Treaty from 7. 2. 1992 on "European Union" (Official Journal C 340 v. 10. 11. 1997, p 1 ff.) consolidated text: Official Journal C 325 of 24 December 2002

[6] Treaty of Nice, Official Journal C 80 of 10 March 2001

[7] Treaty from 25. 3. 1957 establishing the European Community, consolidated version (Official Journal C 325 of 24 December 2002)

[8] Vertrag v. 7. 12. 1970 zwischen der Bundesrepublik Deutschland und der Volksrepublik Polen über die Grundlagen der Normalisierung ihrer gegenseitigen Beziehungen (Warschauer Vertrag).

[9] see as well the German–Polish Treaty from 14. 11. 1990 to confirm the existing frontiers between Poland and Germany Vertrag v. 14. 11. 1990 zwischen der Bundesrepublik Deutschland und der Republik Polen über die Bestätigung der zwischen ihnen bestehenden Grenzen.

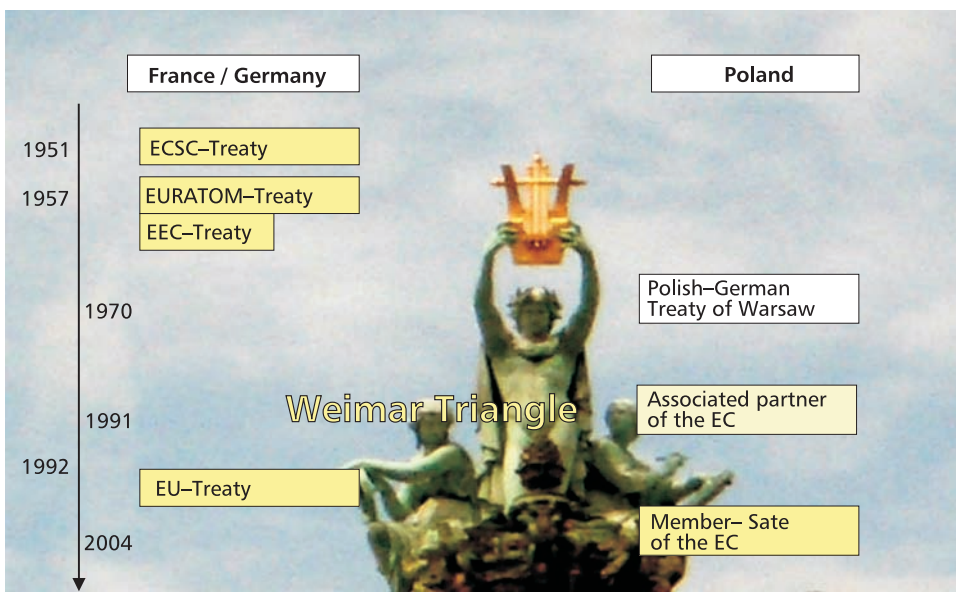
In order to fill up Art. 3 with life a couple of treaties have followed.

Here are to mention mainly:

- Vertrag vom 14. November 1990 zwischen der Bundesrepublik Deutschland und der Republik Polen über die Bestätigung der zwischen ihnen bestehenden Grenze (Grenzbestätigungsvertrag, pdf, 8 kb);
- Vertrag vom 17. Juni 1991 zwischen der Bundesrepublik Deutschland und der Republik Polen über gute Nachbarschaft und freundschaftliche Zusammenarbeit (Nachbarschaftsvertrag, pdf, 8 kb);
- Abkommen vom 17. Juni 1991 zwischen der Bundesrepublik Deutschland und der Republik Polen über das Deutsch–Polnische Jugendwerk (pdf, 30 kb);
- Abkommen zwischen der Bundesrepublik Deutschland und der Republik Polen über die Zusammenarbeit beim grenzüberschreitenden Umwelt- und Katastrophenschutz (April 1997, pdf, 43 kb);
- Abkommen vom 14. Juli 1997 zwischen der Bundesrepublik Deutschland und der Republik Polen über kulturelle Zusammenarbeit (Kulturabkommen, pdf, 350 kb)

Than—on 16. of December 1991—Poland became an associated partner of the EC.

In 1991 as well the three ministers of foreign affairs Krysztof Skubiczewski (*Poland*), Roland Dumas (*France*), and Hans-Dietrich Genscher (*Germany*) met in Weimar to found the "Weimar Triangle" in order to promote trilateral cooperations between Poland, France and Germany.



The "Weimar Triangle" based on the ideal:

1. that it must be possible to define and to design common basic interests of Poland, France and Germany,
2. to develop a mutual interlocutory culture and to develop the mutual dialogue,
3. with the mean to consort different jumping-off positions of the three nations and
4. to ensure a better mutual understanding of the three partners of the "Weimar Triangle"

These items were set out in the intention not to minimize or to reduce the importance and leading role of these nations in the process of establishing a Single European Market and to form the European Union, with its 25 member-states[10].

Designed to be only a forum for unofficial political contacts, the "Weimar Triangle" quickly became more important.

2.3. The "Weimar Triangle" in the context of the European Union

In the political context of the European Union the "Weimar Triangle" may take the position of an engine to promote the future development of partnership between France, Poland and Germany. Even thought Poland obtained the status of full-membership in 2004 the process of integration and especially the process of harmonisation of national law has not stopped in our day. On the contrary the new situation of the enlarged "European Union" demands various and qualified arrangement of reconciliation and understanding.

As it will be proved in the next chapters the "Weimar Triangle" can be identified as a qualified regime to monitor and to supervise this process.

The "Weimar Triangle" will also be capable to become an "enhanced cooperation" in the terms of the European-Law. This means that the European Law will allow member-states to cooperate much closer than other European member-states do[11]. In this case Poland, France and Germany built the locomotive of the closer development of the European Community.

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[10] see also: Kühnhardt, Ménhudier, Reiter: Zentrum für Europäische Integrationsforschung Bonn: http://www.zei.de/download/zei_dp/dp_c72kuenhardt.pdf

[11] see: Art. 11, 11a Treaty from 25. 3. 1957 establishing the European Economic Community (Official Journal C 340 v. 10. 11. 1997, p 1 ff.) in the consolidated version (Official Journal C 325 of 24 December 2002)

Article 11

1. Member States which intend to establish enhanced cooperation between themselves in one of the areas referred to in this Treaty shall address a request to the Commission, which may submit a proposal to the Council to that effect. In the event of the Commission not submitting a proposal, it shall inform the Member States concerned of the reasons for not doing so.

2. Authorisation to establish enhanced cooperation as referred to in paragraph 1 shall be granted, in compliance with Articles 43 to 45 of the Treaty on European Union, by the Council, acting by a qualified majority on a proposal from the Commission and after consulting the European Parliament. When enhanced cooperation relates to an area covered by the procedure referred to in Article 251 of this Treaty, the assent of the European Parliament shall be required. A member of the Council may request that the matter be referred to the European Council. After that matter has been raised before the European Council, the Council may act in accordance with the first subparagraph of this paragraph.

3. The acts and decisions necessary for the implementation of enhanced cooperation activities shall be subject to all the relevant provisions of this Treaty, save as otherwise provided in this Article and in Articles 43 to 45 of the Treaty on European Union.

Article 11a

Any Member State which wishes to participate in enhanced cooperation established in accordance with Article 11 shall notify its intention to the Council and to the Commission, which shall give an opinion to the Council within three months of the date of receipt of that notification. Within four months of the date of receipt of that notification, the Commission shall take a decision on it, and on such specific arrangements as it may deem necessary.

also: Art. 17 Abs. 4 EU-Treaty Art 29, 30 and 31 EU-Treaty and Art. 40, 43 ff. EU-Treaty (EU-Treaty v. 7. 2. 1992 in the version from 2. 10. 1997)

2.4. The present task of the "Weimar Triangle"

Developing from an international forum of consultations to a reliable instrument of trustworthy collaboration of all domains of every-day-life the "Weimar Triangle" guarantees and promotes innumerable activities of trilateral interactions[12].

Formal or informal personal communication and information-exchange take place not only on an intergovernmental sector but also between officials and functionaries. Communication has enlarged to citizens, enterprises, universities, local regions and communities.

The main activities of the "Weimar Triangle" nowadays are:

- High-levelled meetings of the ministers of foreign affaires,
- Round-Table-Discussions,
- Conferences (e.g.: interdisciplinary German–French–Polish European Forum "Initiative—Inspiration—Innovation (27.–30. 6. 2002); Weimar Triangle: *Innovation policy and business setup* (19–22. 11. 2003), und *Trilateral Conference on the Future of Energy in the Enlarged Europe: Perspectives for R&D Co-operation* 7–8 October 2004 Warsaw)
- scientific Colloquials,
- Partnerships of regions and towns[13],
- Youth-, Student- and Artist- exchange-programmes.

The success of the "Weimar Triangle" on the fields of unification and reconciliation of nations is enormous. This proves its manifest and evident role on the fields of unification and reconciliation of nations.

Outlook

This above related success entails itself the following questions:

- Could the "Weimar Triangle" be regarded as a role-model of a successful return to civility and to reconciliation?
- May—as the Herald Tribune[14] proposed—the "Weimar Triangle" contribute to resolve also the Israeli and Palestinensian conflict?

To launch such a statement it will be consequent to ask whether the German/ French/ Polish circumstances can be compared with the actual status of Israeli and Palestinensian confrontation.

The answers of all mentioned questions depend on the "ideology" or on the "aim" purpose of the "Weimar Triangle".

- The "Weimar Triangle" defines its aims in supplementing the consultations on governmental and non-governmental levels and in creating a more civil atmosphere in all parts of political, social, cultural and scientifical life.
- The "Weimar Triangle" brings people together from different nations, regions, professions and thinkings.
- Its main tasks—in the last years—were to support the transfer of knowledge in conferences, teaching and colaborations in the legal and economical framework of the European Union.
- By this the "Weimar Triangle" denies the importance of former borders and replaces them with extending people-to people contact.
- It gives huge priority to trade and to transfer of services and knowledge in the framework of the European Union.

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[12] You will find a short list on the Internet-side of the Committee to promote the French / German / Polish cooperation (Weimar Triangle)

[13] Liste der bestehenden Städtepartnerschaften auf der Website der deutschen Botschaft in Warschau (pdf, 28 kb)

[14] R. Cohen, Germany and Poland. A reason to celebrate, I.H.T., August 7^{th}–8^{th} 2004. Roger Cohen can be reached at: rocohen@nytimes.com

- Inside the European Single Market the "Weimar Triangle" also creates an economical, binding system of reliable support and trustworthy cooperations between France, Germany and Poland.

3. The neccissity of the "The New Institutional Economics" as a methodological approach

These mainly political orientated declarations do not only attribute to political non binding "statements of intentions". They based also on juridical and economical evidence. More than ever juridical and economical facts may answer the question whether the French–German and the Polish–German reconciliations can be transferred to solve the conflict between Israel and Palestine.

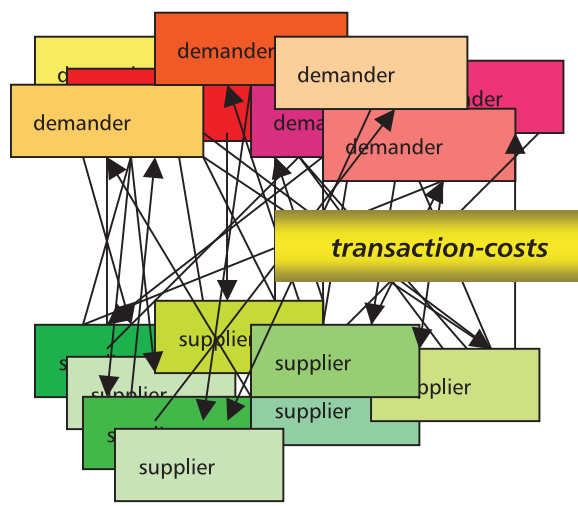
If it will be possible to generalize French/German/Polish reconciliation, an abstract but general valuable practice will be found and evinced. This demand may satisfy an objective scientific approach. In order to put my research on an objective general valuable base I will apply an economic orientated approach, namely the theory of "The New Institutional Economics", hoping to discern, analyse and describe the conditions of reconciliation.

2.6. The "The New Institutional Economics"

It was R. Coase who—in 1937—has proved the reducing or minimizing effect of "Institutions" on transactions-costs and—due to this—the welfare-use of "Institutions" for social, economical and political systems[15]:

R. Coase asked in his article "*The nature of the firm*"[16] for reasons why combines, companies or groups of enterprises exist on the market.

Coase justifies the existence of combines, companies or groups of enterprises by their advantage to reduce transaction-costs:



[15] The Nature of the Firm, in: Economica, Bd. 4, 1937, p. 386 ff.; also: Coase: Lectures, 2: The Nature of the Firm: Meaning, in: Journal of Law, Economics and Organizations, 4 (1988), S. 14 ff.; see also: Veblen: The Engeneers and the Price System; The Engeneers of Busainess Enterprise; vor allem Commons, Commons j.R.: Institutional Economics. p. 55 ff.; Commons j.R.: Legal Foundation of Capitalism

[16] Coase: The Nature of the Firm, in: Economica, Bd. 4, 1937, S. 386 ff.; also: Coase: Lectures, 2: The Nature of the Firm: Meaning, in: Journal of Law, Economics and Organizations, 4 (1988), p. 14 ff.;

A market-situation where only a lot of small individual suppliers and demanders are operating will be characterized by a tremendous amount of detrimental transactions-cost (especially costs for search, information and bargaining).

E.g.: Every individual demander has to find out costly where he will find the needed product, the suitable quality the reliability of the supplier. He will also have to explore what the conditions of the delivery are and at what time he will be able to dispose over the good. By this he will have to bargain for conditions and the time of delivery.

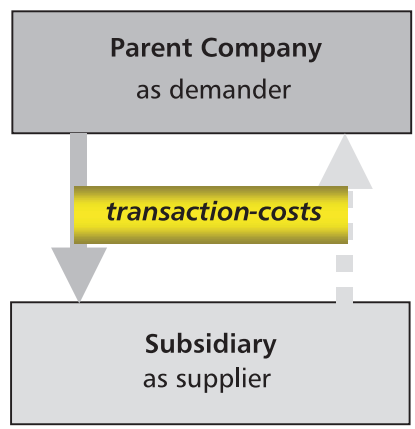
On the other hand every individual supplier must check out expensively what kind of product or service is needed on the market. What quality must his products or services correspond to etc.

All these investigations will entail a lot of costs especially information-, search- and bargaining-costs.

These so-called "transaction-cost" are unsolicited in economical systems, because of their detrimental impact to welfare. Search-, information- and bargaining activities will neither raise the quality of the product nor improve the quality of its distribution. Their expenditures furthermore bind financial capacities of enterprises and prevent investments in research and development.

So whenever an economical system is willing to stable and improve welfare it has to allow its participants[17] to avoid or at least to minimize transaction-costs.

"Institutions" will be able to minimize transaction-cost. And combines, companies are such suitable institutes:



Due to its hierarchical structure of a combine or of a group of enterprises, the "parent company" will order the exactly needed quantity in the appropriate quality in the required time from its subsidiary. Expenditures and costs for searching the right quality or a reliable provider will become in the same way obsolete as bargaining-costs.

The supplier will cancel all his previous costs for market-research.

At least the economisation of expenditures of harmful transaction-costs justifies the existence of a combine[18]/[19].

[17] see: Sohmen: Allokationstheorie und Wirtschaftspolitik, München 1994, p. 26 ff.; also: Dahlman: The Problem of Externality, in: Journal of Law and Economics, 22 (1979) p. 141 ff., 161

[18] By the way (the system) the existents of) combines, finds its natural limit: In the case the costs of administration of a combine will even higher then the gain of economized search-, information- or bargaining-costs Participants of an economic system will not tend to grow up combines.

[19] The existents of combines will finds its natural limit: In the case the costs of administration of a combine will even higher then the gain of economized search-, information-or bargaining-costs Participants of an economic system will not tend to grow up combines.

2.7. The transfer of Coase's economical approach

- North applied this economical approach on the description and explanation of historical processes[20]/[21].
- In 1986 Keohane expanded the term of "Institutions"[22]. Keohane made sure that such "Institutions" can not only be economical institutions (like markets, prices or enterprises) or Law-Institutes (like contracts, juridical sanctions and regulations[23]), but also political institutions like the "State", "Democracy" as well as "International organisations"[24].

Up to this the interest of economists and lawyers has evaluated and underlined the value of international organisations, regimes, conglomerations, co-operations of nations as the "Weimar Triangle" can be regarded as.

3. Some conclusions

The benefits of "Weimar Triangle" are—in the eyes of this economical/institutional approach—now easy to proof: They mainly consist in ensuring a binding system of mutual valuable, compulsory and mandatory system of norms, which is to spare transaction-costs.

3.1. The framework of norms as an "Institute" of reconciliation and peacemaking

A situation without any law and without any rules between individuals as well as between nations will be disastrous for all of its participants. Each state (as it has been proofed by history) will push its egoistic interest through if necessary by using physical force. This fight of everyone against everyone will cause endless and useless transaction-costs:

> E.g.: Not only the damages of war can be subsumed under this context. The aggressor himself is constrained to build and support an army to conquer the others states; while the attacked and every other state will have to invest a certain amount of transaction-cost (so-called "protecting-costs") to defeat its goods and interests.

It is obvious that both sorts of transaction-costs will be injurious: They do not improve welfare and prosperity of the involved states. So an "anarchistic" situation will be a costly one for each of its participants. This consequence make comprehensible, why states (and not only so-called "civilized ones") tend to organize their foreign relations by establishing regulations.

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[20] North/Thomas: The Rise of the Western World, A Economic History, 3. ed., London 1979; North: Institutions, Institutional Change and Economic Performance, Cambridge 1990; North: Structure and Change in Economic History, New York, 1981

[21] see: Krimphove: Rechtstheoretische Aspekte der neuen Ökonomischen Theorie des Rechts, in: Rechtstheorie Band 32, 2001, p. 497 ff., 522 ff.

[22] Keohane: After Hegemony, Cooperation and Discord in the Political Economy, Princton 1984

[23] see also: Schotter: The Evolution of rules, in: Langlois (Hrsg.), Economic as a process, Cambridge 1986, p. 117–133; Richter: Institutionen ökonomisch analysiert, Tübingen 1994, p. 2; Erlei/Leschke/Sauerland, Neue Institutionenökonomik, Stuttgart 1999, p. 23; Richter/Furubotn: Neue Institutionenökonomik, 3. ed., Tübingen, 2003, p. 7 f.; Krimphove: An Economic Analysis of the Law of Good-Faith Purchase in European Property Law, in: Gdanskie Strudia Prawnicze (Festschrift für Prof. Dr. hab. Kazimir Krukzalak), p. 228–236; Gdanskie Strudia Prawnicze; Wydawnictwo Uniwersytetu Gdanskiego, Tom V; Danzig (1999)

[24] Keohane: After Hegemony, Cooperation and Discord in the Political Economy, Princton 1984, p. 85 ff.

We have distinguished this positive effect of juridical settlements in the early beginning of the French–German reconciliation. France and Germany set out an international instrument by signing the "ECSC-Treaty"[25]. This treaty which—in 1951—originally was signed to control military supplies and armaments industry power later became the fundament of a real partnership between France and Germany.

Regulations in general will have further transactions-cost-reducing effects: By the existence of Law every nation can trust on law-adequate behaviour of every other nation. So each state will have the opportunity to spare its expenditures of information concerning prospected attacks of foreign states.

The setting-out of abstract but decisive rules for resolving any conflictions situation will therefore have he positive effect, that the behaviour of parties and nations became computable. Existing law will by this abolish information-costs of all partners. Former adversaries or even foes became partners.

In this context the juridical framework of the EEC and later of the EU found its justification and importance.

Compared with the Palestinian–Israeli situation we have to consider a lack of such qualified juridical settlements. Israel and Palestine dispose simply over political initiatives to conclude peace settlements. Their obligation—like Art. 1 of the "Treaty of Warsaw[26]" said—is to respect frontiers and sovereignty. These settlements have to be enlarged for the purpose to become to a base of cooperation and collaboration.

Maybe the first step of this reconciliation is made—as we could make it out in Art. 1 of the "Treaty of Warsaw"[27] or in the former "ECSC–Treaty"—in order to restrain the parties from military activity. But these mutual settlements have also—in an official-juridical order—to give place to the possibility of a growing up partnership and mutual cooperation.

Art. 3 section 1of the treaty of Warsaw as well as the EEC Treaty can therefore be taken as a pattern.

3.2. Necessity of enforcement of norms and mandatory norm-systems

Peacemaking institutions can not simply consists in formal juridical systems of norms. No party will obey to any rules if there are no sanctions guarantying the prosecution of norms. So norms, which are not mandatory or compulsory, are null and void[28] even if they are given in written form.

A legal system without any mandatory or binding character of its norms will be similar to any other "anarchistic" system. It will not economize transaction-cost[29]. For this reason enforcement is essential and indispensable for the reduction of transaction-costs and therefore for a successful working welfare[30].

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[25] Treaty from 18. 4. 1951 who established the "European Coal and Steal Community" (Official Journal C 340 v. 10. 11. 1997, p 1 ff.)

[26] Vertrag v. 7. 12. 1970 zwischen der Bundesrepublik Deutschland und der Volksrepublik Polen über die Grundlagen der Normalisierung ihrer gegenseitigen Beziehungen (Warschauer Vertrag).

[27] Vertrag v. 7. 12. 1970 zwischen der Bundesrepublik Deutschland und der Volksrepublik Polen über die Grundlagen der Normalisierung ihrer gegenseitigen Beziehungen (Warschauer Vertrag).

[28] Wiggins: The Economics of the Firm and Contracts: A Selective Survey, in: Journal of Institutional and Theoretical Economics, 147 (1991), p. 603 ff. 633 ff.; Krimphove: Spieltheoretische Aspekte des Rechts—Ein Beitrag zur Analyse und Gestaltung von Recht mit Hilfe objektiver quanitfizierbaren Methodik—in: Rechtstheorie Band 35, 2004, Heft 1, S. 19 ff., 31 ff.

[29] see above chapter 3.1

[30] Richter/Furubotn: Neue Institutionenökonomik, 3. Aufl., Tübingen, 2003, p. 526

The enforcement of norms and legal systems can be granted also by the "Institution" of Law with the means of "Moral[31]", "Ethic Systems" and "Religion[32]" or by other Instruments[33].

3.2.1. Enforcement of norms by the "European Law"

The European Union itself did not dispose over efficient assets to enforce law[34], especially international law position.

Also the above mentioned Peace contracts and agreements between Israel and Palestine do not dispose over any effective working asset to ensure the enforcement of its norms.]

3.2.2. Enforcement of norms by "Moral" or "Ethic and religious Systems"

The non-binding or non-mandatory or binding character of "*moral*" norm will be the reason for its failure. Especially in war-time, when the social control could not take place, and when people keep away from sticking to a common system of moral, ethical norms will flop.

The idea to benefit from religious systems to enforce norms will not work in the Palestinian–Israeli conflict. The parties belong to different religions and even take this difference for a reason to justify their hostile attacks.

The requested enforcement of rules might therefore be ensured by other instruments.

3.2.3. Political assertion- and enforcement-instruments

A quantity of mainly political instruments or sanctions can be stated to guaranty the enforcement of law between nations[35]:

- "confiscation of foreign publicity owned—or private property",
- "break off mutual relations",
- "establishing an hegemonic predominance".

All of them are discussed and executed in history.

Especially Israel—as a hegemony in the "Near East"—and strongly supported by the United States of America makes large use of its predominance.

After the "Second World War" France and Poland restrained from using the above mentioned instruments. On the contrary France tried to bind and to get Germany involved in the process of generating a supra-national subject of International Law as the EEC or the EU.

Under the aspect of the "The New Institutional Economics" the most suitable, efficient and qualified "Institute" of enforcement will be "Integration" or "Unification" to a durable international regime as it is promoted by the "Weimar Triangle"[36].

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[31] Boulding, Beyond Economy—Essay on Society, Religion and Ethics (1968), S. 177 ff.; Becker: A Theorie of Marri- age; Part 1 J. Pol; Econ. (1973), S. 813 ff.; Schultz, An Economic Model of Family Planning and Fertility, J. Pol. Econ. 77 (1969), S. 153 ff.

[32] Schmidtchen/Mayer: Ökonomische Analyse des Religion, in: Ramb/Tietzel (Hersg.) Ökonomische Verhaltenstheorie, S. 311 ff.; to the role of the roman catholic church in Europe, see: K. Porwiz: Reflections on Christian Inspiration for the Future European Institutional Changes, in Kukliński/Skuza: Europe in the Perspective of Global Change (Polish Association for the Club of Rome) Warzaw 2003, p. 19 ff.; F. Kinsky: Christian View onb Europe and Globalisation, in: ukliński/Skuza: Europe in the Perspective of Global Change (Polish Association for the Club of Rome) Warzaw 2003, p. 15 ff.

[33] see chapter 4.2.3

[34] Krimphove: Das Neue europäische Schadenersatzrecht, Österreichische Juristenzeitschrift (ÖJZ), 1999 Heft 9, p. 321 ff.

[35] Richter/Furubotn: Neue Institutionenökonomik, 3. Aufl., Tübingen, 2003, p. 527 ff.

[36] see above chapter 2.4

A method of integration—after Kromann—is every social and political arrangement which stimulates parties to search after common items[37]. This is exactly the purpose of the Weimar Triangle.

1. A Union of states or regimes will organize mutual relations between member-states and therefore decreases, uncertainty and unsafeness among its member-nations, with the positive effect of a reduction of information-costs.
2. The reputation of belonging to the international organisation will make member-states respecting international law systems even if the international regime does not disposes over executing power to assert existing law. Membership of nations in a multinational (operating) regime will consequently lessen the range of expected behaviour of the members and therefore lower uncertainty and the expenditures of unsolicited information-costs.
3. Also information becomes more widely between the members of a regime. Keohane shows, that intergovernmental ongoing communication among working-level officials is more contributing to exchange information than traditional official and formal relationships between bureaucratises[38]. Regimes as the "Weimar Triangle" could therefore find its role in suppressing information-asymmetry and therefore entailed information-costs.
4. This aspect may also release bargaining amongst the participants and diminish bargaining-costs. Why regimes are able to link special issues and actors as well as to facilitate informal contacts between officials they will not only give incentives and enable beneficial agreements among their members but also create transgovernmental networks. Communication—as O. Williamson substantiated[39]—inclines to increase cooperation among the members of a group.
5 International organisations will have the advantage, that their repeal and (new-)creation will cause extremely height expenditures. Member-States will not abolish them—even if they will work under circumstances which are not as sufficient as in the beginning of their existence. By this international organisations and regimes will—even under economical difficult conditions—continue their work of balancing different interest, of informing and integrating states and their citizens. They build a stable and continuous factor and through this they guarantee the enforcement of common legal standards.

All these aspects will diminish unsolicited and harmful transaction-cost and so promote economical and social welfare[40].

4. Summary and Final results

Before I conclude I would briefly like to go over the main points of my presentation:

- My task was to verify whether the "Weimar Triangle" can be a role-model to resolve conflicts and to establish reconciliation.
- We at first looked at the historical situation and the position of the "Weimar Triangle".
- Then I sketched succinctly the method of "The New Institutional Economics". I have had to deal with this method to obtain an objective base which allows the transfer of the results we have made out to any other conflict, and to define objective conditions of reconciliation of nations.
- At the end of my presentation I would like to summarize and to outline the main results:

[37] Kromann: Contract Law and the State of Nature, in: Journal of Law, Economics and Organizations 1985 (1), p. 5 ff., 21

[38] Keohane After Hegemony, Cooperation and Discord in the Political Economy, Princton 1984 p. 97

[39] Williamson 1965, p. 584

[40] see above: 3

1. Reconciliation is traced by law and settlements.
2. Nevertheless rules are not sufficient if they simply will restrain parties from military operations.
3. They also have to provide a reliable base of future cooperations with led into collaboration.
4. This cooperation has to cover all fields of daily life and sin all hierarchies of society.
5. Rules are not apposite in the promotion of reconciliation. They are null and void if they are not binding and mandatory.
6. International regimes—like the "Weimar Triangle"—grant the enforcement of norms.
7. They will have the additionally aspect
   — to enable partners to interact on every area of life and
   — to lessen unwelcome transaction-costs
8. and by this to promote welfare.

This brings out my final essential statements:

- Reconciliation is not only the absence of quarrels. Reconciliation means furthermore a durable process of mutual interaction on all fields of life.
- As I proved this reconciliation must be accompanied by international regimes, as the "Weimar Triangle" can be regarded as.
- Each process of reconciliation needs also a constant scientific attendance and monitoring.
- This scientifically research may lay on the fields of an interdisciplinary exchange of mainly economical, juridical and sociological research. In my opinion especially a comparison of national constitutions is needed in order to examine whether constitutional law enable citizens and enterprises to promote the process of "*weimarisation*"; will mean the process of durable reconciliation guided by an international regime as the "Weimar Triangle".
- The "Weimar Triangle" is in my eyes assigned to guaranty scientifically promotion and development.

In my briefly speech I could have only adumbrated some essentials of scientific juridical-economical research on the field of the Weimar Triangle. Scientific researches and investigations in this domain have to be undertaken and pushed.

Personally I do hope my brief ideas concerning the "Weimar Triangle" will encourage and persuade you to join the research of my chair.

ALEKSANDER KORYBUT-WORONIECKI

CURRENT STATE OF WEIMAR TRIANGLE COOPERATION

1. Origins of the Weimar Triangle

The Weimar Triangle formula was launched on 28 August 1991 at a meeting in Weimar of the foreign ministers of Poland, France and Germany attended by Krzysztof Skubiszewski, Roland Dumas and Hans-Dietrich Genscher.

Germany, the initiator of the meeting, was actuated by a desire to create a special medium for dialogue which could help it to banish historic fears about the kind of policy that might be pursued by a reunited Germany towards the countries of Central and Eastern Europe and to embark on reconciliation with Poland based on the experiences of a similar process begun thirty years earlier with France.

France, anxious to forestall any marginalization of its position in Central and Eastern Europe, wanted to keep pace with Germany in its foreign policy towards this region... For its part Warsaw saw the nascent Weimar Triangle primarily as an instrument for furthering Poland's integration with West-European and Euro-Atlantic cooperation structures and thereby contributing to achievement of its foreign policy priorities. Participation in this trilateral initiative made Poland the only country in the region to become a part of the constellation of states that were the driving force of the process of unification of the continent, which enabled it to occupy a position on the international stage corresponding to its potential.

Since the first meeting of the Polish, French and German ministers of foreign affairs we have witnessed the birth of the new and original form of co-operation among these countries. The Weimar Triangle plays a key role in building European Unity. It serves as an example of the tripartite alliance among neighbours , who have managed to overcome prejudices and terrible burden of history.

2. Assessment of the cooperation record

A stocktaking of the achievements of the Weimar Triangle over the years 1991 to 2004 would show that the scope of three-way consultations has been extended to include defence and finance departments, joint deliberations by parliamentary committees and meetings of regions. In 1998 political dialogue was raised to the level of heads of state and government, beginning with a Polish initiative establishing consultative meetings of the Presidents of Poland and France and

the Federal Chancellor of Germany. Beyond the political plane, areas of cooperation which have aroused a particularly good response are youth, military matters, local government, the academic world, the media, and multilateral diplomacy in the OSCE forum. Such positive effects undoubtedly validate the Triangle's *raison d'être*.

Despite developing diverse forms of cooperation, the Weimar Triangle has now become a political structure in search of a new identity. As a result of the dramatic changes in the international situation in the 1990s and the attainment by Poland of full membership status in NATO and the EU the old formula of Weimar Triangle contacts is reaching the end of its usefulness. Since continuation of special cooperation with countries of such standing as France and Germany is one of the basic elements of Poland's *raisin d'état* its diplomacy now faces the task of devising new long-term forms and planes of trilateral interactions which factor in our shared Union membership and can prove to have a stronger appeal than hitherto for French and German partners.

The last Weimar Triangle summit, held in Wrocław on 9 May 2004, was a good start to the process of developing a new Union-based formula for special relations between France, Germany and Poland. All three participants stressed that in building cooperation within the enlarged Union it was essential to take due account of the viewpoints of its new members and define jointly the areas in which there common goals and tasks. The most recent contacts at the highest level have shown that good will and a wish to go on working together are present on all sides of the Triangle and that Poland treats its European commitments with the utmost seriousness and is prepared to play its part in building a Europe that is cohesive not only internally but also vis-à-vis the outside world without trying to define the Common Foreign and Security Policy in opposition to the transatlantic link.

3. Prospects of Weimar Cooperation

Since the original goal of the Weimar Triangle—integration of Poland into Euro-Atlantic cooperation structures—has been achieved in full redefinition of its remit is required. A Union of 25 nations needs a powerful engine to drive Community activities and of the new members Poland with its geopolitical situation, importance to European security and economic capacities, Poland seems a natural partner for France and Germany. Collaboration by these three countries to advance European integration could enhance the process with a new dimension and lend it additional impetus.

The Weimar Triangle continues to be a convenient forum for discussing the final shape of the European Union, the limits to integration and fundamental issues of European security, including in particular the question of developing a common policy towards the EU's eastern neighbours. A point to be analyzed in these discussion is the possibility of closer dialogue with Ukraine and the rationale and implementation of Union policy towards Russia and Belarus. Recent developments in the Iraq conflict have demonstrated the necessity of searching reflection about harmonization of security policy in the transatlantic and European cooperation framework and building up European defence capabilities.

The attractiveness of the Weimar Triangle formula stems from the possibilities it offers of moving beyond the consultations sphere and undertaking joint political action thought to be of special importancw for trilateral cooperation. At the Wrocław summit the following areas were singled out as ones of particular mutual interest:

- Preparation of national command structures for EU-led military missions, development of operational capabilities under the European Capabilities Action Plan, the ESDP and coordination of military technology cooperation;
- consultations between internal affairs departments on civil security issues and orientation of cooperation toward predictable threats, including terrorism and its consequences;
- inclusion of Polish experts and representatives of the farming community in the work on the future shape of EU agricultural policy and establishment of a trilateral forum or agricultural policy;
- organization of a "Weimar labour forum" in the form of consultations between labour ministry employment policy experts;
- an initiative to transform Viadrina European University into a Foundation University whose founders under a German plan would be the governments of Poland, France and Germany;
- construction of a European science and research space based on cooperation between departments responsible for science and information technology;
- commencement of talks with the Polish-German and Franco-Polish Chambers of Commerce on promotion of trilateral cooperation, e.g. infrastructure projects, construction of highways and border crossings on the EU's eastern frontiers, environmental protection, cooperation in third countries markets;
- cooperation between the Polish finance ministry with institutions in France and Germany responsible for providing government guarantees and sureties;
- organization of projects involving Poland's eastern neighbours, especially in the field of politico-military, youth and cultural cooperation.

4. Possibilities of dynamizing the Weimar Triangle

Definition of the objectives of trilateral cooperation should be accompanied by incremental expansion of the number of institutions and persons involved in pursuing these goals both in the political dialogue dimension and specific manifestations of social life. An important role could be played by professional contacts between parliamentary committees, ministries and central and regional agencies. Parallel to these, we should promote social cooperation, in both the forms already in place (three-way exchanges of youth, contacts between local authorities, towns and communes) and ones only recently established (employers' associations, academic and professional institutions).

If the Weimar Triangle is to become something more than just a short-lived product of political dialogue between its constituent states popular awareness and acceptance of its existence and agenda are essential. Its activities must become more intensive and visible, both in official life and in the perception of the French, Germans and Poles. This aim can be furthered through implementation of a number of important initiatives.

1. Political declaration

An objective as important and long-range as special cooperation between France, Germany and Poland requires a special symbolism. It would therefore be worth considering the case for an appropriate declaration by the heads of the three states stressing the significance of this fact and transcending the limits of a routine press release.

2. Secretariat

We should work toward implementing the idea of setting up a centre for coordination of knowledge about specific examples of trilateral cooperation between governments and societies, assistance in establishing new contacts and monitoring of projects in progress.

3. Foundation

Weimar Triangle dialogue has frequently given rise to proposals for joint projects of significance to its development and intensity, such as an international affairs studies centre, full participation by Poland in the Arte television channel, cooperation between universities, or high-speed Paris–Berlin–Warsaw transport links. Implementation of these would be made possible by establishment of a foundation independent of ad hoc budget subsidies.

4. Mr/Ms Weimar

In today's media world the success or failure of any undertaking depends to a large degree on presentation. A boost to popular acceptance of Triangle cooperation would be its personification by prominent public figures who command respect on a supraregional scale. A Mr or Ms Weimar—a national representative of cooperation between the three states—seems to be an institution essential to its further successful functioning.

Warsaw, November 2004.

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WITOLD MAŁACHOWSKI

"POLAND—GERMANY AND THE ENLARGEMENT OF THE EUROPEAN UNION" A review paper

The main goal of the research project[1] "Poland–Germany and the Enlargement of the European Union" (No 2H02 C 048 24, carried out 29.04.2003–28.11.2004) was to show the impact of the EU' Eastern Enlargement on the economies of Poland and Germany and their economic relations.

In the last years, each of the research team members has shown in his publications in a convincing way his qualifications needed for the professional achievement of the research goal. It is unquestionable that ones of the most recognised experts have worked on the scope of German economy studies in the research team. Many of the authors are not only academic teachers or academics in research institutes but they also deal with economy in practice, holding responsible positions in state institutions or business corporations, including the Chancellery of the President of Poland, ministries of government and the Embassy of Poland in Germany.

Particular research subjects have been specified in such a way so they could form a cohesive and logical structure of the main research enterprise: "Poland–Germany and the Enlargement of the European Union". Each of the research subjects has a theoretical as well as empirical part. It should be emphasised that the members of research team met systematically giving the coverage of certain phases of their research work, which were subjects to critical analysis.

As it was previously assumed, in the course of research project there were held two Polish–German conferences. The first of them on "The outcomes of the UE Eastern Enlargement for Polish–German economic relations" was held on 14–15 November 2003. The other, entitled "Poland–Germany Enlargement of the European Union", was held on 18–19 June 2004. There were over 150 participants all together from almost 30 research centres and institutions from Poland and Germany. Poland was represented by academics from six universities, higher education schools and research institutes.

The research conducted covered micro- and macroeconomic issues. The domineering focus was economic analysis, however if needed the research took also into account political aspects. The research as well as their conclusions have not only theoretical meaning but are also vital

[1] A research project sponsored by the State Committee for Scientific Research of the Republic of Poland. The results of this project were published in a comprehensive set of two volumes (800 pages): W. Malachowski (ed.) Polska–Niemcy — a rozszerzenie Unii Europejskiej, Warsaw School of Economics, The Publishing Office Warszawa 2004.

for business practice (which has been highlighted by the political and economic decision makers participating in both conferences).

Germany still will play a vital role in the process of European integration, so will Poland sustain its crucial position in the group of the 10 new EU member states. Germany will be still the most important strategic economic partner for Poland, and Poland for Germany will be one of the most substantial states among the Central and Eastern European states.

The outcomes of the research are presented in a two-volume publication, whose editorial reviewer was prof. dr hab. Leon Olszewski from the Law, Administration and Economy Faculty of the Wroclaw University. The reviewer has stated:

"Broad scope of the research and the participation of the most recognised Polish and German experts made it possible to prepare a certain synthesis of a substantial epistemic value and high applicability. The publications touch upon often controversial but essential aspects of participation of Poland and Germany (two states which have functioned till recently in two separate socio-economic systems) in European integration processes, which requires a multidimensional approach. One of the main advantages of the research is that the authors give the analysis of the chosen problems on the background of political, social and economic conditions of the European economy, including both the European Union member states and the countries outside of this integration community. Moreover, despite the participation of many authors and broad scopes of analysis coherent research conclusions have been presented making it possible to specify and enrich the further stage of European integration analysis in the current decade."

The research encompassed the following research tasks:

1. Poland–Germany: perspectives for the 21st century

The mentioned subject was presented in three aspects:

1.1. as a diagnostic and perspective analysis of Polish-Germans relations;

1.2. as an analysis of perspective role of Germany in United Europe in 21st century;

1.3. as an analysis of perspective role of Poland in United Europe in 21st century.

Ad. 1.1. The diagnostic and perspective analysis of two decades (1990–2010) in Polish and German transformation:

- Outcome of Polish and German transformation,
- Results of historical process of transformation (1990–2010),
- Comparison of the effectiveness of transformation's processes in Poland and in Germany,
- Relations between the transformation's and development's processes or the disappearing of dual economy and dual society.

Ad. 1.2. The diagnostic and perspective analysis of accretion and disappearing of the historical development gap between Poland and Germany.

The question: to which extend and in which areas the experiences of the last decade of the 21st century have influenced the increase or decrease in the development gap between Poland and Germany, has been answered. Also an analysis of decrease in the development gap in the 1st half of 21st century was carried out.

The subject of Polish-German relations was presented against the background of the European center and outskirts.

Ad. 1.3. The diagnostic and perspective analysis of Polish and German cooperation in the European concept of the 21st century. The convergence and divergence were analyzed in four domains:

- Vision of a federal Europe's;

- EU's agricultural policy
- Knowledge based economy;
- Migrations and EU's borders security.

2. The German concepts of European integration

The subject was presented in the following aspects:

- Historical conditions of German doctrine and integration policy;
- Mainstreams of the German concepts of European integration in the 2^{nd} half of the 20^{th} century;
- European policy of German governments;
- Place of Germany in the European and the EU's economy,
- European reflection and policy in Germany at the beginning of the 21^{st} century;
- Implications of the implementation of different European integration concepts for Poland.

3. The role of Germany in the European integration process during the EU's Eastern Enlargement

The policy of German government and policies of the political parties on the EU and its enlargement were presented in addition to an analysis of the German economic development against the background of other EU member countries, including Poland, between 1990 and 2004.

Traditionally, Germany was one of those countries, which supported European integration most deliberately, no matter if Christian- or Socialdemocrats were in power. Also other parliamentary parties gave their endorsement to European integration. The German society more than other ones backed European integration and supported the idea of strengthening the European institutions. The opinion that Germany is the main power and lifeblood of the European integration is fully justified.

Taking into account the main economic factors describing the economic position of a country (e.g. gross national product (GNP), international trade etc.), Germany played a key role in the EU. After the re-unification of Germany, its role even increased.

In the 90s Germany also became Poland's most significant economic partner. The best example for this is the fact that after adding up the amounts of turnover with the next five Poland's economic partners, they would be smaller than the amount of Polish export to Germany and Polish import from this country.

These conditions influenced the German perspective of the negotiations on the full-fledged membership of Poland in the EU.

4. The time and space in the integration process

Germany remained Poland's key economic partner even after our accession to the EU. Due to the convergence theory and imitation models, Poland will be bridging the gap to other EU member states. It will result mainly due to the cooperation with German economy. The author tried to answer the following questions:

- When it would be possible?
- Does it encompass the whole economy or only some areas?
- Which areas of the economy will be affected?
- To which extend will it influence the economic expansion to the East?

5. The European conditions of Polish-German relations

In the elaboration were described:

- Germany's standpoint on the EU enlargement
- Perspectives for political and security cooperation between Poland and Germany the EU Eastward enlargement.

6. The development of external economic ties of the Eastern Lands of Germany on the eve of the 21st century

The author has presented:

- The development of the economic situation of the Eastern Lands of Germany between 1990–2002;
- Evolution of the international trade of the Eastern Lands of Germany between 1990–2002 with a special focus on development of trade with Western Lands and the EU countries, including Poland;
- Development of the external exchange of productive factors between 1990–2002, with special attention to the development of trade with Western Lands and the EU countries, including Poland;
- Hitherto coherence between the formation of the Eastern Lands' general situation and the formation of their economic ties;
- Perspectives for the development of the external ties of the Eastern Lands of Germany;
- Hitherto and anticipated implications of the development of the Eastern Lands' external economic ties with Poland.

7. The changes in the social market economy's system in Germany

The analysis of the social market economy's evolution in Germany has been done with a special attention to the flexibility of the labour market, the restrictions of the social benefits and changes in the financing of poorest Lands.

The influence of the EU's integration on the direct investments' flows and on the technical knowledge exemplified by bilateral connections between Poland and Germany.

The goal of the research was to assess whether and to which extend the accession of Poland to the EU will influence the international investment's and scientifical connections of Poland, with special attention to Polish-German relations. So the analysis covered the results of the integration process for international flows of two productive factors: capital and technology (technical knowledge). The analysis was conducted in theoretical as well as in empirical sphere.

The economic integration is to be associated not only with the liberalization of goods and services flows, but also with elimination of barriers that slow down free flows of production factors within the group of countries. The free flow of capital is one out of four key rules, on which the European Community is based, so the EU enlargement means that this rule covers also Poland.

The following questions were to be answered:

- Does the incorporation into the common market will increase or maybe decrease the attractiveness of Poland's localization for foreign investors, especially German investments?
- What will be the influence of integration on Polish entrepreneurs' direct investments?
- Will the integration result in the increase of Polish investments in the EU?

In the context of Polish accession to the EU, the inflow and outflow of capital (including changes in attractiveness of different trades) including the final effect on the development of Polish economy were analyzed.

The flow of the second analyzed factor (technical knowledge) is regulated—also in the terms of integration—on slight different conditions than the transfer of capital. It results from the fact that technology can not be generally seen as an available factor of production, because it unites both the features of public and private goods. The technological knowledge as a private good can be converted into market strength, when it is materialized in products and processes and when it is not available for competitors. This feature of technology brings it closer to the physical capital, because knowledge, as the time goes, gives less and less advantages. It happens due to the fact that knowledge is widespread among competitors. On the other hand technology can be seen as a public good and the part of technological achievements is a commonly available knowledge (e.g. some results of the research and development activities which are financed by the states' budgets).

8. Directions and opportunities for development of economic co-operation between Poland and Germany in agriculture after Polish accession to the EU in the years 2004–2006

Presently Germany is a main economic partner of Poland. The share of Germany in total Polish exports amounts to 37%, while in imports to 25%. The share of agricultural and foodstuff products in Polish-German trade is significant. Exports of agro-food products to Germany constitutes ca. 20% of the whole Polish exports (what, in turn, makes 40% of the whole Polish exports of these articles to the EU). As regards imports from Germany, the share of agro-food products is estimated at between 14,3%–16,4%. It is worth emphasizing that although Polish trade balance showed in general deficit, balance of trade with agricultural and foodstuff products in the years 1997–2000 was positive. As regards agro-food articles the so far trade co-operation with Germany was favorable for Poland.

Polish integration with the European Union provides opportunities for further development of collaboration in agriculture between Poland and Germany. This chance is additionally strengthened by the close neighborhood and cultural ties between the two countries. From this standpoint it seems sensible to conduct research on directions and opportunities of further co-operation between Poland and Germany within common market created by the EU.

The aim of this research task was to determine directions of economic co-operation development between Poland and Germany in agriculture. There was particular stress laid on the production potential of agricultural sectors in both countries, taking into account basic production factors such as: land, work, capital and natural conditions. Based on that the level of agricultural production (both vegetable and animal one) and directions of its development in the common market were presented in the paper. The analysis included hitherto and future collaboration with regard to vegetable production (exchange of vegetable specimens), animal breeding but, first of all, to agro-food trade. There was also examined the competitiveness level of chosen agricultural products (grains, white beetroots, vegetables) as well as of milk, beef, pork and poultry livestock. The analysis covered selected types of farms according to production specialization and scale. At this place various levels of direct payments for candidate countries within Common Agriculture Policy were taken into consideration, as well as their influence on farmers' earnings and, indirectly, their competitiveness.

9. Germany's Foreign Trade and the EU Eastern Enlargement

The accession of Poland to the European Union and the EU Eastern Enlargement are surely a milestone for the enhancement and development of political, economic, social and cultural ties in Europe. New chances and challenges for the newcomers have arisen, brought afloat

by the application of the common market rules. On the other hand, the exports-oriented EU economy has gained new markets where EU trade rules apply, with millions of customers, which opens new horizons for further export expansion. The geographical closeness of Germany and it's familiarity with local markets are additional factors (which played a substantial role also before the Enlargement) making the above mentioned scenario more probable.

The main goal of the research was to analyze the current EU's foreign trade structure in the relations with new EU member states, focusing on potential changes in this regard.

The aims in detail were:

- Role of foreign trade in the region
- Comparison of the international trade position of Germany with the position of the new member states;
- Specification of Germany's specialization in bilateral trade with these countries;
- Outlining perspectives for Germany's foreign trade after the Enlargement
- Competitiveness analysis of the Polish and German economies after the Enlargement.

10. Research and development activity of transnational corporations. German experiences—implications for Poland

In the highly-developed economies scientific and research activity remains mainly in competencies of private enterprises. In Poland, however, the chief role in this respect is still attributed to the state sector. Since Polish enterprises are still not sufficiently capitalized and they often lack awareness of necessity of long-term investment in research and development sphere, and, on the other hand, Polish central budget is very restricted, the general level of R+D expenses and therefore innovativeness of Polish economy remain limited.

Economic development demands at the same time remarkable expenditures on scientific research and development works being a potential source of innovations. Therefore, opportunities for Poland resulting from internationalization of R+D activity in transnational corporations were researched in the paper. In other words there was answered a question to what extent external private financing of research in Poland may be intensified.

The aim of this paper was to analyze determinants of R+D activity location, to carry out empirical analysis of guidelines resulting from the theory based on the example of German economy and finally to refer conclusions to the current Polish situation.

The analysis includes international, and in particular European dimension of R+D activity. In order to evaluate determinants of R+D activity location, European policy towards transnational corporations, as well as policy supporting research and development were discussed in details. In the empirical part concerning Germany, particular attention was paid to intensification of scientific and research collaboration between EU member countries.

11. Assistance policy as an instrument supporting integration processes in Central and Eastern Europe

The paper has the following structure:

1. Assistance policy as one of the factors supporting economic transformation.
2. Obligations of Poland as a member of OECD to implement assistance programs.
3. Polish-German-Ukrainian co-operation within German governmental program TRANSFORM.

The concept of assistance programs for Eastern block countries was born yet before 1989, but only conditions created with the collapse of communism made it possible to absorb aid means and develop support programs for these countries.

In order to stimulate economic and socio-political development the program TRANSFORM was created in Germany. It covered the most advanced in economic transformation countries such as: Czech Republic, Hungary, Estonia, Poland, Lithuania, Latvia, Slovakia, Slovenia, Russia, Belarus and Ukraine.

Germany concentrates its collaboration programs in this geographic area on key issues for reforming economies:

- Development of democracy;
- Adjustment and preparation of economy to free-market conditions and competition.

Similar targets were settled by the European Union while determining development strategy of Eastern enlargement and accession of new members. There were launched PHARE and TACSIS programs targeted at preparation of candidate countries for accession and incorporation in the EU structures. Huge financial grants, counseling and collaboration of administration institutions let relatively quickly prepare particular countries for integration.

Among the most significant bodies giving and monitoring international assistance there is a Development Assistance Committee (DAC) in the OECD structure. Members of this organization are obliged to provide assistance policy for the sake of the poorer countries.

Polish accession to OECD in 1996 meant that also our country accepted this obligation. Presently, Poland has an observer status in the Development Assistance Committee and it free willingly incurs fees financing regional programs in Eastern Europe and Baltic States.

The presented in the paper case describing mutual experiences exchange in the field of economic transformation between Poland, Germany and Ukraine cast light on the potential of the assistance policy and its significance for beneficiaries.

12. Cross-border co-operation of German Lands in the perspective of the EU Eastern enlargement

The research presents experiences of German Lands in cross-border co-operation which might be useful for Polish voivodeships and provinces. The first part of the paper focuses on description of legal conditions concerning Federation's and Lands' competencies in foreign policy and co-operation between regions. The issues of growing influence of German Lands on EU regional policy and the necessity of a broader representation of German territory units in the EU forum were touched upon as next. The short presentation of cross-border co-operation in the most significant Euroregions situated on the Western, Northern and Southern frontiers of Germany may serve as a pattern for this type of collaboration on the Polish and German border. The second part of the paper includes a comparison analysis of two German Lands (Schleswig-Holstein, Mecklenburg-Vorpommern) as regards their cross-border co-operation in the Baltic See area. The author specifically describes partnership nets with the regions of the Baltic See neighboring countries, giving many examples of collaboration co-financed from the EU programs. Experiences in utilization of the means from the structural funds and examples of realization of EU initiatives within regional policy framework provide a good incentive for further development of cross-border co-operation between Polish and German regions. The next part of the paper deals with description of the most remarkable cross-border undertakings between Poland and Germany (such as establishing Euroregions, PHARE BCB, INTERREG III pre-accession programs, TWG economic co-operation, environment protection, cultural and academic collaboration). It also enumerates chief barriers in the further development of this co-operation. In the final part the author attempts to draw conclusions for the bordering regions from the present cross-border co-operation as well as he proposes to take advantage of positive experiences of German Lands utilizing means within common structural and regional policies.

13. Accession negotiation process of Poland with European Union—sensitive issues from the German point of view

German position in the European Union is strong in both economic and political aspects. This fact for Poland has particular significance because of geographic neighborhood, common history and economic relations. Although Eastern EU enlargement belonged to main priorities in German foreign policy and it was supported by all considerable political parties, elaboration of the common EU standpoint in some negotiation areas was in practice difficult because of real German interests. This situation referred in particular to such areas as: free employees flow, freedom of rendering services, free capital flow (especially with regard to purchase of land and real estate by foreigners), agriculture, regional policy and co-ordination of structural instruments, as well as administration of justice and domestic affairs.

The aim of research was to identify German political and economic interests during the process of EU enlargement by Poland, description and analysis of German standpoint as concerns particular negotiation problems and comparison of German position with the Community standpoint. As a starting point of the paper political and economic relationships between Poland and Germany were analyzed and the role of Germany as one of significant pillars of EU stressed. In reference to each of the negotiation areas the author discussed Polish standpoint, German standpoint (official argumentation of the Federal Government, in some cases also opinions of particular Lands, opposition, various political and economic circles), as well as the EU standpoint including in some cases the role of European Commission. The analysis covered the content of the negotiation process and its results.

In the report's conclusion it should be once again emphasized that there is a strong necessity to continue the research. The research areas mentioned above concerned co-operation of Poland and Germany in further intensification of economic integration process as well as common responsibility for transformation processes in the countries to the east from Poland. Further broadened research should be made into processes of structural changes of German and Polish economies, especially as regards social market economy model.

The approved title of the research will be: "Poland—Germany and Eastern economic policy. Challenges and responsibility".

Part Six

Gobal development—Global catastrophe versus global Renaissance

ANTONI KUKLIŃSKI

GLOBAL DEVELOPMENT IN SECULAR PERSPECTIVE
The experiences and prospects of the years 1950–2050
Global catastrophe versus global renaissance
Memorandum I*

"Can we do better as we enter the twenty-first century? The apocrypha of Yogi Berra warns us not to make predictions, particularly about the future. Yet we have no choice. We walk around with pictures of the future in our heads as a necessary condition of planning our actions."
Joseph S. Nye Jr

Introduction

The global success of the "Limits to growth" should be seen not only as a substantive success of a new innovative approach in the interpretation of the global future[1]. This success should be seen also as an ability to shake up the global public opinion by the formulation of a set of dramatic conclusions and value judgments questioning the conventional wisdom about the global future.

The turning point created by the publication "Limits to growth" incorporates two elements:
1) the substantive innovation
2) the dramaturgy of presentation and discussions

In the experiences of the Club of Rome of the last decades we can find a deficit both in substantive innovation and in the dramaturgy of presentation. The lessons of success and failure should be analyzed *hinc et nunc*.

* The opinions and value judgments presented in this paper are related to the personal responsibility of the author and may be not shared by all Members of the Polish Association for the Club of Rome.
Discussion paper prepared for and presented at the 2004 Annual Conference of the Club of Rome, Helsinki October 10th 2004—paper presented also at the Workshop of the Club of Rome in Warsaw—see Anna Gąsior-Niemiec in this volume.

[1] Compare: D. Meadows, Limits to growth—The 30 year update, Helsinki Conference, op.cit.
Compare also: Globalisation, I.S.S.J. no 160, June 1999, UNESCO, Paris.

There is an urgent necessity to create a second dramatic turning point in the history of the Club of Rome. We should find a grand thematic field incorporating the substantive innovation and the dramatic presentation.

To my mind the topic—"Global development in secular perspective—Experiences and prospects of the years 1950–2050" has the potential to create the second turning point. If the Club of Rome would be able to sponsor a set of studies which will formulate twelve theses related to the evaluation of the global experiences of the years 1950–2000 to the optimistic and pessimistic scenarios for the years 2000–2050—then the global public opinion would have a controversial and imaginative background for the discussion of the experiences and prospects of human development of the years 1950–2050.

These twelve theses should be build around comprehensive empirical and prospective evidence developed in the framework of bold and strong value judgments shaking up the global public opinion.

The ability to promote a global intellectual and moral shake up will create a second turning point in the history of the Club of Rome and will put the Club in the center of global attention.

* * *

Naturally the selection of twelve theses is definitely a subjective choice developed in the framework of my academic and empirical experiences. This enumeration is only an invitation to a brainstorming discussion of the crucial strategic choice of the XXI century—"Global catastrophe versus global renaissance".

I. **Sustainable versus unsustainable development—illusion versus reality**
II. **Demographic growth, demographic transformation, and the dramatic demographic decline of Europe**
III. **Globalization—a blessing or disaster**
VI. **Science and technology—efficiency or deficiency of breakthrough innovations**
V. **The clashing civilizations—a nightmare or reality**
VI. **The splitting globe—global wealth versus global poverty**
VII. **The growth and collapse of Soviet Union—the mismanaged transition from real socialism to real capitalism**
VIII. **The global terrorism and the global criminal economy as a tragic challenge for the world order**
XI. **The paradox of the American power**
X. **The glory and the misery of the European Union**
XI. **The emergence of Imperial China as the leading power of the XXI century**
XII. **The emergence of competitive India as an important actor of the global scene**

I. Sustainable versus unsustainable development—illusion versus reality[2]

We have to answer the question—to what extent the development of the years 1950–2000 was sustainable or unsustainable. We need a set of comprehensive historical studies which will formulate a well documented optimistic or pessimistic answer to this question. My intuitive answer will be inclined to formulate a pessimistic hypothesis saying that in the final evaluation the development of the second half of the XX century was rather unsustainable.

Much more difficult in methodological and pragmatic terms will be the answer related to the prospective question—what will prevail in the first half of the XXI century—the sustainable or the unsustainable development?

II. Demographic growth, demographic transformation, and the dramatic demographic decline of Europe

The hundred years of demographic development 1950–2050 are and will be a witness of great quantitative and structural transformation of the global demographic scene. It is easy to imagine the very great differences in the comparative analysis of three "photographs" of the global demographic scene 1950–2000–2050. These great demographic transformations will have direct and indirect economic, social, political and cultural consequences. In the analysis of the changing global demographic scene we should notice the dramatic demographic decline of Europe, which in some European countries could reach the dimension of a national tragedy.

III. Globalization—a blessing or a disaster?

It is the highest time to initiate a set of contributions which *sine ira et studio* will answer the question to what extent globalization is a blessing and to what extent a disaster. The arguments of proglobalistic and antyglobalistic approaches should be analyzed in a climate of academic objectivity if such an objectivity can exist in the framework of social sciences dominated by different value judgments[3].

IV. Science and technology—the affluency or deficiency of breakthrough innovations

Prima facie the century 1950–2050 is a period of great affluence in the field of breakthrough innovations in a scale unprecedented in the historical experiences. This thesis is questioned by R. Galar[4] suggesting that in the second half of the XX century there was a deficiency of breakthrough innovations in comparison with the experiences of the second half of the XIX century.

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[2] compare: A. Kukliński, Sustainable development as the major challenge for the XXI century (in:) REUPUS volume one.

Compare also: T. Schauer, F.J. Rademacher, The challenge of the digital divide—promoting a global society dialogue, Universitat Verlag Ulm, 2001.

T. Schauer, The sustainable information society—vision and risks, Saskia Global Society Dialogue, Universitat Verlag Ulm Gmbh, 2003.

T. Schauer, F.J. Rademacher, Equality and diversity in the information age, Global Society Dialogue, Universitat Verlag Ulm, 2000.

T. Schauer, Lifestyles, Future Technologies and Sustainable Development, Protext Verlag Bonn, 2000.

Compare: Special Report—United Nations—Fighting for survival, The Economist, November 20^{th} 2004.

[3] Compare: A. Kukliński, W. Orłowski (eds) The knowledge based economy, Warsaw 2000, p. 300.

[4] Compare: A. Kukliński, W. Orłowski (eds) op.cit, p. 32–62.

The thesis of R. Galar is an inducement for a deep and comprehensive inquiry into the S and T development of the years 1950–2050. Maybe our performance in this period is not so brilliant as presented in the framework of conventional wisdom.

V. The clash of civilizations—a nightmare or a reality

In 1996 S.P. Huntington[5] has published his controversial and path breaking book. After eight years we see the power of the arguments of S.P. Huntington in a new perspective. The policies of the present American administration are creating new arguments to make this clash stronger and more difficult to reconcile in the future. In a pessimistic scenario this may led to global catastrophe. Let us quote the poetic warning of N.D. Kristof[6]:

"Shakespeare is warning us against rash actions on the basis of flawed intelligence. Hamlet is sometimes seen as an indictment of indecision, but his "to be or not to be" soliloquy is a careful examination of the pros and cons of immediate action—a measured approach that Bush might have emulated before the Iraq war.

Instead, Bush emulates Coriolanus, a well-meaning Roman general and aristocrat whose war against barbarians leads to an early victory but who then proves so inflexible and intemperate that tragedy befalls him and his people.

Unless Bush learns to see nuance and act less rashly, he will be the Coriolanus of our age: A strong and decisive leader, imbued with great talent and initially celebrated for his leadership in a crisis, who ultimately fails himself and his nation because of his rigidity, superficiality and arrogance." (e-mail: Nicholas@nytimes.com)

VI. The splitting globe—global wealth versus global poverty

Never in human history the difference between the rich and the poor was so great as now. If you add up the wealth of the world's poorest two billion people it matches the cumulative wealth of the richest 200. This is the experience of the XX century and the dramatic challenge for the XXI century.

In this context we would like to quote the dramatic warning of J.E. Garten[7]:

"Of the earth's 6 billion people, 5 billion live on less than 2$ a day. Three billion are under age 25. Over the past decade, no improvement has occurred in the poverty levels for the 50 poorest nations, where health-care delivery systems are collapsing. This is a catastrophe with implications, including an even more heightened terrorist threat, for us all."

* * *

"Could we expect such far-reaching responses from our Presidential candidates? I'm skeptical. But even with bold answers, the highly partisan and short-term nature of our government policies still needs to be overcome. Moreover, our politicians would have to unite behind the longer-term

[5] S.P. Huntington, The clash of civilizations, Simon and Schuster, 1996.

Compare also: J. Reston Jr, Warriors of God—Richard the Lionheart and Saladin in the Third Crusade, Faber and Faber, 2001.

Compare also: A. Besancon, Islam I reszta świata—Islam and the rest of the world, Tygodnik idée—Europa, November 10th 2004.

[6] N.D. Kristof, Shakespeare's lessons for the president, I.H.T., September 7th, 2004.

Compare also: G. Evans, K. Sadjadpour, Iraq chaos has only emboldened Iran US policy backfires, I.H.T., October 13th 2004.

[7] J.E. Garten, Thorny questions for Next President, Business Week—European Edition, September 6th, 2004. (e-mail: jeffrey.garten@yale.edu)

national interest as they did right after World War II. That could never happen without a farsighted and truly courageous President to lead them. Right now, I'm worried that neither Bush nor Kerry is up to that challenge."

VII. The growth and collapse of Soviet Union—the mismanaged transition from real socialism to real capitalism

M. Castells[8] has presented a well designed analysis of the processes which have generated the collapse of the Soviet Union. Unfortunately the low level of strategic[9] thinking of the great liberal democracies opened the way for a mismanaged transition from real socialism to real capitalism. We must have the wisdom, imagination and courage to analyse this great historical mismanagement[10].

VIII. The global terrorism and global criminal economy as a tragic challenge for the world order[11]

The global future of humanity is challenged by the terrible efficiency of global terrorism and the skillful management of global criminal economy. We need a quite new perception of this problem. The conventional theoretical and pragmatic wisdom is too weak to answer this challenge. Maybe in the framework of our programme we will be able to present some innovative thinking in this field.

IX. The paradox of American power

We have three brilliant and charming books analyzing the paradox of American power[12]. In a very convincing way the Authors present a framework of thinking which should determine the performance of the American superpower in the XXI century. The essence of this framework is related to the strategic partnership USA—Europe.

Unfortunately this framework is quite alien to the mind of the present American administration. Will the paradox of American power change itself into a global tragedy?

X. The glory and misery of the European Union

The glory of the European Union is well presented by M. Castells[13]. The crisis of Europe and the European Union is outlined by A. Kukliński[14]. A strong European Union is an indispensable anchor of the global system. This point of view should be developed in our programme.

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[8] M. Castells, End of Millennium—The Information Age, Vol III, Blackwell Publishers, Oxford 2000, p. 5–61.

[9] Compare: Looking back from 2992—A World History, Chapter 13—The disasters 21^{st} century, "The Economist", December 26^{th} 1992—January 8^{th} 1993.

[10] Compare: A. Kukliński, The hypothesis of the mismanaged transformation (in:) A. Kukliński (ed.) Baltic Europe in the perspective of global change, Warsaw 1995, p.446.

[11] compare: M. Castells, op.cit. , p. 169.

Compare also: Th.L. Friedman, Fight the war on terror at the pump. The Bush-Cheney emerging policy should be called—No Mullah Left Behind, October 8^{th} 2004.

[12] Compare: J.P. Nye, The paradox of American Power—Why the World's only superpower can't go it alone, Oxford University Press, 2002.

D.P. Calleo, Rethinking Europe's Future, A Century Foundation Book , Princeton 2001

T.G. Asch, Free world, America, Europe and the surprising Future of the West, Random House, 2004.

Compare also: R. Kagan, Of Paradise and Power—America and Europe in the New World Order, Random House, 2002.

[13] M. Castells, op.cit., p.338.

[14] A. Kukliński, Strong or weak Europe—The global environment of the XXI century (in:) REUPUS volume one

XI. The emergence of Imperial China as a leading power of the XXI century

The present mismanagement of the American power is opening the way for China to assume the role of the leading power of the XXI century[15]. The warning of T.G. Asch[16] should be quoted in this context:

"The most important American elections in history are approaching—a really global elections in which the world has nothing to say. The next four consecutive years of Bush will strengthen millions of Muslims in the futile anti-western phobia will strengthen the European despise for America, and lead the U.S. to a budget catastrophe. Another four such years and during the Olimpic Games in Pekin—the divided world would listen to the dictate of the growing Chinese power."

XII. The emergence of competitive India as an important actor of the global scene

India will be one of the four great global powers of the XXI century[17]. The American economy and the European economy will face the India competition in many fields.

Conclusion

In the conclusion we should indicate a pattern of an integrated analysis of optimistic and pessimistic scenarios which will emerge in the framework of the proposed programme of the Club of Rome.[18]

In this pattern the crucial dilemma or the crucial strategic choice can be developed around the formulation—"Global catastrophe or global renaissance—the perspectives of the XXI century". This is a great historical challenge for the Club of Rome to face this dilemma in a climate of affluence in the field of wisdom, imagination, and courage.

Warszawa–Nowy Sącz
March 10^{th} 2005.

compare also: G. Bowley, A grim report on future grabs Europe attention, I.H.T., November 12^{th}, 2004.

[15] A. Kukliński, op.cit.

compare: China—Geburteiner Weltmacht, Der Spiegel, No 42, October 11th 2004;

compare also: The tiger in front. A survey of India and China, The Economist, March 5^{th} 2005.

[16] T.G. Asch, The global election—Wybory światowe, Gazeta Wyborcza, September 4^{th}–5^{th}, 2004.

compare also: J. Vinocur, Barroso's Thermostat set cool for Bush, IHT, January 22, 2005.

[17] A. Kukliński, op.cit.

compare also: J.E. Garten, Thorny questions for the Next President—How important is the rise of China and India to the well being of U.S. citizens, Business Week—European Edition, September 3^{rd}–6^{th} 2004.

Compare also: Special Report Asia Future The Great Oil Hunt—China needs energy more than ever. It quest to secure enough oil and gas to keep its economy humming will change the world, BussinessWeek, November 15^{th} 2004

Compare also: China's growth spreads inland, The Economist, November 20–26^{th} 2004.

[18] An inspiration for this Programme can be seen in the interesty Report of the National Intelligence Council's 2020 Project—Mapping the Global Future, NIC Washington DC, December 2004.

ANTONI KUKLIŃSKI

GLOBAL DEVELOPMENT IN SECULAR PERSPECTIVE
The experiences and prospects of the years 1950–2050
Global catastrophe versus global renaissance
Memorandum II

This is a follow up of Memorandum I which most probably is finding a positive reception in the intellectual and institutional environment of the Club of Rome. The positive reception is an inducement to prepare Memorandum II as a set of five reflections stimulating the discussion on "global development in secular perspective".

Reflection one—The global "election" of the President of the USA

In the IHT[1] we find the following information— "Global poll shows Kerry widely preferred to Bush". This is the summary of this information:

[1] T. Crampton, It's a Kerry romp (if world voted), IHT, September 9th 2004.
Compare comments presenting the evaluation of the electoral victory of George W. Bush:
a) International Herald Tribune, H.E. Kissinger, Now, back to defining a new world order, November 6th–7th 2004.
H.D.S. Greenway, Think reality, not ideology. An agenda for Bush II:
"Congratulations, Mr. President. Now that you never have to face an electorate again, I would hope that your second term might be based a bit more on reality than ideology. One of your senior advisers told the writer Ron Suskind that his kind were "what we call the reality-based community," people who " believe that solutions emerge from your judicious study of discernible reality." That, according to your adviser, was old hat. "We're an empire now," he said, "and when we act, we create our own reality. We're history's actors, and you, all of you, will be left to just study what we do." There can be no doubt that you are one of histoy's actors, but the first act has not gone so well. Your advisers, especially your messianic ideologues, have gotten you and the country into a awful mess in Iraq."— underlined by A. Kukliński—November 6th–7th 2004.
Living with the second Bush Term—How the world saw America's election, November 9th 2004.
L.Nofziger, Bush's trouble ahead—Mandate—what mandate, November 9th 2004.
D.S. Hamilton, J.S.Quinlan, Europe—We can't afford that transatlantic squabble, November 5th 2004.
For Bush and America deciding what comes next, November 5th 2004.
M. Dowd, The Torture Guy, November 12th 2004.
b) The Economist:
The incompetent or incoherent? October 30th–November5th 2004.
Now, unite us, November 6th–November 12th

"Paris: If the world could cast a vote in the United States presidential election, John Kerry would beat George W. Bush by a landslide, according to a poll released on Wednesday that is described as the largest sample of global opinion on the race.

'It is absolutely clear that John Kerry would win handily if the people of the world could vote', said Steve Kull, director of The Attitudes of the University of Maryland, a co-sponsor of the survey. 'It is rather striking that just one in five people surveyed around the world support the re-election of President Bush.' The poll of 34,330 people older than 15 from all regions of the world found that the majority or plurality of people from 32 countries prefer Kerry to Bush."

The world has nothing to say in this election. Nevertheless—this is a document that the victory of Bush will create a great divergence separating the global and the American public opinion. This would be a great challenge for the American global leadership. In the begining of 2005 some new elements have emerged for the evaluation of the American Presidency[2]

Reflection two—Templates of terrorism—The pattern is global, but the causes are local

This is the title of a commentary of W. Pfaff[3] where we find the following observations:

"Terrorism and the measures adopted against it acquire reciprocal momentum that is all but impossible to stop once a certain threshold has been crossed. That threshold was crossed in Russia last week, with potentially enormous consequences for civil liberties in that country, for civil peace in the Caucasus and possibly for the existing peaceful relationship between Russia and America.

This is why issues of nationalism, irredentism and religion—the usual motives for terrorist outrages—are so desperately dangerous. Ignored or misinterpreted, assigned to spurious international causes, they can do immense damage. They have to be dealt with in their natural dimensions."

* * *

"The affairs retain their national causes, and the only hope of solution remains national. But once the terrorist action-reaction auction begins, it is almost impossible to stop. Russia has already invaded Chchnya twice to 'end terrorism', but terrorism simply got worse. Ariel Sharon's entire career has consisted in failed attempts to solve Israel's problem of national existence by brute destruction of what he considers its enemies. The United States invaded Afghanistan and overturned the Taliban government, but the terrorists took to the hills and the country is in political and social pieces. And now there is Iraq."

Charlemagne Chirac—lite—The competition for the right foreign policy vision for the European Union, November 20^{th} 2004.

c) BussinessWeek:

The next four years, November 15^{th} 2004.

[2] Compare: Traumathic Partnership. A concrete strategy for mending fences, I.H.T., February 17, 2005;
R. Bernstein, Is it possible that Bush wasn't entirely wrong?, I.H.T., February 18, 2005;
S. Sharm El Seikn, Peace in our Time, Economist, February 12, 2005;
R. Cohen, Iraq's in intricate theater of dawning democracy, I.H.T., February 12–13, 2005;
Bush financial folly, I.H.T., February 15, 2005;
D. Altman, US debt Watch out the domino effect, I.H.T., February 12–13, 2005.

[3] W. Pfaff, Templates of terrorism. The pattern is global but the causes are local, IHT, September 9^{th}, 2004.

* * *

This is a strong and controversial message. We need a comprehensive diagnosis of the roots of terrorism in all scales. We need also new approaches to answer the tragic question—how to solve the mortal danger of global terrorism. In the present political, ideological, and pragmatic framework it is impossible to solve this problem[4].

This means not that this problem cannot be solved in a new framework. Maybe the Club of Rome could design such a new framework.

Reflection three—The security economy

There is no doubt that in the intellectual perspective—the OECD is the most brilliant international organization. This innovative, intellectual leadership was once more demonstrated by the publication of a path breaking volume[5]—"The security economy". In the foreword we find the following information[6]:

"The security industry is a large and expanding area of economic activity. Spurred on by the perception of rising crime, the threat of terrorist attacks and increasingly free movements of goods, capital, and people, there has been a swell in government, corporate and consumers' budgets for security goods and services in recent years. This development promises to have far-reaching economic and societal implications over the longer term. The challenge for policy makers is how to meet the apparent need for greater security without unduly impeding economic efficiency and citizens' rights in liberal societies."

* * *

"The meeting consisted of four sessions. The first reviewed the social, economic, and institutional drivers behind the rising demand for security and sketched out the trends and developments likely to determine its future scale and direction. The second session looked at the supply side, outlining the state of the art in several key technologies in identification, authentication and surveillance and exploring their likely development over the next ten years or so. The third examined the longer-term economic implications of the emerging security economy. It addressed key trade-offs in the coming years between greater security on the one hand and economic efficiency on the other, and explored the roles that governments and the private sector might play in helping to resolve these trade-offs. The fourth and final session considered the mid—to long-term implications for society of the growing use of security, technologies. More specifically, it was about the future of the 'surveillance society' and what can be done to guide the development and utilization of identification and monitoring technologies along avenues that society regards, on balance, as generally most beneficial."

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[4] compare three open-minded contributions in IHT, September 11^{th}–12^{th} 2004,

V. Erofegen, September 11^{th} and Beslan—a battle for civilization. Russia must now decide.

J. Marias, Spain gets back to normal. There is no such thing as war on terrorism.

B. Herbert, Bush has no idea to end his quagmire. The insurgency in Iraq will never end as long the U.S. is an occupying country.

Editorial: The private and public knowledge of September 11^{th}. A justified and dangerous fury in Russia

Compare also: A. Kukliński, Globalization in the XXI century. In quest of a new paradigm (in:) A. Kukliński, B. Skuza (eds) Europe in the perspective of global change, Warsaw, 2003.

[5] OECD, The security economy, Paris 2004. Compare inter alia: Chapter 7, Assesing the Economic Trade-offs of the security economy.

[6] OECD, op.cit, p. 3 and 4.

The brilliant publication of OECD is an important input into the discussion related to thesis eight of Memorandum One.

Reflection four—The demonstration effect of the contributions of Angus Maddison

Angus Maddison in the framework of OECD has developed a magnificent school of macroeconomic and macro-historical analyses which is introducing a new paradigm of well documented quantitative global history[7]. The contribution of A. Maddison are a direct input into the intellectual and empirical construction of our Programme.

Maybe the Club of Rome would be able to invite Angus Maddison to participate in our programme—"Global development in secular perspective". His methodological and empirical competence would be a great asset for our programme.

Reflection five—Global development in secular perspective The institutional considerations

I am convinced that this Programme will find strong support of three leading institutional organizations:

— OECD
— the World Bank
— the European Union

We will get this support under one fundamental consideration. We must have the knowledge, the imagination, courage, and the will to establish a strong theoretical, methodological, empirical, and pragmatic framework of the programme. Having this strong framework we will get the support of the Three Grand International Organizations and most probably of other institutions including the Great American and British Universities (J.S. Nye, S.P. Huntington, J.E. Garten, M. Castells, D.P. Calleo, T.G. Asch) and journalists (W. Pfaff, N.D. Kristof).

Naturally—this is not a comprehensive list of personalities[8] which might be interested in the participation in our programme. This full list will emerge from a comprehensive discussion related to the design and organization of a consortium of 25 European and American Institutions which would accept the intellectual and pragmatic responsibility for the design and implementation of the grand path breaking programme:

"Global catastrophe versus global renaissance"

Warszawa—Nowy Sącz
February 20th 2005.

[7] A. Maddison, The world economy—A millennial perspective, OECD, Paris 2001
A. Maddison, The world economy, Historical statistics, OECD, Paris 2003.

[8] compare part V in the volume: A. Kukliński, B. Skuza (eds) Europe in the perspective of global change, The Polish Association for the Club of Rome, Warsaw 2003
compare also: The volume—H. Bünz, A. Kukliński (eds) Globalization—Experiences and prospects, Friedrich Ebert Stiftung, Warsaw 2001.

ZDZISŁAW SADOWSKI

EUROPE AND THE GOAL OF SUSTAINED DEVELOPMENT

The subject put before this panel can be understood as a question: should long-term global development be expected to bring about global catastrophe or rather to lead towards global renaissance? My answer is by no means pessimistic. I believe that we—the mankind—still have a chance to override the imminent dangers and steer towards a safe and well managed world. But it would be unwise to disregard these dangers which in fact do provide a serious warning that we may well be on a road to catastrophe.

These dangers implied in prospective world development were presented for the first time in 1972 in a logical model by Dennis Meadows in his "Limits to Growth" published as the first report to the Club of Rome[1]. Let me recall that the model showed, on a high level of aggregation, the links and feedbacks between the population explosion, increasing demand for food, industrial growth, depletion of natural resources and environmental pollution. It led to the identification of clearly negative tendencies and to the conclusion that their further continuation would lead to a general downfall and stagnation. As a follow up, the main focus of interest for the Club became an endeavour to provide answers on how to revert this course of events and determine the lines of action conducive to a general betterment of the fate of humanity.

The widely accepted general answer to this challenge acquired the shape of the concept of sustained development. It has received much international attention with the main emphasis being laid on defence against ecological destruction caused by industrial expansion. This found expression in the international action programme called Agenda 21 adopted in 1992 by the UN Conference in Rio de Janeiro.

The real problem was, of course, that of implementation. In spite of all the commendable desires not much was achieved in later years to stop the processes of destruction. The second book published by the Meadows team 20 years after the first one[2] showed that none of the previously identified negative tendencies was weakened. Only the rate of population increase was somewhat reduced, but not enough to reduce seriously the annual increments in absolute terms. Thus the overall situation grew distinctly worse than it was 20 years earlier. The bundle of negative tendencies taken together constitute now what can be termed a global trend towards self-destruction.

The concept of sustainable development became accordingly still more important. But it also had to evolve. During the last decade it became clear that ecological destruction is not the

[1] Meadows, D.H. & others: Limits to Growth, 1972

[2] Meadows, D. & D., Randers, J.: Beyond the Limits—Global Collapse or a Sustainable Future. Earthcan, London 1992

only danger facing mankind. Increasingly important dangers were recognized in the social area: mass unemployment, poverty, marginalization of large social layers and atrophy of social cohesion. The increasing relevance of these phenomena can be seen in the rapidly growing income disparities both between rich and poor countries and in internal income distribution of individual countries, including those representing highest levels of development. This results in growing antagonisms and conflicts between social groups, nations, religions and civilizations, with their most acute expression in the form of global terrorism. Over the last decade social problems have become a major international concern. They were the subject of the 2002 UN Conference in Johannesburg, where a programme for combating world poverty was formulated. Thus, the present understanding of the concept of sustained development encompasses measures against ecological destruction and those against poverty. In this shape it presently has the status of a widely accepted set of priority objectives.

In the European context this line of thinking found a certain expression in the Lisbon Strategy of March 2000 which formulated objectives for the development of Europe. While setting the ambitious goal of making the European Union "the most competitive and dynamic knowledge-based economy in the world", the Strategy document underlines the need for securing sustainable economic growth as well as more and better jobs and greater social cohesion.

But, as said before, the problem is that of implementation. According to a recent report presented to the European Commission early in November 2004 (known as the Kok Report) the performance picture of the Lisbon Strategy is highly disappointing. The Report attributes this mostly to the lack of political will. It will be interesting to try decipher what this really means.

On the one hand, it means that national governments of the Union countries were reluctant in adopting policy measures to secure the necessary level of investment in R&D (at three per cent of GDP) and the proposed employment rate of 70 per cent. On the other hand, however, it also means that the Lisbon strategy, in spite of the quoted reference to sustainable growth, is in fact based on policy ideas which do not have much in common with the concept of sustained development.

The main difference is in the understanding of the role of the market system. The broad version of the concept of sustained development implies a recognition of the fact that free market, although needed as a basic instrument of efficiency, when left to itself becomes the creator of the negative tendencies referred to above. It needs therefore support and corrective measures from deliberate policies at the national and international level.

By contrast, the Lisbon Agenda is fully focused on the idea of industrial growth based on almost exclusive regulation of the economy through market and competition. What seems to provide a basis for macroeconomic policies are such ideas as reforms for competitiveness and innovation, reductions of company tax levels, and greater flexibility of labour markets. It is worth noticing that the Growth and Stability Pact which is a cornerstone of economic policies of the European Union and sets clear targets for the acceptable rate of inflation and level of public debt, pays no attention whatsoever to the issue of unemployment which is not even mentioned in the document.

This approach very clearly belongs to the neoliberal school of economic thought devoted to supply-side policies which proved to be totally ineffective in dealing with unemployment problems in Europe[3].

In defence of the Lisbon line one should quote the ideas which are in opposition to the notion of future threats. These are the neoliberal ideas linked to the belief in self-regulatory abilities of the free market. According to this line of thought, free market competition sets in motion

[3] See, e.g., a study of the German experience by Laski, K.: Three ways to unemployment, in Sadowski, Z. and Szeworski, A. (eds.): Kalecki's Economics Today, Routledge 2004.

automatic reaction to the negative tendencies by streamlining entrepreneurial innovational activity towards solutions which provide all the necessary adjustment. Thus every aspect of the mentioned self-destructive tendency finds response from the self-regulatory action of market competition. This leads to an optimistic assessment of the prospects for future development, such as painted in the writings of Herman Kahn[4].

Thus we are faced with two fully opposed approaches in the assessment of world development prospects. One of them stresses the importance of the tendency towards self-destruction. The other is based on a belief in the mechanism of self-regulation. The author is inclined to draw the conclusion that both tendencies deserve recognition. The real issue is not a controversy of opinions, but an objective contradiction between these two tendencies with resulting question which of them can prove stronger in the longer run. This brings us back to the subject of this panel.

Is it right to believe that the self-regulatory mechanism of the market, despite all the negative phenomena, is able to secure stable and safe development, particularly if due account is taken of the impact of the newly emerging knowledge-based economy with its continuity of innovation? Or are there more reasons to recognize the predominance of the self-destructing tendency and admit the necessity of deliberate policy effort to combat the ecological and social challenges and attain the goals of sustained development?

There can be no doubt about the existence of the self-regulatory tendency and its role in infusing necessary adjustments into the patterns of resource allocation. However, a closer look at its working shows that these adjustments usually take much time and are made with considerable delays. There is a number of reasons. First, their introduction needs incurring investment costs which involve risk. Firms which are interested do not make prompt decisions before scrutinizing the projects. They do not act on the ground of interests of mankind, but their standpoint is always their own interest. Secondly, the implementation of relevant projects may require specialized know-how which may not be readily available. Thirdly, major adjustments often require participation of governments which implies the need to attract the attention and understanding of politicians to obtain their support.

This means that the needed reallocation of resources is introduced with considerable delays. But there are no delays in the working of the tendency of self-destruction. It would follow that autoregulation is more effective in slowly growing economies, while it tends to fail keeping pace with rapid growth rates.

We live in a period of very rapid changes: in technology; in the economic system; and in patterns of human behaviour. This suggests that the autoregulatory tendency suffers from considerable delays, while the tendency of self-destruction consistently gains strength owing to the accumulation of negative phenomena.

There is no way to determine for certain the future course of events. We cannot be sure which of the two tendencies will ultimately prove stronger. But in this situation it seems safer and more rational to assume that, to avoid the well recognized imminent dangers, the world economy needs support from deliberate international action. Free market is not able to revert the tendency leading to self-destruction which results from the way it works. In the modern economy ways and means have to be found to combine the working of a free market (needed to enhance entrepreneurship, innovation and progress of science) with rational steering (needed to promote the desired patterns of development). This brings us back to the concept of sustained development which helps to define these desired patterns.

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[4] See Kahn, Herman: The Year 2000—A Framework for Speculation on the Next 33 Years, 1967; and Kahn H., Martel L. & Bron W.: The Next 200 Years—A Scenario for America and the World, 1985.

The challenge is to find a method of implementation. Some ten years ago it became widely believed that a serious boost to the autoregulatory tendency would come from globalization. With its emphasis on general liberalization of trade and capital flows globalization was expected to enhance growth and raise levels of living in less developed countries, thus bringing relief to world social tensions.

But globalization failed to bring these expected results. On the contrary, it worked towards making the contradictions more acute. Liberalization of trade and capital movements, instead of narrowing the gap between rich and poor nations, brought about increasing disparity, as a large number of countries tends to lag more and more behind those highly developed. Policy recommendations based on the idea of liberalization not only do not help in stimulating growth and development in less developed countries, but make these countries to enter into uneven competition with much stronger partners.

Thus there is no built-in mechanism which would contribute to the implementation of sustained development. Perhaps something should be said in favour of deliberate regulatory activities. It can hardly be denied that a certain progress in overcoming some ecological troubles is being achieved in recent years. But even in this area, on a global scale, the picture is far from satisfactory. The level of environmental pollution is still growing due to industrial refuse, air and water pollution, global warming, deforestation and wasteful exploitation of soils resulting from utter poverty of millions of people.

Experience shows that in spite of efforts made at the international level it proves extremely difficult to arrive at agreed upon action programmes. A sad example is provided by the fate of the Kyoto Protocol—an important measure against global warming. It committed signatories to reduce gradually over 20 years their output of carbon dioxide and other greenhouse gases by about 5%. However, the main pollutant—the USA—refused to sign the Protocol. A recent UN climate change conference[5] took up the planning of longer-term action beyond 2012 when the Protocol expires, on the assumption that further emission reductions are unavoidable to avoid continued global warming which—apart of climatic disturbances—represents a serious threat because of rising sea levels. But, again, it only showed great difficulty in arriving at any agreement except continuation of talks.

What is still worse, nothing whatsoever is done (although much is being said) with regard to the other danger area, namely that of the social threat. There seems to be no clear idea of the nature of possible solutions. This is not surprising in view of the complexity of problems which begin with demography and lead to vast areas of destitution and hunger, while world continues to develop quickly in the direction of increasing disparities and polarization. It is clear that the war against terrorism does not provide any solution, as it hits the symptoms rather than the causes.

Thus ultimately we have before us a contest between the process of gathering threats to future development, and the progress resulting from the achievements of human mind. Which of the two is going to gain advantage? This remains to be seen. What, however, is already visible, is that there is no organizing power capable of making materialize the concept of sustained development. This concept remains nothing more than a desideratum. It is helpful in orientating the thinking, but has little significance in orientating action.

There is so far no political will to work out a joint action programme at the fully international level. The United Nations Organization is clearly incapable of inducing its members to arrive at any such agreement. The present-day world seems to be overpowered by the hegemony of USA, but this probably has its limits. A tendency towards a polycentric formula in which the European Union has a substantial role to play is easily decipherable.

[5] Buenos Aires, December 2004

But the present forms of globalization are often interpreted and criticized as serving predominantly the interests of USA. Whether this is true or not, such criticism is the cornerstone on which the increasingly powerful anti-globalist movement emerged. It recently adopted a new name of alter-globalism which rightly underlines the idea of seeking new solutions for a rational trend rather than fighting against it. This movement will probably exert an increasing influence on policy programmes. What, however, is ultimately needed but still beyond reach, is to call into being by common agreement an international political body fully committed to the implementation of the model of sustainable development for the world.

For the European Union this should indicate a basic reorientation of its economic policies. Their present neoliberal bias can hardly be combined with the requirements of a strategy for sustained development which is badly needed for the world and for Europe as a part of it. The objective of economic growth cannot nowadays be well served without being combined with care for social cohesion and the natural environment. This so far does not find adequate expression neither in the programmes nor in the proposed constitution of the Union. The Lisbon strategy, if it were to be adequately fitted into such broader context, should be orientated towards encompassing a serious treatment of both pertinent social issues, as well as ecological concerns.

But It is clear that neither the world trend towards self-destruction nor the limitations of the market mechanism in its self-regulatory capacities are not yet adequately understood by the decision-makers.

ALEKSANDER ŁUKASZEWICZ

REMARKS ON THE PUBLIC SECTOR IN THE FACE OF GLOBALIZATION

The following considerations have been inspired both by the Antoni Kuklinski paper *The Future of Europe—The Global Future—The Club of Rome* presented at this workshop as well as by the unforgettable Report by the Coucil of the Club of Rome *The First Global Revolution* (1991). Since the time of the latter publication we are witnessing many dramatic changes shedding new light on the world scene.

In the recent several decades the neo—liberal orthodoxy (or rather theology) has been propagating an idea that in the globalization era and as a result of globalization processes, the state—national state—is becoming antiquated, is in the eclipse. It is also argued that ordinary citizens, and the more so—businesses are less and less identifying themselves with the particular nation and particular state. Although the mentioned propagators do not clearly formulate the eventual conclusions concerning the possible state of affairs in the world economy and community, such a conclusion seems to be quite apparent. Since it is no world government and will not appear in the imaginable future and a kind of governance by the international organizations is by far not sufficient, only one way is realistically foreseeable—namely the private corporate governance. It would have been, however, unimaginable how in such conditions the civil society can develop let alone exist.

This kind of a doctrine, scrapped off from theological traits, should be confronted with reality. And this reality speaks clearly about something totally different. Within this context I would like to discuss briefly the problem of interrelationships between public and private sectors, but more in the international than national perspective. This choice of perspective is determined by the facts that simultaneously the nation states persist to exists and are becoming more and more internationalized. Such kind of development is rather commonly taken as a result of globalization and also as one of the forces stimulating globalization.

I would like to mention a couple of problems in order to emphasize that we are facing today some challenges which can be met and/or are being met by the inter—statal endeavours.

The first challenge—a preservation of world peace—will be left beyond this discussion, despite of its utmost importance. I have in mind the socio-economic challenges. The following seem to me worth discussing at this juncture...

First problem—demographic in its world and domestic dimension. Although the demographic pressure in the world still exists with all its dire consequences, although the universal demographic transition seems to be approaching, another factor has emerged and is calling for new and unprecedented solutions. It is ageing of population, thence changes in all population structures. This factor will unavoidably bring about the new challenges for distribution and redistribution

systems, together with pension systems etc. Thence, these challenges, in the first place, would be met within nation states; it is well known that private systems are not able to cope with it. That is again—the responsibility of state. But this problem now, and the more so in the future is becoming more and more internationalized and will necessarily call for inter-statal coping with as well as finding solutions. In both cases the role and importance of the public sector is growing, nationally and internationally. Needless to say and believe as well that the European Union is better prepared to meet this challenge than everyone else in the world. It should also be reminded, that migrations belong to the general demographic problematique, and again, unavoidably, some kind of inter-statal steering of the migration streams should be—rather sooner than later— organized and materialized.

Next point—technological and the problem of energy in particular. It is well known that present civilization cannot develop nor exist without an ample supply of energy. The demand for energy is constantly growing despite of very successful progress in the energy-saving devices, which can only hamper the rate of demand growth. On the other hand exploration, processing and use of energy is one of the main factors contributing to the natural environment destruction. Thence the intertwining of technological and ecological factors is apparently menacing existence and development of contemporary civilization. Just therefore the vigorous efforts aiming at finding solutions are under way, both in the area of research and industrial materialization.

A huge inter-statal project has already started in order to construct first very large power. station and the whole series of the same should be followed. To reach for a new, cheaper and fully renewal medium, namely the thermo-nuclear synthesis. It is almost sure that in the coming decades we will face a revolution in the production, supply and use of energy, in all probability quite friendly to the natural environment. This is and will remain an inter-statal endeavour, where private companies will act as implementators of investment process and—may be—also managers of the energy producing plants after their completion That means, that also in this crucial technological and economic field a new kind of public—private co-operation, nationally and internationally, will emerge.

Next point—the exploration and gradual conquest of outer space. Here the inter-statal endeavours reign supreme and nothing else seems to be imaginable.

Coming to conclusions one may say that neither the national state is disappearing, nor, the more so, the European Union is also driving to the form of federal state (may be in the distant future), nor the international community can get rid of the statal governance, of the statal regulatory activities as well as statal responsibility for social affairs and the civilization survival. All possible developments are imaginable: national states, inter-statal integration schemes, new federations of states. All in all, something like international public sector is emerging together with progressing globalization. But what is more important—all that may bring hope that globalization will eventually achieve the human face.

One more problem cannot be omitted in this context—the contesting of globalization, leaving aside the anti-globalists. Different is the story of alter-globalists—a widespread movement—which should be carefully watched at least from one important viewpoint. The question is whether in this movement some new seeds of the international civil society is contained and may bring about quite new shapes of the future civilization.

JAN WORONIECKI

GLOBAL DEVELOPMENT IN A SECULAR PERSPECTIVE: GLOBAL CATASTROPHE versus GLOBAL RENAISSANCE

First of all one should respond to the philosophical yet at the same time practical dilemma: *quo vadis*, the globalising planet? Towards self-annihilation—or renewal? The response should not be limited to the guess-work nor an attempt to predict what may eventually happen. The response should focus on how to avert an evidently destructive scenario and to ensure socially and ecologically sustainable development on a global scale, i.e. for all. Obviously, not identical for everyone (country, company, citizen) but without excessive—and dangerous—gaps we witness now as globalisation progresses.

Why globalisation has been picked up at the seminar devoted chiefly to the future of Europe in the first place? The Old Continent's future is intricately linked with that of the "remainder" of the Earth. Long term prosperity of Europe (and other highly developed regions) is unsustainable at long term without decent existence of those less privileged. Not only because poor countries represent an important (though not indispensable) market for our products and source of raw materials. Also because the development gap aggravated by the digital one threatens our well-being by means of unwanted migrations, domestic unrest necessitating our intervention and (conflict and post-conflict) assistance, pollution, expansion of trade in narcotics and humans, crime and—recently—the outburst of—now international and well-organised—terrorism. Today and tomorrow, containment of all these ills happens just impossible. Even prevention proves to be costly and inefficient. Our frontiers cannot be sealed. Our societies and economies protected. Conclusion: some sort of solidarity for our own sake is indispensable and timely. We cannot let globalisation to transform itself into an unguided missile.

What may be done in this juncture by the Club of Rome? Its predictions, including those unconfirmed by the course of events, are of value as they constitute an advance warning for politicians to alter policies. The essential role for the Club nowadays should be, as OECD put it in 2000 in the title of its annual ministerial session, to contribute to the effort of SHAPING GLOBALISATION. Assuming the latter to be a quasi-independent yet man-made phenomenon, born out of interaction of activities by governments, companies especially TNCs, and individuals, as well as IGOs and NGOs, interaction not designed to bring into being any grand plan or a consciously conceived blueprint to save the humanity or make it happy, or happier,—one can ask: at the present stage, can globalisation at all yield itself to any influence or is it a totally

spontaneous force beyond of any control? Are we condemned just to stare at what it brings—evil or good? Not trying to predict its evolution since all the same we are powerless and helpless?

What made globalisation and its constant expansion possible were tools which can be—and are—used for any purpose one can think of. International trade in goods and services—in parallel to the organized crime. Researchers and terrorists alike use internet and mobile telephones. TV reaches people virtually everywhere, for educational, entertainment and other valid purposes, and international terrorists use it to impress people with their wrong-doings and mass murder. Globalisation has either brought or at least exposed profound inequalities among and within societies. Demonstration effect was never so evident—and felt—to and by so many. Also, anti- and (recently) alter-globalists' protests were never so numerous and so visible. Once omni-powerful, nation-states (governments) start to loose (in accordance with Tofflers' forecasts[1]) more and more power to enemies or competitors like TNCs, NGOs, mafias, even threatening individuals like internet hackers. Globalisation appears as an easy prey, or a scapegoat. Though nobody can offer anything instead... Even though some—as anti-globalists disguised as alter-globalists pretend they can (this is not to put in doubt their valuable intellectual effort to pinpoint weaknesses of globalisation).

As I wrote in the volume entitled "Globalisation: Experiences and Prospects" published in 2001[2] and then in another "Law, Institutions and Politics in the Process of Globalisation" of 2003[3], rule-makers and the civil society is capable, through a concerted effort, to alter the course of global processes. International negotiations, mainly at the platform of IGOs, serve as a key tool to implement the task. The goal is to "civilise" the globalisation, to render a human face to the otherwise faceless phenomenon. To manage it. To enhance and—in the first place—to channel to the poor the benefits that can be derived from globalisation, and reduce unwanted side-effects (or abuses). Without trying to deprive it of essential and basically positive ingredient: a rising competition and its different dimensions like, for instance, outsourcing.

Lord Dahrendorf is of the opinion that active approach to globalisation is a must since contemporary democracy has found itself under pressure, and the first factor of this pressure is globalisation: important decisions bearing on our lives have been transferred from the local to global space. Kofi Annan continues: "More than ever, a robust international legal order, together with the principles and practices of multilateralism, is needed to define the ground rules of an emerging global civilization... this implies that decision-making structures through which governance is exercised internationally must reflect the broad realities of our times"[4]. It is precisely globalisation—our common baby born after mid-XX century—which is a motive force of these activities. The point is we should take responsibility for the kid. For our own good—and safety.

Whereas regulatory activity has been lately in full swing, many think we already encounter an over-regulation. This may be true here and there, yet a number of completely new areas call for rules and many old ones call for revision of the obsolete rules governing them. Real weakness though consists not that much in the rule-making but in the implementation of the existing hard or soft law—and its monitoring. Who and how should implement the rules in force, how to help—or

[1] TOFFLER, Alvin and Heidi. "Czy przetrwają państwa narodowe? Kraj okrojony" (Will nation-states survive? A shrinking country). POLITYKA weekly, February 12, 2000.

[2] WORONIECKI, Jan. "The Visions of Globalization", in: Globalization. Experiences and Prospects, ed. A.Kukliński. Warsaw, Friedrich Ebert Stiftung, Rewasz Publ. House, 2001; pp. 15–22.

[3] WORONIECKI, Jan. "Negocjacje wielostronne—podstawowe źródło prawa międzynarodowego w dobie globalizacji" (Multilateral negotiations—,basic source of international law at the era of globalisation), in: Prawo, instytucje i polityka w procesach globalizacji (Law, Institutions and politics in the process of globalisation), ed. E.Haliżak, R.Kuźniar. Warsaw, Scholar Publ. House, 2003; pp. 201–222.

[4] "We, the Peoples. The Report by the S–G to the UNGA. NY, p. 15.

make—others to do it remains the key issue. Since the response to challenges confronting us, and—the more so—ahead of us has been inadequate and asymmetrical. Dieter Krimphove's thesis relating to the crisis or decline of law and intergovernmental dialogue is at hand, nevertheless we need them; what is necessary is to reform and improve the institutions. Their elimination and creating new from scratch does not seem a valid proposition.

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This brings me to the thesis contained in Prof. A. Kuklińskis' memorandum I: "There is an urgent necessity to create a second dramatic turning point in the history of the Club of Rome". I wholeheartedly agree—except for the rationale for the conclusion. The reason as I see it is not so much publicity for nowadays less visible and almost sinking organization in need of a grand theme for another astounding report. It is—first and foremost—the humanity which seems to be at the turning point, and the Club of Rome should take up the challenge to offer its vision not merely of what may happen under various scenarios assumed but—much more importantly—indicate a course of international action to be taken, set of institutions to be created or rejuvenated, changes within societies which must accompany intergovernmental and inter-NGOs—initiatives.

Twelve issues identified by Professor[5] and probably many others confirm that the time is ripe for another major study by the Club to show the threats and related challenges for all actors on the international scene. 15 years after the end of the Cold War a danger of another split of the world (owing to North-South development and digital gaps, clash of civilizations) is looming. Suffice to read Joseph Stiglitz's book on globalisation[6], or the recent report of the World Commission on the Social Dimension of Globalisation "A Fair Globalisation: Creating opportunities for all"[7]. Are we doomed to fail? The response can be found in a realistic study by Jagdish Bhagwati in defense of globalisation[8], Martin Wolf's reasoning why globalisation works[9], or Francis Fukuyama's "State-building: Governance and Order in the 21*st* Century"[10], all published in 2004. All these eminent authors in essence come to a similar conclusion: obstacles to a global economic and social progress have been the failures not so much of the market (whose invisible hand may at times be insufficient or inadequate) but of politics and policies. Of poor and short-sighted governance.

Even if we are not heading in fact towards an **imminent** catastrophe or self-destruction (wouldn't stagnation be enough?), a list of current threats, many of which were not there or at least did not have the magnitude they have acquired by now, should make us shiver. Therefore it seems timely to revive the intellectual future-oriented dialogue where the Club used to be so strong. The dialogue should bring about a research programme as suggested by Professor Antoni Kukliński and the conclusions could serve for a new Club report or (as Klaus Wittman suggests) a manifesto—or both.

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[5] I would though respectfully disagree with putting globalisation as just one of them. It is an all-embracing phenomenon influencing and influenced by others hence should not be considered as on of many factors but—rather—as a kind of *chapeau* for them.

[6] TIGLITZ, Joseph E. Globalizacja (Globalization). Warszawa, Wyd. Naukowe PWN, 2004.

[7] A Fair Globalization. Creating opportunities for all. (Geneva), World Commission on the Social Dimension of Globalization, 2004.

[8] BHAGWATI, Jagdish. In Defense of Globalization. New York, Oxford University Press, 2004.

[9] WOLF, Martin. Why Globalization Works. New Haven/London, Yale University Press, 2004.

[10] FUKUYAMA, Francis. State-Building. Governance and World Order in the 21*st* Century. Ithaca, NY, Cornell University Press, 2004.

ANNA GĄSIOR-NIEMIEC

THE FUTURE OF EUROPE—THE GLOBAL FUTURE—THE CLUB OF ROME
Two International Workshops in Warsaw

Introduction

Ever since its establishment the Polish Association for The Club of Rome, which was founded and registered in Warsaw in 1987, considered strategic thinking in European and global terms to be its predominant objective. Led by its eminent presidents, like Professors Adam Schaff, Józef Pajestka, Zdzisław Sadowski and Antoni Kukliński, the Association has been one of the most active voluntary organizations whose mission is to increase awareness of global problems and European issues among Polish intellectuals, scientists, policy-makers and businessmen. Owing to its linkages with The Club of Rome as well as co-operation with similar associations established in other countries—the German Association for the Club of Rome in particular—the Polish Association has managed to put on the public agenda some of the most important issues viewed from the global and European perspective.

Apart from introducing the public in Poland to some of The Club of Rome's path-breaking reports, the Association has been involved in several related research projects of its own, seminal workshops, seminars and public debates. It has published several volumes of research reports, critical essays and monographs dedicated to social, economic, cultural, political problems of the world.

Under the current executive board, apart from reinvigoration in the fields of publishing, organization of international and national conferences and annual workshops co-organized by the German and the Polish Associations for The Club of Rome, all of which are closely related to the global mission of the Club of Rome, the Association has also successfully embraced the task of expanding its activities to promote the Knowledge-based Society in affinity and co-operation with other global actors, such as the World Bank, the European Union and OECD.

The timing of the two workshops was extremely advantageous from the point of view of the promotion of an effective partnership of the Polish Association and the WSB-NLU Nowy Sacz. The WSB-NLU was preparing at that time under the editorship of A Kuklinski, K. Pawlowski two volumes in the framework of a New Publication Series—The RECiFER Eurofuture Publication Series—vol one "Europe—the global challenges" and vol two "Europe—the strategic choices". Both volumes are dedicated to the European Parliament and will be published in Nowy Sacz in February 2005. The Workshops were able to absorb as inputs some of the contributions

prepared for the Twin Volumes. In turn the Twin Volumes have absorbed some contributions to the Workshops improved by the discussions of this meeting. The following review paper prepared by dr Anna Gasior-Niemiec is trying to present the intellectual mechanism of this interaction.

Workshop 1. "The Future of Europe—Strategic Choices for XXI century"

On 19th of November 2004 a workshop dedicated to "The Future of Europe—Strategic Choices for XXI century" was held in Warsaw under the auspices of the Polish Association for The Club of Rome and the European Support Centre of The Club of Rome. Within the premises of the Polish Economic Society at Nowy Świat 49, there gathered Polish and German scientists, academicians, politicians and journalists of all walks of life to discuss the challenges and opportunities related to the future of Europe. The meeting was also to initiate a closer co-operation between the European Support Centre for The Club of Rome in Vienna headed by its new director, Dr. Thomas Schauer and the Polish Association for The Club of Rome in Warsaw. Building a common research programme focused on the challenges and strategic choices for Europe was envisaged as one of the aspects of the co-operation. The workshop included an introduction to the European Support Centre by Dr Schauer, a panel on the future of Europe chaired by Professor Józef Niżnik and a general discussion following the presentations.

Professor Kuklinski opened the session and invited Dr. Schauer to present the new principles of work and an outline of the programme of the European Support Centre for The Club of Rome. Dr. Schauer introduced the audience to the new conception of the Centre's mission and activities. The ESC is a co-ordination point for the European National Associations. The members of the National Associations make a major knowledge capital available to the CoR, and it needs to be tapped. The ESC serves as a central node of a network of the NAs and helps the CoR to gain advantage from synergies between the different National Associations. Tools include events, projects and studies. The ESC provides among others a News Service on activities in the National Associations. This Service is available on http://esc.clubofrome.org.

Professor Niżnik started the panel on the future of Europe reminiscing about the very beginnings of the Polish-German co-operation under the auspices of the respective national associations for The Club of Rome. He claimed an analogy could and should be made between the challenges and strategic choices discussed in the 1980s and 2000s. The analogy would primarily point to the pressing need to employ courage and imagination while debating the challenges and strategic choices. He reminded the audience that back then, in the 1980s, members of the associations initiated a discussion on the future of Europe in a—what then seemed—completely utopian mood. Strategic options such as the European Union's enlargement to the East were discussed for instance by the participants of the Polish-German workshops. As it turned out, the utopian ideas suddenly and quite unexpectedly—especially for more "realistic" thinkers—came true and became sedimented as facts of life and history.

In other words, hard facts, existing data and rational calculations might not necessarily always be the best predictors of future developments. Political courage and imagination as well as seemingly utopian ideas and concepts authored by academicians and intellectuals have proven to be indispensable in forecasting and making strategic choices so far. On the other hand, one has to realize the limitations inscribed in the very concept of "strategic choices". According to Professor Niżnik, currently it would be naïve for instance to equate strategic choices with free choices, as almost all of the choices that can be made nowadays are conditioned by several factors. The real

issue is to recognize the conditioning factors, both in their positive and negative weight on the choices we may need or want to made.

Many areas of strategic choices may be named while thinking of the future of Europe: economy, security, culture etc. Among them, one should also focus on strategic choices that could lead to a "construction of a social space" in Europe. In brief, one of the most pressing challenges for Europe is to resolve the problem of the growing uncertainty and frustration on the part of the public, which is related to the fact that elite-driven solutions as they have been practiced for decades may no longer suffice to drive the process of European integration further on. Novel institutional solutions are urgently needed to make the European public more involved in the process. Paradoxical blockages might be overcome then like the one that we seem to be witnessing in Poland where the public opinion appears to be more in favour of the European Constitution than any of the political parties is. Professor Niżnik proposed the panelists and discussants reflect upon these and many other challenges and choices that Europe is facing now. Some of the most prominent and most problematic areas were already strongly emphasized in Professor Kuklinski's paper on "Strategic Choices" (this volume).

The first panelist, Professor Juliusz Kotyński took Kukliński's paper[1] as his starting point to delve deeper into a few conceptual dilemmas inherent in the term "strategic choices" seen mainly from the point of view of international relations. He reflected upon certain general restrictions on the scope of choices that are available to different categories of political actors. The restrictions are related, among others to their political power, style of decision-making, type of legitimacy, degree of risk and uncertainty, the number of steps and variables involved in the process etc.

The panelist stressed that making strategic choices in and for Europe today is hindered by a number of factors, such as complex decision-making procedures, deep and multiple political, institutional and social cleavages, and the high level of uncertainty concerning the future. Moreover, it is not all that clear who and how may and should make strategic choices in and for Europe. What seems to be clear is that Europe needs bold solutions and innovative ideas. These however must be complemented with greater transparency and public deliberation. A stronger push towards a federalist model of governance should for instance be made but preceded by public debates, which would render the choice transparent and democratic.

The second panelist, Professor Roman Galar, presented his views on broadly understood developmental perspectives in the frame of which "strategic choices" for Europe should be seen. He advocated caution while using dichotomized models of available developmental options. The models suggest, according to him, that an optimal solution may be obtained by going to any of the extremes. In reality, systems develop best by achieving a balance, establishing a certain harmony. Referring to the strategic dichotomies included in Kukliński's paper, Professor Galar stressed they should be reformulated into a question of how much of either of the extremes we wanted rather than which one we opted for.

Another point to be noted while discussing strategic choices is in his view to resort more to military conceptual models in which strategies are hierarchically placed among other conceptual fields, preceded by aims and followed by tactical and operational levels. The level of aims was essential to scrutinize before moving to the level of strategies, then tactics etc. Aims for their part are always rooted in values. Therefore before entering the debate over strategic choices for Europe, one would be well advised to look into European dominant values. Values might be treated as probably the most important predictive variable while considering future options and choices.

[1] Kukliński A. 2004. "Europe—the strategic choices. Six methodological reflections", [in:] *The Future of Europe. The Global Future. The club of Rome*, The Polish Association for The Club of Rome: Warsaw.

Dr Tomasz Grzegorz Grosse concentrated on the institutional level that frames the field of strategic choices for Europe. European institutions, he claimed, are key both to the effectiveness of European public policies and to the emergence of common European identity. Therefore, first of all it is the design of European institutions that should be looked into while pondering dilemmas, challenges and choices in Europe. He argued that the main dilemmas involved in the design of European institutions were the following:

— an adequate arrangement including federal vs. national (sub-national) institutions
— a type of leadership (technocratic vs. political)
— a type of legitimacy (elitist vs. democratic)
— a system of interest representation (territorial vs. sectoral)
— a framework for strategic and crisis management (efficiency vs. legitimacy and social control)
— a style of policy management (coercive vs. elastic).

The next panelist, Professor Mieczysław Kabaj pointed out human resources as a field within which strategic choices must be made in Europe. He focused on problems such as educational failures (e.g. growing number of school drop-outs), ageing societies, low mobility of Europeans, and potentially disturbing unbalanced distribution of income within European societies (e.g. according to him the bottom decile of the population has had steadily decreasing level of income in most of the European countries). These are the challenges that must be further analyzed, discussed and solved.

The last panelist, Dr Thomas Schauer argued that challenges and choices might be deliberately deferred, hidden, masked and/or altered behind certain concepts, notions and terms. He discussed the ambivalent and/or mystified events and processes—and/or, conversely, *lacunas* in stead thereof—that have been disguised and disarmed by means of concepts such as the "unification of Germany", the "accession states", a "European identity", "European values" etc. Discourse on Europe needs careful examination to disclose the real challenges and choices involved.

In the discussion that followed, a member of the European Parliament, Dr Jan Olbrycht, argued that in fact strategic thinking was going on within the EU institutions. A tension was growing between the community institutions and national governments in relation to the future shape of the European polity. Moreover, challenges coming from the outside of the EU, such as reports on European governance and European *finalite* coming from Turkish experts, seemed to inspire those inside the EU to think more critically and openly about a new Europe. Openness and competitiveness with traditional values far in the background might be one of the options for the future EU instead of opting for an over-regulated, homogenizing super-state whose spirit belongs to the XIX century.

Other discussants focused on investigating the issues of European values as well as attributes of the EU as a political power. These were seen as essential factors that needed to be clarified before further questions concerning strategic choices were asked and answered. The research programme on European challenges and choices proposed by Antoni Kukliński should therefore include also probing the fields of European values and attributes of power in its framework. The programme is to be established under the auspices of the Wyższa Szkoła Biznesu-National Louis University in Nowy Sącz, the Polish Association for The Club of Rome in Warsaw with co-operation of the European Support Centre for The Club of Rome in Vienna.

Workshop 2: "The Global Future—The Club of Rome"

On 20th and 21st November 2004, within the premises of the Polish Economic Society, a workshop of the German and Polish Associations for the Club of Rome was convened. Around 30

Polish, German and French diplomats, policy-makers, politicians, scientists, and experts attended to present and discuss views on global challenges, options for the future and, both acknowledged and overlooked or ignored, current potentials. As stated by the President of the Polish Association for The Club of Rome, Professor Antoni Kukliński, the workshop was to reinforce and extend the decades-long co-operation between the two national Associations as well as to lead to outlining a framework for three research programmes focused, respectively, on global, European and regional issues. The workshop was organized in three panel discussions[2]:

1) **"Europe—the global challenges"**, which was chaired by Mr Uwe Moeller (Secretary General of The Club of Rome); General Dr Klaus Wittman (Fuehrungsakademie der Bundeswehr), Professor Thomas Bruha (Europa-Kolleg-Hamburg), Dr Thomas Schauer (The European Support Centre for the Club of Rome) and Mr Kolja Raube (University of Hamburg) took the roles of the panel speakers;
2) **"The Weimar Triangle—an Illusion or Reality"**, which was chaired by Mr Antoni Kukliński; Dr jur. Dieter Krimphove, Mr Philippe Brunnel, Mr Bruno Duthois, Mr Stefan Bredohl, Mr Aleksander Korybut-Woroniecki, Dr Wojciech Burzyński took the roles of the panel speakers;
3) **"Global Development in a Secular Perspective. Global Catastrophe versus Global Renaissance"**, which was chaired by Mr Thomas Schauer (the European Support Centre for The Club of Rome in Vienna); Mr Uwe Moeller (Secretary General of The Club of Rome, Professor Antoni Kukliński (the Polish Association for The Club of Rome), Professor Zdzisław Sadowski (Polish Economic Society), Professor Jan Woroniecki (Ministry of Foreign Affairs, Republic of Poland), Professor Aleksander Łukaszewicz (Warsaw University), Professor Józef Niżnik (Institute of Philosophy and Sociology, Polish Academy of Sciences) and Professor Roman Galar (Technical University of Wrocław, Institute of Engineering Cybernetics) the roles of the panel speakers.

Session 1: "Europe—the global challenges"

Chairman Uwe Moeller started the first panel by introducing a few global issues that could be seen as starting points for further presentation and discussion. The idea of globalization as a win-win vs. zero-sum game, the idea of sustainable survival vs. sustainable development as a critical choice, the recurring issue of the limits to growth, which was broached decades ago by Dennis Meadows all seem to acquire ever more urgency (especially alongside the dynamic growth of China and India) and similarly—the never resolved problem of energy, and the equally persistent, political instability in the Middle East being of crucial importance to Europe due to its high and ever increasing dependency on oil and gas supplies from this region. These and many others appear as global challenges that need to be widely discussed and, if possible, met with adequate solutions to which Europe has to contribute substantially.

The first speaker, General Dr Klaus Wittman, spoke on the Euro-Atlantic partnership as exemplified by NATO, both as a challenge and as a solution to some of the challenges in the European and global perspective. The partnership, reformulated after the collapse of the Soviet system, has expanded, experienced external and internal tensions but still has managed to reassert itself as a strategic actor in the field of global security. Moreover, NATO, in the General's view, should be seen as a most appropriate platform for the urgently needed strategic dialogue between the EU and the USA in order for both sides to articulate openly issues of security, their idiosyncratic interests, and to find a satisfying and working compromise thereof. Furthermore, NATO and its activities after 1990 provide ample evidence that some new strategic thinking is generally needed to cope with asymmetrical threats, preventive or pre-emptive actions,

[2] Improved versions of the papers delivered by the panelists are included in this volume.

ever more blurred issues of internal and external security, inefficiency of inter-blocking instead of interlocking international security institutions as well as to debate an uneasy opposition between legal and legitimate actions.

Dr Thomas Schauer spoke on the challenges inherent in the Lisbon agenda as *the* strategy for Europe. He pointed out to the conceptual and methodological inadequacy of the concept of sustainable growth as it was inscribed in the Lisbon document. Furthermore, using a parable of the Pandora Box, he emphasized the ambivalent nature of technological progress: blessed for making people's lives seemingly easier, more comfortable, less costly and more free, in fact it may lead to increased direct and indirect consumption of natural resources, production of waste, congestion, pollution and other ills.

Professor Thomas Bruha wondered in his presentation whether the Constitutional Treaty could be seen as a qualitative change in the process of European integration. Critically analyzing several articles of the Constitution he argued that in many respects, the Constitution represented a step backwards rather than forwards in the development of the European polity. The voice of national governments has in fact been strengthened by some of the "last minute" amendments introduced in a not very transparent manner to the body of the Constitutional Treaty. Addenda in the form of protocols and annexes document fragmentation of the normative and regulative authority of the Constitution. Promotion of the external identity of the EU ceases to be the task of the CFSP under the Constitutional Treaty. Many other traces of "slowing down" the process of integration could be pointed to. In sum, as Professor Bruha claimed, the Constitutional Treaty might be seen as "new clothes for the old king".

Mr Kolja Raube in his presentation on "Efficiency, democracy and the prospects of a two-track Europe in CFSP/ESDP" argued for a reconciliation between "input legitimacy" and "output legitimacy" in the framework of the EU. The challenge is to perceive differences between member-states not as an obstacle but as a pool for efficient policy-making. The issue of "expectations-capability gap" also appears to be extremely disturbing in the case of CSFP. Further challenges derive from the principles of unanimity and enhanced co-operation although these—if supplemented with socialization-effect—need not necessarily lead to solutions based on the lowest common denominator. Wondering whether the EU could emerge as a normative power rather than a military one, Mr Raube also hypothesized that engaging politicians and publics in wider debates concerning CSFP could actually influence and strengthen the formation of a European identity.

The discussion following the presentations focused mainly on the challenges derived from the ill-balanced relationship between the EU and the US, the rise of China to the rank of global powers and a change of the world order that might be envisaged in the context. Some discussants, General Dr Wittman and Professor Woroniecki among them, pointed out that the global order was hopefully becoming closer to multipolarity with China entering the order as a competitor perhaps but the one that is aware of global interdependencies and possibly open to co-operation with the EU and the USA. The recent conference in Beijing dedicated to "NATO and the world security" might be treated as a sign of the process. As General Dr Wittman observed 5 years before if such a conference were held in Beijing at all, it would be dedicated to «NATO as a threat to the world security». Therefore, global interdependencies produced, according to the discussants, both challenges and unexpected opportunities.

Session 2: "The Weimar Triangle—an Illusion or Reality"

The second panel session was devoted to the history and future of the Weimar Triangle as a strategic regional structure in Europe.[3] The French-German-Polish partnership was analyzed thoroughly by Dr. jur. Dieter Krimphove. Taking the multi-faceted history of the French-German and German-Polish and then trilateral relations, Dr. jur. Dieter Krimphove proposed, following Roger Cohen of the Herald Tribune, that the Weimar Triangle be treated as a role-model of reconciliatory politics that could perhaps be transferred to help cope with other conflictual fields, such as for instance the conflict between Israel and Palestine.

The transferability of the model is premised on the assumption that it acts as a framework of norms which "institute" and "legalize" the process of reconciliation and peace-making. The institutionalization of a normative and legal model means lower transaction costs for any conflict resolution process, including diminished costs of military actions and their consequences, lower costs of intelligence, etc. However, the working of the model needs to be supplemented by rules of its enforcement; integration within an international regimes like the Weimar Triangle seems, according to Krimphove, the most effective way thereof as it induces the interested parties to define common interests. Moreover, participation in such a regime produces a common institutional culture that affects strategies on both sides.

Mister Aleksander Korybut-Woroniecki presented a view that Poland's accession to the EU had provided further stimulus for the development of the French-German-Polish co-operation by including Poland in mapping out a common vision of the CSFP/ESDP, joint reflections on agricultural and regional policies as well as closer co-operation under the common justice and home affairs framework. However, apart from the political and policy level co-operation, the Weimar Triangle to become a sustainable structure should invest in growing involvement of the public: promotion of cultural exchange, professional and local government programmes, more visibility in the media, establishing a foundation to implement the project of gaining popular acceptance. Apart from the institutional expansion, some symbolic steps need to be undertaken, such as adopting a common political declaration by the heads of the states on the one hand, while—on the other—offering to the public a Weimar Triangle ambassador of a kind: a figure of Mr or Mrs Weimar.

Focusing on some details, he said that "In the final communiqué of the Weimar Triangle summit (Wrocław, 9 May 2003) the French and Polish Presidents and the German Chancellor reaffirmed on behalf of their countries a firm commitment to continuing their special cooperation. What is more, Poland's entry into European Union structures created, they believed, an exceptional opportunity for making it a forum for dialogue and political inspiration going beyond the existing framework of cooperation. If France and Germany's simultaneously declared wish to include Poland in their ongoing debate on the future of Europe and to reinforce three-way dialogue is to become a fact it must be translated into concrete action. Such action should be characterized by clearly defined objectives, diversity of forms and popular acceptance.

[In terms of] **political objectives**, one of the notable results of the Wrocław summit was an invitation to Poland to map out a common political vision of the Common Foreign and Security Policy and the European Security and Defence Policy. Poland has a vital interest in participation in trilateral consultations of foreign and defence ministers aimed at framing a uniform European position in this field. In particular, given our geographical situation and experience of history we wish to contribute in concert with France and Germany to development of the EU's eastern

[3] Cf. Kukliński A. 2004. " The Weimar Triangle. An international Research and Publication Programme. Towards a New Paradigm" and idem, "The Weimar Triangle—The historical illusion of the XX century vs. The strategic reality of the XXI century" [in:] *The Future of Europe. The Global Future. The club of Rome*, The Polish Association for The Club of Rome: Warsaw.

dimension. Another important element of expanded cooperation will be participation in joint reflection on the evolution of agricultural policy, structural economic and social change, and transport and energy policy in the form of regular working meetings at decision-maker and expert level. Also of growing significance in both the European and the Weimar Triangle dimension will be closer cooperation under the common justice and home affairs policy, especially in the area of combating terrorism and organized cross-border crime.

[In terms of] **Forms of action**, definition of the objectives of trilateral cooperation should be accompanied by incremental expansion of the number of institutions and persons involved in pursuing these goals both in the political dialogue dimension and specific manifestations of social life. An important role could be played by professional contacts between parliamentary committees, ministries and central and regional agencies. Parallel to these, we should promote social cooperation, in both the forms already in place (three-way exchanges of youth, contacts between local authorities, towns and communes) and ones only recently established (employers' associations, academic and professional institutions)."

While Mr Duthois in his short presentation outlined a corporative perspective on the French-German-Polish relations within the Weimar Triangle, Mr Brunel elaborated on the prospects of the French-German-Polish co-operation in more general terms. He said that "Since its relatively recent reactivation, the Weimar Triangle is a very efficient instrument to prevent or to solve potential or effective conflicts or misunderstandings. But that instrument should also be oriented to a positive goal: what kind of initiatives, projects or special visions of Europe Poland, France and Germany want to promote? Are these three countries able to draw compromises which could prepare a consensus at the European level? In theory spontaneous positions or interests of Poland, Germany and France are different in the majority of cases: rich v/ poor countries; countries with a strong social-democrat background v/ country which dreams more about the American way of life; countries with a strong industrial basis v/ country where agriculture still plays a significant role. If these three countries succeed in elaborating a compromise, it could have a driving force towards the other member-states. The political dialogue between France and Poland resumed at a very high level and very quickly since the beginning of September. But the public opinion in France has still in mind the last two years where the opposition between the two countries was especially tough. So beyond the dialogue between Poland, Germany and France within the Weimar dialogue exists the need of specific bilateral contacts in order to improve the image and the knowledge of Poland in France and vice versa."

The next speaker, Mr Stefan Bredohl wondered if the Weimar Triangle should be seen as a reality or a utopia. On the one hand, it constituted an instrument to contain conflict and crisis in Europe. On the other, it lacked horizontal, everyday programmes that could integrate populations. Moreover, Poland's views on the Iraq as well as her ambitions to become an intermediary between the EU and the US were, according to the speaker, rather ill-founded and constituted an obstacle to furthering co-operation within the Weimar Triangle.

Dr Wojciech Burzyński proposed an alternative outlook on the Weimar Triangle. He suggested turning from non-measurable to measurable issues and items. The benchmarking system developed to measure and compare Knowledge Economy Indices in different countries could be applied to the assessment and comparison of KBE potentials in the three partners within the Weimar Triangle. The KE Index is composed of 4 basic components: general economic regime; education, information & communication infrastructure, and innovation.

Professor Antoni Kukliński drew attention to the dormant intellectual, scientific and institutional potential of the Weimar Triangleusing it as a tool for mutual information and consultation of three important EU partners more likely to promote EU decision-making. As yet no Weimar research programme has been proposed, which seems a curiosity in view of the importance

attached to the trilateral partnership. Mindsets of the Polish, German and French scientific communities appear to be diverging or at least not cohesive, according to the speaker. In the meantime, a few challenging issues are awaiting a joint scientific approach. The bankruptcy of the welfare state and its consequences, the prospects and impacts of the knowledge-based economy and knowledge-based society, co-operation between Polish, German and French regions all require a scientific inquiry. It seems clear for instance that more intense co-operation within the Triangle could be enhanced if stronger governance structures where in place in the European Union. The EU governance constitutes a challenge in itself, as the EU member-states may have to be forced to state their choices more openly. Likewise Poland has to assert its choice to opt for the EU that is not only an economic fact but also a political and social entity. Only strong Europe can help overcome the peripheral position of Poland in Kukliński's opinion.

In the following discussion, a variety of topics were introduced. Mr Moeller advocated a win-win approach to the problematic of the Weimar Triangle. Mr Galar was skeptical about the enhanced co-operation within the Weimar Triangle; he pointed out that other areas of co-operation were perhaps more attractive and open for Poland in this respect, namely Great Britain and Scandinavia. Professor Klaus Ziemer expressed his disappointment at the involvement of France in the Weimar Triangle activities. Similarly, he saw a need for Poland to state her strategic choices more clearly. Referring to Kukliński's presentation he wondered whether indeed strong Europe was *the* Polish choice. Mr Brunnel raised the subject of negative national stereotypes that are still in place among the nations of the Weimar Triangle. Poles appear to the French people as ultra-Catholic, reactionary anti-Semites, which does not help to enhance mutual co-operation. While other discussants continued to debate the controversy, Professor Kukliński saw it as an excellent starting point for initiating a scientific research programme focused on the diversity within the Weimar Triangle [4] and its function of a laboratory for reconciliation. The idea to start building a social science research community dedicated to the investigations was fully supported by Mr Krimphove and other speakers.

Session 3: "Global Development in a Secular Perspective. Global Catastrophe versus Global Renaissance"

The third panel session dedicated to the topic of "Global Development in a Secular Perspective. Global Catastrophe versus Global Renaissance", chaired by Mr Schauer, took as its starting point the Helsinki paper by Antoni Kukliński[5]. The Chairman initiated the panel with a thought-provoking anecdote reporting an encounter between Alexander the Great and Diogenes. He continued with an argument that the world consisting of a variety of local cultures was more and more being replaced by a world encompassed by horizontal cultures built on homogenizing order and information technology. The question for him was whether the two types of culture could still coexist in the XXI century and the ones to come or the horizontal culture would dominate and then eradicate the local cultures completely. Another question that he posed concerned the very possibility of forging a European identity and a European culture in the period more and more overwhelmed by global, horizontal culture.

[4] Cf. Kukliński A. 2004. "The Weimar Triangle. An International Research and Publication Programme. Towards a New Paradigm" [in:] *The Future of Europe. The Global Future. The club of Rome*, The Polish Association for The Club of Rome: Warsaw.

[5] Kukliński A. 2004. "Global development in secular perspective. The experiences and prospects of the years 1950–2050. Global catastrophe versus global renaissance. Memorandum I" and idem, "Global development in secular perspective. The experiences and prospects of the years 1950–2050. Global catastrophe versus global renaissance. Memorandum II" [in:] *The Future of Europe. The Global future. The Club of Rome*. The Polish Association for The Club of Rome: Warsaw.

Mr Moeller acknowledging that indeed the period we live in might exhibit all of the traces of a global village went on to introduce the issue of the paper presented by Antoni Kukliński at the 2004 Annual Conference of The Club of Rome in Helsinki. Kukliński argues in it that The Club of Rome urgently needs to produce a new stimulus to global development. Therefore it must embark on a path-breaking intellectual and scientific venture that could reverberate in the world as "The Limits to Growth" did decades ago. The research programme "Global Development in a Secular Perspective. Global Catastrophe versus Global Renaissance" outlined by himself by means of 12 theses promises to produce another turning point for The Club of Rome and its global mission.

Reporting the general approval of Kukliński's idea by The Club of Rome, Mr Moeller proposed the structure of the research programme, the mechanism of its execution and the final deliverable be further discussed. There is no doubt a "plus-minus 50" research programme focused on global developmental trends and options is needed. The Club of Rome is dedicated to sending a message to the world that is evocative and based on substantial research that covers the span of the next 50 years. Insightful research, intellectual imagination and political courage are welcome to delve into the future and develop different scenarios outlining possible and probable global developments. To this end Kukliński's theses are best dealt with when thoughtfully clustered and streamlined into a kind of work packages that might be executed and delivered by carefully selected researchers and experts. The intellectual and organizational potential of The Club of Rome could be deployed to this end.

The following panel presentations and remarks of the discussants concentrated mainly on the philosophy and form of the proposed enterprise. It was generally agreed that while this kind of research might be expected to bring voluminous partial reports, the final report to be effective should be relatively concise (a maximum of 300 pages). Its message could even be more effective if it were formulated as a manifesto, some of the discussants, like Józef Niżnik, argued. Professor Kukliński accepted the suggestion and agreed that a less voluminous outcome may possibly have a stronger political impact when presented to decision-makers.

Claiming that humanity was not so much on the verge of a global catastrophe as on the road to it, Professor Zdzisław Sadowski pointed to some of the global tendencies and trends that are relevant in the context of the proposed programme. Building on Meadows's reports, he emphasized that surprisingly little impact was achieved so far by the attempts to avert global catastrophes, especially in the political and social sphere. While a political power fully committed to the implementation of the model of sustainable development for the world is still lacking, one should not overlook the potential dynamics of the budding anti-globalist or alter-globalist movement in this respect. Global issues may not, however, be left to the free play of chance and the care of the market forces in Professor Sadowski's view.

Professor Jan Woroniecki continued in a similar vein, stressing the need to answer the question "Quo vadis the globalizing club?" In view of poor effectiveness and high costs involved in traditional strategies designed to avert global threats like drug-trafficking, terrorism, fuel crises, he advocated an approach based on global solidarity. As the future of Europe is linked with global future, strategic thinking in Europe must acknowledge the needs and interests of those who remain outside the European club. Protection and preventive actions aimed to guard the world of the affluent are not sustainable solutions in the long term. There is a pressing need to "shape globalization", although, admittedly, no blueprint is ready at hand.

Professor Aleksander Łukaszewicz added a few new points to the discussion wondering whether globalization was indeed beyond our control. To admit this would mean to give up strategic thinking and expose human powerlessness. Both the rising global civil society and the expanded realm of a global public sector point to the fact that in reality humans do try to meet the challenges. This however, in his view, can only be effectively implemented by means of statal

and interstatal governance and further expansion of a global public sector. The rising global civil society and market are not likely to take the lead in responsibility for the globe. The Club of Rome should nonetheless dedicate some thought to the challenge posed by alter-globalists. The new political economy of globalization promises new insights in this respect.

In the following discussion there were voices that argued for increased diversity and pluralism as the underlying principles of the world order. Professor Galar, while pointing to the fact that one should look up to the future as a space of choices rather than a road to somewhere, advocated at the same time a renaissance of a neo-medieval order in Europe. Middle Ages provided, in his opinion, a truly successful paradigm for managing diversity and heterogeneity, including increased spectrum of fields for an individual to succeed. He said that " «The Limits to Growth» was a mind opener on an unprecedented scale. Unfortunately, many believe it to be a failure. They point out that the dire consequences predicted in this report were somehow avoided, so let's be optimists. They abstract from the fact that fulfillment of the rapport's most basic assumption, i.e. of convergent development, was hold back for decades. It becomes valid only now, with the grand entry of China and India as global producers and consumers.

What is still more annoying, we might be entering the period of doom predicted by the *Limits to growth* just in time when some fundamental cultural trends of our era show symptoms of approaching to their limits as well. This happens with procedural democracy, synergy of free market and free trade, formal education etc. All this deserves the kind of serious attention that Prof. Kuklinski is calling for. The single factor that might be the most exasperating is that the innovative drive of our civilization is stalling. This effect might be overlooked in the avalanche of incremental improvements and clever combinations of the already existing solutions, which are highly advertised everyday. Yet, if one compares the influx of breakthrough concepts with the soon proven life changing capacity between the late 19^{th} century and the late 20^{th} century, the crisis is evident.[6] The causes of such slowdown might be explained in a number of ways, e.g. as the results of the intentional model of development.[7] Whatever the reasons, if this innovative-adaptive impasse continues, the challenges posed by the limits to growth look still more formidable. It is hard to say what might shake the complacent public opinion of the early 21^{st} century; still the effort proposed by Prof. Kuklinski is worth trying".

Professor Niżnik stressed that one should be aware of the conditionality that nowadays underlies the space of choices. On the other hand, he claimed that the global challenges could be usefully reformulated into a set of questions concerning the human nature rather than political options. If the world today were compared to the Hobbesian state of nature—and indeed such a comparison could be according to Niżnik made—the real issue was the ability of humans to forge a new global social contract. To consider this dilemma, more attention should be dedicated to scientific work on human consciousness. Social science and humanistic approach should take precedence over technocratic knowledge while thinking about global challenges and choices that need to be made. This kind of "soft" insight could, in Niżnik's view, produce some breakthrough that could also serve to update the global mission of The Club of Rome.

In Niżnik's own words "[t]here is an urgent need for a turning point in the mission of the Club of Rome. Its activity could concentrate on quite different aspects in human relation's to the world. There is a need for a global agency that would exploit existing knowledge, **social and humanistic knowledge**, to overcome social, religious and cultural roots of antagonisms between the peoples world-wide. This may become the new mission of the Club of Rome, since the original

[6] R. J. Gordon , *Does the "New Economy" Measure up to the Great Inventions of the Past?* Journal of Economic Perspectives, vol. 4, no 14, 2000.

[7] R. Galar, *Knowledge Economy and Evolutionary Traps*, (in:) Kukliński A, W.M. Orłowski (eds), The knowledge based economy, The global challenges of the 21^{st} century, Rewasz, Warsaw 2000

mission, stressing economic and environmental sustainability, has been taken over by a number of other international agencies, and relevant expertise has become almost a common knowledge. But, it is quite clear now that any possible success in this area needs first transformation of human consciousness which appears to be a dramatic barrier. This could become a new challenge for the Club of Rome and the European Union could become our "laboratory" to develop some measures that could be later applied globally."

Other discussants stressed the linkages between the issues of human nature, values, institutions and modes of governance. General Dr Wittman brought forth the issue of values and differences that were traditionally contained within borders. He wondered on the nature of governance, institutions and identity in the period when borders cease to mark the lines between "us" and "barbarians". Professor Bruha was especially animated by the vision of the neo-Hobbesian order seemingly replacing or at least undermining the Kantian order based on law. Mr Raube pointed out there already were new, successful modes of global governance in operation; FIFA was one of the best examples of such new governance regimes.

Antoni Kukliński ended the workshop with a few *Treppengedanken*. He claimed that the mission of The Club of Rome was definitely not finished yet in the face of the many global challenges. However, a turning point or a shake-up was needed to reassert the Club's role and weight in the global dimension. The Warsaw workshop proved that a serious reflection leading towards three research programmes was urgently needed in view of a wide-spread deficit of innovative thinking, imaginary forecasting and bold decision-making.

a) The global research programme should be structured around the Helsinki paper following Uwe Moeller suggestions concerning clustering and streamlining of the theses and selecting manpower for its delivery. The Secretariat of The Club of Rome, the German Association for The Club of Rome and the Polish Association for The Club of Rome will be the major institutions involved in further construction and implementation of the programme
b) The European research programme should be organized around strategic choices, including the issues of European identity, institutions and governance. Wyższa Szkoła Biznesu-National Loius University in Nowy Sącz and the Polish Association for the Club of Rome in co-operation of the European Support Centre for The Club of Rome in Vienna will be the main institutions involved in further construction and implementation of the programme.
c) The Weimar Triangle research programme should be preceded by establishing a Weimar Triangle Social Science Community. The Polish Association for The Club of Rome and the University of Paderborn will be the first institutions involved in further construction and implementation of the programme.

Further work on the construction of the three research programmes should draw on general methodological reflection that concerns the issue of building frameworks for scientific inquiry as such. The methodological outline by Antoni Kukliński and comments by Tomasz Zarycki and Katarzyna Żukrowska, included in this volume, may be taken as an apt introduction and an invitation for further discussion in this respect.

While networking between participants of the workshop should be encouraged and kept alive, Professor Kukliński promised that some of the contributions to the workshop—apart from becoming part of the network resources—would also appear in the present 2 volumes dedicated to global challenges and strategic choices in Europe and elsewhere. Chairman Uwe Moeller, in his final statement, apart from the words of gratitude directed at the participants and organizers of the Warsaw workshop, and Antoni Kukliński in particular, stressed that further discussion and work on the research programmes could be resumed as part of the proceedings of the next workshop in Hamburg in 2005.

Part Seven

Strategic choices—methodological reflections

ANTONI KUKLIŃSKI

EUROPE—THE STRATEGIC CHOICES SEVEN METHODOLOGICAL REFLECTIONS

First Reflection

Introduction

This is a title of the volume which will be published in February 2005. The volume is a follow up of five volumes[2] published in Poland in the years 1998–2004. These five volumes were prepared by an eminent group of 100 authors representing competent and elegant domain of the European Academic Community. So the new volume is not emerging *in crudo radice*. This volume is a link in an interesting intellectual history—having its past—present and the future. The new volume has the honor to include a set of contributions presented both by the "old" and "new" Authors.

The philosophy of the new volume

The formulation "the strategic choices" is assuming that the developmental processes in Europe of the XXI century will have a double nature:

— *primo*—the nature of a spontaneous process driven by the global market forces,
— *secundo*—the nature of a guided process driven by the decisions of the grand actors of the global and European scene.

Four groups of a grand actors should be mentioned in this context:

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[1] Maybe the term "strategic choice" should be replaced by "critical choice" as defined by Y. Dror:

"A choice making a real difference for the future in objective sense or assumed to do so subjectively. The appropriate metaphor as used in the classical Confucian writings is one of painfully facing crossroads leading into different futures, however uncertain." Y. Dror, The capacity to govern, Frank Cass, London 1999, p.XIV.

compare also the contribution of M. György in this volume.

[2] a) A. Kukliński, K. Pawłowska (eds) Innovations—Education—Regional Development, Nowy Sącz 1998, WSB–NLU

b) A. Kukliński, W. Orłowski (eds) The knowledge based economy—The global challenges of the XXI century. Warsaw 2000, State Committee for Scientific Research of the Republic of Poland.

c) A. Kukliński (ed) The knowledge based economy—The European challenges of the XXI century, Warsaw 2000, The Stete Committee for Scientific Research of the Republic of Poland.

d) H. Bunz, A. Kukliński (eds) Globalization—experiences and prospects. Warsaw 2001, Friedrich Ebert Stiftung—Warsaw Office.

e) A. Kukliński, B. Skuza (eds) Europe in the perspective of global change, Warsaw 2003, The Polish Association for the Club of Rome.

1) the grand international organizations and especially the European Union, the OECD and the World Bank
2) the grand transnational corporations
3) the governments of big, medium and small countries
4) the self-governments of autonomous or semi-autonomous regions which will assume a growing role on the European and global scene.

To my mind—the developmental process in Europe of the XXI century will be leseferic and dirigistic at the same time. We have to find the optimal composition of leseferism and dirigisme for the development of Europe of the XXI century.

This point of view may be seen as controversial but a controversy of this type will increase the intellectual and pragmatic charm of the new volume.

Seven fields of strategic choices

The future of Europe should be seen in long term perspective. We can outline different approaches and value judgment related to this perspective. In this short paper I would like to propose to consider seven fields of strategic choices (this list has a preliminary character).

The first field is demography. Europe is a dying continent. There is a fundamental strategic choice to promote or not to promote active pronatalistic policies in Europe. The choice is not only substantive—it is also ideological. Anyway we have to face this choice.

The second field is economy. The strategic choice can be formulated in a clear dichotomy. Should the Lisbon Agenda be taken seriously or this Agenda should be regarded only as a nice set of good intensions. The knowledge based economy is a dramatic challenge for Europe.

The third field is science and technology seen as an important source of the power of European civilization. The strategic choice is to promote organic policies which will create conditions for the emerging of a new renaissance in Europe.

The fourth field is education[3]. There are two strategic choices in this field:
— *primo*—democratic versus elitist education,
— *secundo*—national versus European education.

Both choices are controversial in the framework of conventional wisdom and political correctness.

The fifth field is culture. In this case the strategic choice is also very clear—the elitist culture versus mass culture.

The sixth choice is governance. It is a choice of federal versus non federal Europe.

The seventh choice is related to the developmental gap of the European mega space. This is the choice center versus periphery.

Conclusion

Naturally the tentative list of seven strategic choices[4] is just an opening suggestion and the beginning of the creative discussion developed inside the team of the potential Authors of the new volume.

Naturally each Author will express his own substantive approaches and personal value judgments. **The pluralistic philosophy is the fundamental assumption of the volume**. The

[3] Compare: K. Pawłowski, Education—the key to the Future of Europe—in this volume.

[4] The seven strategic choices can be symbolically expressed in the fundamental dilemma—"Strong versus weak Europe"
compare: Europe in the perspective of global change, op.cit, p. 511.
Compare also: A. Kukliński, Strong or Weak Europe (in:) REUPUS Volume One.

volume will not try to outline an integrated set of strategic choices for Europe of the XXI century. The new volume will try only to supply a contribution to creative discussion of this fascinating problem.

Let me express the hope that the new volume will be a source of innovative substantive approaches and bold value judgments.

Audaces fortuna iuvat!

Second Reflection
The multiple ego of knowledge based economy in Europe

Introduction

The development of KBE in Europe will have a double nature:

— *primo*—the nature of a spontaneous process driven by the global market forces
— *secundo*—the nature of a guided process driven by the grand actors of the global and European scene

This dichotomy could be expressed also as a co-existence of leseferic and dirigistic approaches to the development of KBE in Europe. Four groups of grand actors should be mentioned in this context:

— The European Union
— The transnational corporations
— The national governments
— The self-governments of autonomous or semi-autonomous regions

This is to my mind the multiple ego of KBE in Europe. Three methodological assumptions in the studies of this "multiple ego" are proposed:

1) the methodology of institutional and behavioral studies analyzing the modus operandi of the grand actors,
2) the methodology of benchmarking studies outlining the emergence of best practices and the diffusion of these best practice in Europe,
3) the methodology of deeply critical evaluations transgressing the limits of political correctness and conventional wisdom,

In this intellectual climate I would like to propose to establish and develop a grand research project:

"The multiple ego of KBE in Europe"

The starting point of this project is an inquiry into the nature of KBE presented in the path-breaking volume published by the European Commission[5]. This inquiry will be *inter alia* performed by an interdisciplinary team of four Polish authors[6] concluded in November 2004.

"The multiple ego" project

Let me present a few introducing remarks answering the questions—how to analyze the modus operandi of the grand actors.

[5] European Commission, Third European Report on Sciences and Technology Indicators—2003, Towards a knowledge—based economy, Brussels 2003.

[6] W. Burzyński, R. Galar, K. Porwit, W. Świtalski—compare the papers of these Authors in this volume.

The European Union

The Lisbon Agenda and other activities of the European Union are an important contribution to the development of KBE in Europe.

I think however that the contribution of the Union is too slow and too small to change the KBE into a new paradigm of European development.

To use the old W. Rostow terminology the Union has not yet created the universal take off conditions for the development of KBE in Europe. The proposed "Multiple Ego" project should find a comprehensive and balanced judgment related to the performance of the European Union in the field of KBE.

The transnational corporations

The emergence and development of KBE in Europe is to a large extent related to the approaches and decisions of the grand transnational corporations. We need a comprehensive historical and prospective reflection in this field. A historical study should answer the question—how the TNC have created their contributions to the development of KBE in Europe—let us say in the last decades of the XX century?

A much more challenging prospective study should try to answer the question—how the TNC might contribute to the development of KBE in Europe in the perspective of 2020–2030?

This is a particularly difficult topic—since the TNC are global by definition. So Europe for TNC is only a fraction of the global megaspace. This means not however that we should not try to develop a well organized knowledge concerning this fraction.

The national governments

It is well known that the performance of national governments in Europe in the field of KBE is deeply differentiated phenomenon. We should be not afraid to apply the benchmarking methodology in the analysis of the performance of the 25 governments of the European Union in the field of KBE.

This benchmarking approach should be developed also by monographic studies designed in the spirit of the institutional school[7] of thinking. These monographic studies will answer the question—why some national governments are so brilliant[8] and why some other national governments are so weak in intellectual and pragmatic dimensions.

The regional self-government

The dynamic and innovative region is an important actor of the global and European scene. In this context we should see the growing role of regional self-governments in the promotion of KBE.

In the framework of the proposed project a set of 100 European regions could be defined and selected. This set could be changed into a *sui generis* laboratory of social sciences in the field of the development of KBE in the reality of European regions.

[7] compare: World Development Report 2002—Building Institution for Markets, The World Bank, Oxford University Press 2001.

Governance in the 21st Century—Future Studies OECD, Paris 2001

Y. Dror, The capacity to govern—A Report to the Club of Rome, Frank Cass, London 1999.

[8] Compare: M. Castells and P. Himanen, The information society and the welfare state—The Finnish model, Oxford University Press 2002.

Compare also the paper of J. Routti—in this Volume.

Conclusions

This reflection is a modest application of the assumptions of the institutional methodology to the development of the KBE in Europe. Seeing very clearly the theoretical and pragmatic weakness of this reflection. I would like to express the hope that this reflection will be recognized as a successful beginning of the discussions related to the grand research project—*"The multiple ego of knowledge based economy"*.

Third reflection
Towards a dichotomic model of strategic choices[9]

I would like to present for critical evaluation a preliminary idea of dichotomic model which may be useful in our thinking concerning the Future of Europe. This model is concentrating attention on a set of dilemmas or dichotomic choices which drive our thinking into clearly formulated substantive fields and value judgments.

This type of thinking has a great brainstorming potential even in this case when this thinking is regarded as intellectually and pragmatically simplistic.

In this spirit I am presenting for your critical evaluation 16 dichotomic strategic choices related to the future of Europe:

I. Spiritual versus material values in the future of Europe
II. Open Europe versus fortress Europe
III. National versus European systems of education
IV. Knowledge based economy versus knowledge based society
V. Lisbon Europe versus agrarian Europe
VI. Anglo-Saxon capitalism versus Rhine capitalism
VII. Leseferic versus dirigistic Europe
VIII. Social market economy versus global market economy in Europe
IX. Full employment versus unemployment in Europe
X. Introvertic versus extravertic Europe
XI. Growth versus cohesion in Europe
XII. Sustainable versus non sustainable Europe
XIII. Federal versus non federal Europe
XIV. Core versus periphery in Europe
XV. The European civilization—monistic versus pluralistic approaches
XVI. The global versus European scene

Presenting these 16 dichotomic choices I am not trying to say that this is a perfect and final list. Each dichotomy can be reformulated—the list of dichotomies can be extended—some dichotomies can be eliminated as examples of false formulations.

I think however that the dichotomic model is an useful inspiration in the processes of our thinking about the future of Europe.

* * *

[9] L.E. Harrison, S.P. Huntington, (eds) Culture Matters. How Values Shape Human Progress, Basic Books—Pereus Books 2000—The Polish Edition—Warsaw 2003, "Zysk i Spółka".

T.G. Asch, Free World. America, Europe and the surprising future of the West, Random House, N.Y. 2004.

K. Pawłowski, Rediscovering higher education in Europe—Studies on Higher Education UNESCO—CEPES, Wyższa Szkoła Biznesu—National Louis University, Bukareszt 2004.

This reflection is the beginning of a new dimension of our volume. I understand that we have a long way to go towards a dichotomic model of strategic choice. I would be most grateful for comprehensive, critical comments supporting or rejecting the concept of the dichotomic model. The methodological discussion of this type could be interesting and useful.

Fourth Reflection
The Future of Europe
Four basic concepts

The prospective reflection related to the future of Europe can be developed in the framework of four basic concepts:

a) long durations
b) turning points
c) trade offs
d) strategic choices

Long durations and turning points are analytical concepts applied in the inquiry of objective developmental processes generated by the spontaneous movement of political, economic and social forces.

The first concept is stressing the long term continuities in the development of the economy, society and culture.

The second concept is concentrating our attention on the mechanisms of deep relatively rapid structural change and the emergence of a new trajectory. Turning points in this approach are a fundamental change in the constitution and modus operandi of the engine of growth and development.

Trade offs and strategic choices are macro managerial concepts applied in the framework of decision making theory and practice. Trade offs are emerging in situations where the decision is still kept inside the limits of political correctness and conventional wisdom. Such trade offs are discussed in the excellent paper[10]—"Possible Trade Offs". Let us mention only two examples presented in this paper:

"Trade off between growth and stability. Trade off between employment and productivity."

The strategic choice is a much stronger decision very often outside the limits of political correctness and conventional wisdom. I am convinced that *hinc and nunc*—there is a grand historical demand for bold strategic choices related to the fundamental dilemmas—strong versus weak Europe or stagnating versus dynamic Europe[11].

Discussing the history of strategic choice let us mention three fields:

1) the military field
2) the economic field
3) the political field

In the military field the best reference is still the opus of Karl von Clausewitz—On War—where *inter alia* we find a brilliant analysis of strategic choices in the framework of Napoleonic experiences. Maybe in this context we should mention the valuable opus of Robert Mac Namara[12] as an honest account of the wrong strategic choices related to the Vietnam War.

[10] Possible Trade Offs involved in the Lisbon Strategy, Brussels May 26th 2004. Secretariat of the High Level Group on the Lisbon Strategy.

[11] Compare: A. Kukliński, Strong or Weak Europe (in:) REUPUS Volume One.

[12] R.S. Mac Namara, In Retrospect. The Tragedy and Lesson of Vietnam, New York, The Times Books, 1995.

In the economic field the most important are the experiences of the Transnational Corporations discussed *inter alia* by J.E. Garten[13]. In the political field the opus of Y. Dror[14] is deserving a special attention.

* * *

This short reflection is only an invitation to discuss the four basic concepts in the framework of Prospective Reflection on the Future of Europe. To stimulate this discussion let us analyze the following matrix of interaction:

Table 1

Four Basic Concepts. The Matrix of Interaction

	Long duration	Turning points	Trade offs	Strategic choices
Long durations	X			
Turning points		X		
Trade offs			X	
Strategic choices				X

The boundary separating the analytical inquiry and the decision making sphere

In the reflection related to the content of Table 1 the main question is the artificial character separating the analytical inquiry and the decision making sphere. For example a thesis can be formulated that the turning points are created not only by the spontaneous movements but also by decisions selecting right or wrong strategic choices. Next questions of this type can be formulated and discussed in our volume.

The Seven Methodological Reflections are only the first step in the long way towards a comprehensive methodology of strategic choice.

Fifth reflection
The case of Poland

The volume—"Europe—the strategic choices"—should be seen as an opening of a whole set of reflections and publications related to diagnostic and prospective studies trying to outline the

[13] J.E. Garten, The Politics of Fortune. A new agenda for business leaders. Harvard Business School Press, Bristol 2002.

[14] Y. Dror, The Capacity to Govern, Frank Cass Publishers, London 2001.

Compare also: A. Kukliński, B. Skuza (eds) Europe in the perspective of global change, Warsaw 2003, p.444.

Table 2

The horizons of strategic choice

Spatial	Temporal			
	short	medium	long	secular
global				
continental				
national				
regional				

methodology of strategic choice—in global, continental, national, and regional scale. Those four spatial horizons could be related to four temporal horizons—the short—medium—long and secular horizon.

There is a genus proximmum linking the strategic choice in all spatial and temporal horizons. But there is also a differentia specifica for each horizon in space and time. This interaction of spatial and temporal horizons will be an object of my next papers. In this reflection I would like to concentrate attention to the case of Poland[15] testing the medium and long term horizon.

In this reflection we will concentrate attention on the following topics:

— The field of strategic choice
— The ego of strategic choice
— The first strategic choice—a dynamic versus stagnant society
— The second strategic choice—equality versus efficiency
— The third strategic choice—the past versus future
— The fourth strategic choice—the coal based versus knowledge based economy
— The fifth strategic choice—strong versus weak Europe

The field of strategic choices for Poland

In a medium scale country like Poland two approaches can be developed

— primo—a voluntaristic approach saying that our political will is creating a vast field of strategic choices which can be designed and implemented with little attention to the global and European context.
— secundo—a fatalistic approach saying that the almighty power of globalization and integration is totally eliminating or vastly reducing the freedom of our strategic choice.

We should try to find the middle golden stream between the Scylla of voluntaristic and charybdis of fatalistic approaches. We have a considerable freedom of strategic choice but we must develop the capacity to use this freedom properly in the changing global and European environment.

In a medium size country like Poland we must devote a lot of attention to the expanding or shrinking field of our strategic choices of the XXI century.

[15] Compare my earlier contributions in the volume: H. Bunz, A. Kukliński (eds) Globalization—Experiences and prospects, F. Ebert Stiftung, Warsaw 2001, pages 435 and 459, and in the volume: A. Kukliński, B. Skuza (eds) Europe in the perspective of global change, The Polish Association for the Club of Rome, Warsaw 2003, p.125 and 211.

Compare also: K. Pawłowski, Społeczeństwo wiedzy—Szansa dla Polski, Znak, Kraków, 2004.

The ego of strategic choice

The Polish political elite is the most important ego of our strategic choice. The political elite is a representation of the democratic society of the given country. The elite has a certain autonomy in the representation of the society at large.

This autonomy can be used by the elite in a prodevelopmental and antidevelopmental spirit. The elite can enlarge the point of view of the societal avangarde and to diminish the point of view of the societal arriergarde or the other way around.

In the first situation the elite is acting in a prodevelopmental spirit[16] in the second the elite is acting in an antidevelopmental spirit. Unfortunately the Polish political elite *hinc et nunc* is representing the antidevelopmental spirit. The art of long-term strategic thinking is almost totally absent in this elite. The mind of this elite is grosso modo dominated by short term electoral considerations contaminated by wide spread populistic approaches.

This malaise is not a particular Polish phenomenon. It can be observed in many other countries including Germany and France. But this malaise is more dangerous in a weak and poor country than in a strong and rich country.

The first strategic choice—a dynamic versus stagnant society

Only a dynamic Polish economy and society can shift Poland from the European periphery to the European core. So the first strategic choice for Poland of the XXI century is to promote the development of a dynamic society and economy.

The second strategic choice—equality versus efficiency

The efficiency is a fundamental strategic choice of a dynamic society and economy. It means not that the equality principle should be totally eliminated from the scope of our attention. I fully agree with A.M. Okun[17] that we should put some "humanity into efficiency".

The third strategic choice—the past versus future

This strategic choice could be expressed also as a strategic choice—old versus young generation. This choice is expressed in the proportions of resources allocated for the benefit of the old generation and the resources allocated for the education[18] of the young generation. The dramatic conflict in this field is mentioned by L.C. Thurow[19].

The fourth strategic choice—the coal based versus knowledge based economy

The coal based economy of the past versus the knowledge based economy of the future is the fourth strategic choice for Poland of the XXI century. This choice is well documented by volumes published in the years 2001 and 2003[20].

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[16] Compare: M. Castells, P. Himanen, The Information Society and the Welfare State. The Finnish Model, Oxford University Press 2002.

[17] A.M. Okun, Equality and efficiency The Big Tradeoff, Washington D.C. 1975., p. 120.

[18] K. Pawłowski, Rediscovering higher education in Europe—UNESCO—WSB NLU, Bucharest 2004.

[19] L.C. Thurow, The Future of capitalism, N. Y. 1996, p.104–105.

[20] A. Kukliński (ed.) Gospodarka oparta na wiedzy. Wyzwanie dla Polski XXI wieku, KBN, Warszawa, 2001. A. Kukliński (ed.) GOW—Perspektywy Banku Światowego, Warszawa 2003.

The fifth strategic choice—strong versus weak Europe[21]

A dynamic Poland shifting its place from the periphery to the core of Europe can be created only in the framework of strong European Union. So the strong Union should be an important strategic choice for Poland.

Conclusion

This is not a comprehensive case study of Poland. This is only an attempt to present a preliminary template for our thinking related to strategic choices of Poland in the XXI century. The critical analysis of this template will answer the question to what extent my thinking will be useful in the study of the experiences of several European countries.

We need a whole set of studies and reflections to develop a comprehensive methodology as an instrument in the studies of strategic choices[22] seen in different spatial and temporal horizons. We are just in the beginning of this fascinating intellectual trajectory.

Sixth reflection
Creating the future—Three trajectories

Triple motto:

"The future is always the product of a dynamic combination of necessity, contingency, chance and choice."

Yehezkel Dror[23]

"Thus, the first aim of prospective thought is to illuminate the choices of the present by the light of possible futures."

Michel Godet[24]

Projecting current events forward is always wrong. Such projections miss the turning points in human events."

Lester C. Thurow[25]

The human being as an ego endowed with rationality, imagination, and will can accept two attitudes in relation to the future:

— *primo*—the future is an unavoidable fate which can not be changed by the will and action of the individual and the society,

[21] A. Kukliński, Strong versus weak Europe (in:) REUPUS Volume One.

[22] Compare: Scientific uncertainty in decision making (in:) S.O. Hansson, Uncertainties in the knowledge society, I.S.S.J., March 2002, No. 171, UNESCO.

Compare also: Cover story—Tech's Future with affluent markets maturing. Tech's next billion customers will be Chinese, Indian, Brazilian, Thai. In reaching them the identity will be deeply transformed, by S. Hamm, Business Week—European Edition, September 27th 2004.

Compare also: France's Industrial Power Trip by John Rossant and Taiwan: Falling into China's Embrace by Brian Bremner, BusinessWeek, November 29th 2004.

[23] Y. Dror, The capacity to govern. A Report to the Club of Rome, Frank Cars, London, 2001, p.40.

[24] M. Godet, From anticipation to action—A handbook of strategic perspective, UNESCO—Paris, 1993.

[25] L.C. Thurow, The Future of capitalism, N.Y., 1995, p. 3.

— *secundo*—the future can be created at least in some domains—in the global, European, national, and regional scale.

In this reflection we accept the assumption that education of the main instrument creating the future in optimistic scenario creating the future happiness and well being. We would like to present three trajectories creating the future:

The general trajectory

— education—talent—innovation—values and institutions — trust—happiness and well being

The social trajectory

— education—learning society—knowledge society—competitive society—dynamic society—happiness and well being

The economic trajectory

— education—learning economy—knowledge economy—competitive economy—dynamic economy —happieness and well being

The enclosed table is an attempt to design a map of concepts and trajectories which could create a framework for intellectual and pragmatic reflection[26] related to the fundamental question—"is it possible to create the future?". If the answer is affirmative then we open a new perspective in our discussions related to the methodology of strategic choice.

This is also a new way in the interpretation of the rich and challenging context of the volume—"*Europe—the strategic choices of the XXI century*"—which will be published in Nowy Sącz and dedicated to the European Parliament.

Warszawa –Nowy Sącz
September 30th 2004.

Seventh reflection
The multiple ego of strategic choice in Europe
Towards a synthetic approach

Europe can be seen as a vast continental field of strategic choices. These choices have different motivations, different scale, and different horizons in time and space. Table 1 is suggesting a dichotomic vision. De facto we should see a complicated continuity from the motivation—pro publico bono—to the motivation of individual utility—from small to big scale, from short to long term horizon, and from local to global perspective.

The millions of strategic choices emerging every day in the reality of Europe[27] are ex necessite rei a demonstration of diversity of motivations, scales, and horizons in the time and

[26] compare: K. Pawłowski and J.M. Rousseau—in this Volume.

[27] Very interesting examples of strategic choices having deep historical roots in long duration are presented by the recent decisions of the Russian Government:

primo—Russia to abolish Soviet holiday: "Russia's upper house of parliament on Monday passed legislation—abolishing several state holidays, including anniversary of the 1917 Bolshevik Revolution, and extending the New Year Holiday". "The bill replaces the Nov. 7 commemoration with a new state holiday, National Unity Day, to be celebrated on Nov. 4. The new holiday will mark the end of Polish intervention in Russia in 1612."

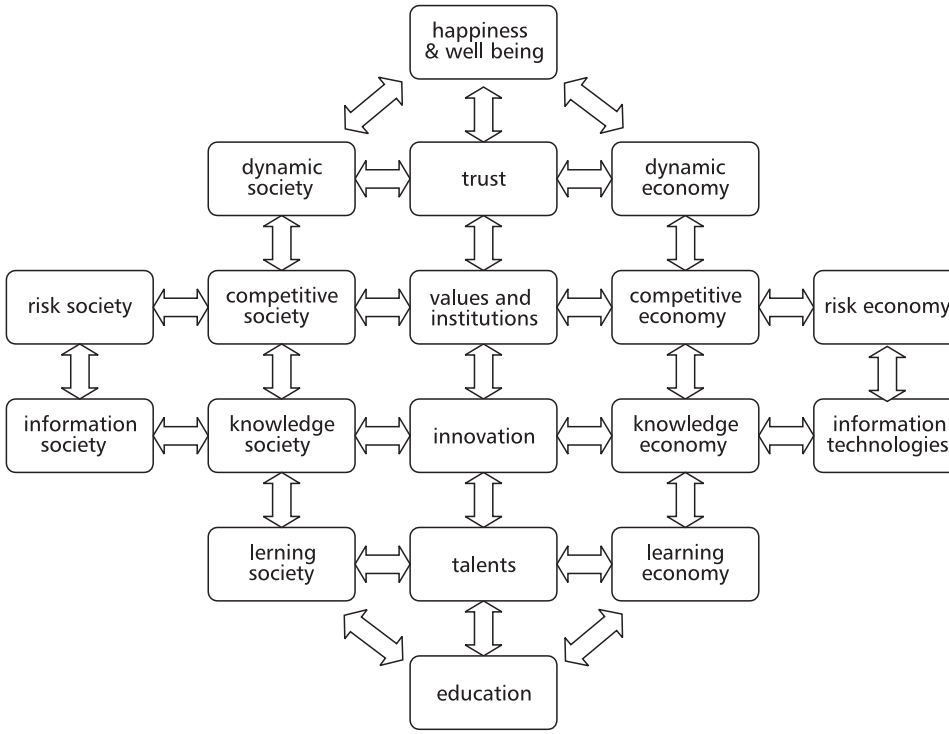

Table 1

The dimensions and fields of strategic choices

The dimensions	The fields of interaction		
Motivation	pro publico bono	⟷	individual utility
Scale	small	⟷	big
Horizon in time	short	⟷	long
Horizon in space	local	⟷	global

space. **In this diversity we must find however a minimum threshold of cohesion without this cohesion the construction of united and integrated Europe will be only an utopian dream and not a reality of the XXI century.**

secundo—Russia and China hold maneuvers: "Russia and China will hold joint military maneuvers on Chinese territory next year involving their air forces and navies, Russia's defense minister said on Monday. Sergei Ivanov, speaking at a cabinet session chaired by President Vladimir Putin, said that the exercise would involve submarines and possibly strategic bombers, the Interfax and ITAR-Tass new agencies reported." "Pavel Felgenhauer, an independent military analyst who long has followed Russian-Chinese military cooperation, said the announced exercise was clearly intended to show Moscow's irritation with the West. 'It's symbolic gesture aimed at the United States, intended to show that Russia has other allies,' Felgenhauer said."

Both information in I.H.T., December 28th 2004.

In the charming book of Z. Brzeziński[28] we find an interesting reflection related to multiculturalism and the strategic cohesion of the American Society. This reflection could be an inducement for us to consider the challenging problem of multiculturalism and the strategic cohesion of the European Society.

The comparative evaluation[29] of the European and American Societies facing the dramatic global problems of the XXI century is a challenging task for social sciences both in cognitive and pragmatic perspective[30].

Warszawa–Nowy Sącz
Christmas 2004–New Year 2005.

[28] Z. Brzeziński, The Choice. Global Domination or Global Leadership. Basic Books 2003—Polish edition—Znak, Kraków, 2004.

[29] We are fully aware that "omnis comparatio claudicat".

[30] Compare the Post Scriptum in this Volume and A. Kukliński, Four megaspaces (in:) REUPUS Volume One.

ROMAN GALAR

COMMENT ONE
AN ADAPTIVE VIEWPOINT
ON THE STRATEGIC CHOICES OF EUROPE

It is always a pleasure and stimulation to assist another one of the Kukliński's string of initiatives directed to make people think seriously about the future. The idea of the volume Europe—*the Strategic Choices of the XXI century* seems especially challenging as it attempts to make a probe into the future more than one generation distant. This future is already formed by today's more or less opportunistic decisions, but few bother to ponder what their far away and synergic consequences might be. What follows is my contribution to the discussion on these choices. My comments follow generally the outline of Kukliński's paper[1].

First, let us note that if we are going to consider "strategic choices" the aim of the invoked strategy should be revealed. Otherwise, the Dror's suggestion to replace "strategic choice" by "critical choice" seems to be a good idea. In my opinion, in the assumed half century perspective, there is no aim worth pursuing except other than providing that Europe will remain a viable cultural entity (based on diversity) and a global player still very much in control of its own destiny. In this perspective winning one or the other race—even as prominent as the Lisbon Strategy—is of secondary importance.

The assumption that: *the developmental processes in Europe of the XXI century will have a double nature: primo—the nature of a spontaneous process driven by the global market forces, secundo—the nature of a guided process driven by the decisions of the grand actors of the global and European scene* might not be too hopeful. First, the global market forces are not as spontaneous as one would like to believe and manipulative ploys seem to acquire a decisive role (e.g. irrational advertising). Also decisions of the grand actors are becoming quite haphazard (e.g. the Nice process, unfortunate in face of its sudden reversal). Secondly, there are growing tensions, rooted mostly in demography and global trade) that are dissolving the present social contract in Europe and changing boundary conditions of European policy. It would be reasonable to add the *tertio* factor, namely: the mounting of not institutionalized pressures on establishment.

Consequently, the list of grand actors should be expanded to include at least media, NGOs and the emerging terrorist-counterterrorist complex. The first two already strongly limit the spectrum of practically available choices[2]. The third one is still treated as a temporary problem which might be solved without modifying the *status quo*. Assuming this might involve more optimism than advisable.

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[1] A. Kukliński, —*Europe—the strategic choices of the XXI century, Seven methodological reflections*, in this volume

[2] Insider's observation: *the first preoccupation of a city clerk is to escape attention of the media.*

The assumption that *developmental process in Europe of the XXI century will be laissez-faireism* and *dirigisme at the same time* should be accepted with some reservations; as well as the supposition that some well tuned compromise between them will emerge. At present, Europe, which seems to be trapped by the overly complex regulations, is neither open for free enterprise nor subject to efficient governance. It is easy to notice that the trends toward Europe, which is rather paternalistic and opportunistic, are strong and perhaps growing.

The seven fields of strategic choices presented seem well chosen.

1. What regards **demography**, the problem might be not so much with the lack of family support policies as with the dominant model of life[3]. The idea that the aim of life is personal happiness and fulfillment is so simple and attractive that it should be implemented long before our times. It didn't happen and now, we might guess the answer—the societies dominated by such idea are not sustainable in the simplest sense of biological reproduction. Most probably, the next, not very numerous generation of Europeans is going to face the impossible burden of carrying for the masses of the richly entitled old and the wave of migration unprecedented since the fall of the Roman Empire. This might be a challenge for the democracy in Europe. It is not at all sure that the senile European societies will find enough energy and determination to go for the necessary reforms in a sensible way.
2. As far as the **economy** is concerned it looks like only a miracle can save the Lisbon Agenda from fiasco. Still the knowledge based economy remains the only way to retain the affluent consumption in the poor but rapidly industrializing world. Without creative and innovative edge Europe will be pushed to compete with China and India in the costs of production and services, with the obvious consequences for the accustomed standards of living.
3. In the **field of science and technology** the problem is in reviving the traditional European innovative drive, which is stalling in recent decades. This situation seems to result mostly from overregulation based on naïve models of progress[4]. It is necessary to discard "objective indicators" of S&T efforts, which are so easily corrupted, and concentrate on creation of innovative environment. The "new renaissance", which we would like to expect, has to be based on understanding of irreducible role of human personality in creative processes.
4. The choices in **education** might not be as straightforward as "democratic" versus "elitist". *Primo*, both of them are needed. The mass education is necessary to improve individual's job elasticity, its quality of life potential and to enhance creation of social capital, The "elitist education"—in a sense of being strongly competitive—is needed to provide society with a relatively limited number of extremely well prepared specialists and managers. Both streams of education should be provided by somewhat separate channels. Attempts to blend them undertaken in recent decades have brought frustration[5] to employers and employees and deconstruction of authorities. *Secundo*, the choice between national versus European education looks like trap, as it involves the deadly winner—looser dilemma. Education in Europe should be based on recognition of the range of loyalties, which everyone owes first to its family, then neighborhood, commune, region, country, Europe and finally to the humanity.
5. In the field of **culture**, stressing importance of one other dimension might be important—the choice between participating and watching. The new, excellent telecommunication and media technologies supply the continuous omnipresence of top performers. This resulted in practical demise of unprofessional participation in culture—drawing, playing, singing, etc. As artistic

[3] Galar, R., *Conflicting visions: Colas Breugnon versus Baron de Coubertin*, in: Kukliński A., Skuza B. (eds.): Europe in the perspective of global change, Polish Association for the Club of Rome, Rewasz, Warszawa 2003

[4] Galar, R., *Knowledge Economy and Evolutionary Traps*, in: Kukliński A, W.M. Orłowski (eds), The knowledge based economy, The global challenges of the 21st century, Rewasz, Warsaw 2000

[5] *What's it worth?* The Economist, Jan 15th 2004

occupations correlate well with creativity, this might have a serious debilitating influence on cultural and social dynamism.

6. In the domain of **governance** the choice between federal versus non federal Europe is very important, assuming the European experiment survives. The present obsession of partner states with economic and eminence issues of secondary importance, coupled with the growing indifference of peoples suggest that in future much more dramatic choices might be confronted. Remembering that previous attempts to form the European concerto ended in wars and revolutions, it is most important that this aspect is not neglected.
7. The choice, presented as the **center-periphery** issue, has a destructive potential mentioned above. It seems hardly possible to resolve this problem in the purely economical framework. The stable solution should be based on some multi-polar system of diversified regional attractions and values. In face of present tendencies focused on convergence such system is hardly imaginable. Still, it should be beneficial for the EU as a whole, enhancing its capital of diversity and the resulting adaptive abilities.

Generally, in the space of choices proposed, one moves between uniform and diverse, individual and social, controlled and adaptive. It is obvious that the YES or NOT options are ridiculous and a proper equilibrium is needed. It seems that the pendulum of implemented policies has gone too far toward uniform, individual and controlled, what hampers both solidarity and creativity of Europeans.

The second part of Kukliński's paper is a research proposal entitled **The Multiple Ego of KBE in Europe.** Of the three methodological approaches projected, the first one, concerning analyses of *modus operandi* of the grand actors seems evident. I am somewhat skeptical with regard to the value of results of *benchmarking studies outlining the emergence of best practices* and their diffusion. Such benchmarks have an unfortunate propensity to degenerate, once definite payoffs are arranged to reward the good scores. I expect most from the third methodology, i.e. *deeply critical evaluations transgressing the limits of political correctness and conventional wisdom*. If the early warnings on new developments are to be found, this is the method to look for them. These symptoms are usually subliminal, up to the moment when they suddenly escalate to become obvious and signal the imminent dangers (demographic breakdown, global warming, recent paroxysm of terrorism etc.) or opportunities (cell phones).

Kukliński's observation that *the contribution of the Union is too slow and too small to change the KBE into a new paradigm of European development* seems accurate. The reason might be that the cultural and adaptive paradigm of KBE clashes with the procedural and deterministic paradigm of the Union itself. This might be one of the most interesting problems to analyze[6].

Another very interesting topic is introduced by the question: *how the TNC have created their contributions to the development of KBE in Europe*. The answer is not going to be straightforward. While transnational corporations are just great in propagating their brand technologies they are prone at the same time to treat the possible technological breakthroughs as disruptive phenomena that threaten their position. Also the extent and consequences of territorial loyalty of TNC headquarters deserves some consideration.

Taking all together, the magnitude, scope and courage of the proposed research is truly breathtaking. One might wonder if this will help in making it happen.

The third part of the Kukliński's paper goes toward ***a dichotomist model of strategic choices***. Sixteen choices are presented with intention to release the brainstorming potential of participants. The list seems quite comprehensive. Perhaps the opposition: "Europe of fun Versus Europe of duty" should be considered as well.

[6] Galar, R., *Knowledge Economy as an Antagonist*, in: Kukliński A, W.M. Orłowski (eds), The knowledge based economy, The global challenges of the 21st century, Rewasz, Warsaw 2000

Some of the enumerated dichotomies I have already commented. I find opposition *knowledge based economy versus knowledge based society* quite intriguing. I have reservations against treating agrarian Europe as an antonym to the Lisbon Europe—I understand this as a pointer to the topic of the proper allocation of European budget. I would rather talk about "full employment versus unregulated employment", and not "unemployment".

I agree that the dichotomist model is a useful inspiration in the processes of thinking. It let us feel that the problem is multidimensional and cannot be solved by dealing solely with isolated issues. Yet it must be remembered that the optimal, or even good enough solution usually involve harmony rather then dominance of some aspects and inferiority of the others.

The fourth and final reflection is concerned with methodology of the proposed research. The conceptual framework is to be based on (a) long durations, (b) turning points, (c) tradeoffs (d) strategic choices. It seems logical that we should consider long duration processes, try do detect turning points, evaluate tradeoffs and then discuss strategic choices. But is it plausible?

Trends dissolve with a distance in time. We know the turning points of the past, we might search for their feeble symptoms in the present, but in this respect the more distant future is impenetrable. We might calculate the obvious tradeoffs but the complex and delayed ones (like global warming in times of industrialization) are out of reach. All strategic choices have to be done under great, sometimes fundamental uncertainness. To venture into such marshy and foggy future some certainties are necessary. The task becomes easier if we know that there are some fundamental values, which people tend to protect whatever might happen. This seems to be the only tendency that provides a long term regulatory feedback, which might limits consequences of unavoidable errors, thus making future more regular and predictable. I feel strongly that the list of basic concepts should include fundamental values as the point (e).

Conclusion: An essential research was proposed and we should be looking forward to an interesting volume.

ANNA GĄSIOR-NIEMIEC

COMMENT TWO

The following comment—presenting some sharply formulated points—aims at inspiring a more animated discussion over some at least of the theses presented by Professor Kuklinski in the paper "Europe—the strategic choices of the XXI century. Seven methodological reflections". In the short paper Professor Kuklinski has outlined seven fields of strategic choices that Europe faces at the beginning of the 21st century. Although he has rightly pointed out that the processes to which the choices refer will have a double nature: "*primo*—the nature of a spontaneous process driven by the global market forces [and] *secundo*—the nature of a guided process driven by the decisions of the grand actors of the global and European scene", it needs to be emphasized that some of the processes appear much more susceptible to guidance and design than others. In other words, strategic choices as a challenge to be faced might be easier conceived, debated and executed in reference to some of the fields identified by Kuklinski than in reference to the others.

The field of governance may, in my view, be certainly included in the first type of the fields facing a challenge. The task of governing Europe can hardly be left to spontaneously developing forces and tendencies. It requires serious, carefully carried out analyses, informed debates and, finally, enlightened decisions. Moreover, and in congruence with Kuklinski's thesis, the decisions—to be of a strategic value—may exceed "the limits of political correctness and conventional wisdom". For a start, this means that certain notions, concepts and models, which so far have been for the most part excluded from the public discourse on Europe or else occluded by convoluted definitions and reservations made by politicians and academicians alike, need to be brought forward and examined publicly. "Federalism" seems to be one of such notions, concepts and models at the same time that urgently merit a reasoned come-back to the debates on governance in Europe.

In the context, it is quite interesting that there have in fact been only very few occasions on which federalism as a choice for the political organization of Europe was actually brought *under a public discussion* by politicians. Joschka Fisher's *expose* of 2000 is one of the most recent and most vivid examples thereof. Instead, and as a rule, politicians and academicians in their majority seem much more often tacitly to assume and/or confidently declare that federalism is not and cannot be offered to the public as a political option for Europe at all. The anti-federalist discourse merits a much more extensive analysis than it is possible to carry out within the short comment. In general however, one is tempted to wonder whether indeed there is something in the concept (and the model) of federalism that would immediately abhor the popular imagination of Europeans or perhaps, rather, there are some hidden, vested interests at stake that make most politicians avoid and/or paint the notion black in front of the European public.

In fact, both suppositions included in the question might turn out to be well-founded if the anti-federalist claims are given a closer look. Federalism, especially when presented to the public as an ideology to legitimize building a horrendous supranational Leviathan, may raise fears of

losing not only one's liberty and political voice but also one's cultural identity—both collective and individual. Hundreds of both genuine and made up stories ridiculing the European Commission's attempts at introducing all kinds of norms and standards into a variety of aspects of life hint that there looms over the people a fear of a utopian perfect order and undistorted homogeneity that federalism adopted as a political formula seemingly would inevitably institute. Similarly, the current labyrinthine bureaucratic procedures associated by Europeans—be it farmers, scientists or merchandisers etc.—with the Brussels-type decision-making and policy process could also serve as a most effective deterrent in this case. The perception of an imminent disempowerment is still aggravated by a certain common strategem employed by the governments of the member-states which frequently have used "Brussels" as an excuse whenever a difficult step needed to be introduced in internal affairs.

On the other hand, if considered from the vantage point of the current ruling elites in the many European states, federalism—especially when associated with a transfer or at least giving up a share of power—cannot but must be feared as well. Presumably, only few of the currently leading political figures would stand a chance of "promotion" to the federal level of government. Conversely, they would have to face a potential danger of the federal echelons to step in and intervene at the "lower" levels of political authority whenever the interests of the polity *and its citizens* should require such a step. Moreover, the political class at the national level would be expected to get more engaged in politics and policy-making that are guided by a culture of consensus-seeking and cost-sharing more than by a logic of confrontation and one-sided calculation. Lastly, instead of an easy play on affective elements of national identity, the political elites to gain legitimacy would perhaps be more forced to comply to a greater extent with cognitive needs and to satisfy behavioural standards accepted by the populations concerned. No wonder thus that a move towards a federal Europe may not quite appeal to the current political class.

Reduced to the above reported fears and demands, the concept of federalism is however far from being fully explored and explicated. Therefore, it is necessary in my view to open up and extend an informed public discussion over federalism as a political formula for the united Europe. One possible point of departure for such an informed debate could be found in a fresh reading of the *Federalist Papers* registering the birth of the American federal model. Not assuming that the American model is *the* solution for the problems of European governance, it might be extremely useful to consider the vital arguments and counter-arguments that were offered at the point in history when the—undoubtedly well functioning—federal system covering an extensive territory, numerous and diversified populations was being designed.

Discussed in the *Federalist Papers* issues such as the trade-offs between inclusiveness and efficiency, division of competences, vertical and horizontal checks and balances, representation of interests, popular participation in the execution of political power and, last but not least the issue of popular sovereignty, considered anew would perhaps draw our attention to a few aspects of federalism that might make it much less abhorrent to the political and especially popular imagination of Europeans than it is deemed at present. Seen from this point of view, a federal Europe could and should, in my view, be explicitly presented to the public as a potential political project for the united Europe. Only by presenting and debating a clear-cut model political formulas in a reasoned way and supplementing them with the currently operating practical reflections thereof[1], may the public be expected to form an opinion on what form of political organization in Europe—and why—deserves a strong support. Introducing mixed and half-hearted political measures without a former public debate by means of complex and convoluted constitutional tricks

[1] The principle of subsidiarity, and more generally, the operation of the system of multi-level governance within the framework of EU regional policy might be offered to the public openly as a sort of an introduction to the operation of the federal model of governance.

is only bound to aggravate the problem of the democratic deficit in the EU. It might also mean that the strategic choices necessary to make *hinc et nunc*, as Kuklinski tells us, will be infinitely postponed to the detriment of the development of Europe as a fully fledged polity.

JULIUSZ KOTYŃSKI

COMMENT THREE

This note is focussed on two topics, of conceptual and methodological nature, among those identified by prof. Józef Niżnik[1].

They are related to the concept and nature of strategic choices and consequent decisions on their implementation, and to the question who could be eligible and capable of making and executing effectively such decisions on behalf of the European Union.

Prof. Niżnik is seemingly right, questioning the concept of "choice" understood as an equivalent of a "free choice". In my view, however, such interpretation of this term does not appear to be accurate or necessary, both in the European and a more general context.

Obviously, in contemporary international relations no country (or government) is able to make quite freely and independently rational choices without paying a due attention to internal and external conditions and circumstances, and to potential impact and feedbacks of "autonomous" decisions, notwithstanding asymmetries characterising political and economic interdependence of states and regional groupings within the global system.

Thus apparently the "degree of freedom" of choices made by a global superpower is likely to be higher than that of a smaller country or a regional power, but also restrained by various factors. Yet in some areas, of crucial importance, the freedom of choice of superpowers might be *de facto* more limited than that of smaller countries, due to their global political responsibilities and widespread implications of the strategic choices.

Nevertheless, a critical and risky choice—if deemed necessary—could be made and enforced by a strong power, despite unfavourable circumstances and unclear chances of achievement of underlying strategic objectives, while a timely choice of a similar kind would be difficult to make, or even out of reach, for many other international actors, including multinational institutions, with their complicated multipart decision-making system.

Hence the relative freedom of choices depends also on their scope and on the shape of the decision-making mechanism, including its democratic or rather autocratic character.

The latter factor occurs to be correlated with that who is responsible for making the critical choices.

Alternatively, "strategic choices" could be interpreted as fundamental decisions, taken in crucial historical moments ("*fateful moments*", in Giddens' terms[2]), in stochastic conditions,

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[1] J.Niżnik, *Europe—the strategic choices. A few words of introduction to the panel.*
Compare the paper of Anna Gąsior-Niemiec : *Two Workshops of the Club of Rome in Warsaw—in this volume.*

[2] "***Fateful moments*** *are those when individuals are called on to take decisions that are particularly consequential for a person's destiny. There are, of course, fateful moments in the history of collectivities as well as in the lives of individuals. They are phases at which things are wrenched out of joint, where a given state of affairs is suddenly altered by a few key events. ... Fateful moments, or rather that category of possibilities which an individual defines*

within a multidimensional space of feasible options, limited *inter alia* by the dynamic international environment. Such decisions are supposed to influence in a desired way (rather than to determine), future long-term developments of states or groups of states, and their citizens, in some key areas.

Strategic decisions—even when based on adequate information, stemming from high-quality analyses and good knowledge of historical experience, present conditions and forecasts—are inherently associated with risk. The risk might be due to uncertainties linked to stochastic factors involved, including highly unpredictable actions of other quasi-independent world players. Risk is an intrinsic part of any decision, or a choice among available options, characterised by different *à priori* probabilities of their successful implementation and associated with various expected values of their outcomes (the scores of "success").

Higher potential "prize" is likely to be connected with a larger risk. Such risky choice is rather preferred by risk-prone leaders—absolute rulers, or strong centralised governments entrusted with a clear popular mandate. A weak power tends, on the other hand, to be associated with risk aversion in its decisions. Prudence however might also be the feature of a wise power.

Such types of decisions, problematic and risky, may be looked upon as "strategic choices"[3], or "critical choices", in terms of Yehezkel Dror[4].

Another conceptual problem relates to dichotomised nature of strategic choices, assumed by A.Kukliński[5]. This purposefully "simplistic" approach, using clear-cut alternatives, has its intellectual advantages. It concerns specific, breakthrough decisions, of great importance, taken at some historical thresholds or crossroads in life of states, nations and the international community. Making such a choice, perhaps a wrong one, means often entering the way of no return (e.g. starting a war, accepting or rejecting a project of some bilateral or multilateral agreement, etc.).

A special case of "critical choices"—possibly not a rare one—may consist in embarking on no action in face of a critical challenge (consciously, or by passivity or impotence). In this case the risks resulting from negligence or undecidedness, and losses due to missed unique opportunities, might be much higher than those associated with making a risky decision and undertaking some resolute, timely action. One can, however, consider that only purposeful, explicit decisions (also of the type: "Do nothing!") should be classified into the category of "choices".

Dichotomised, clear-cut approach to evaluation of strategic choices (that could be regarded as a part of a broader class of strategic, dynamic decisions) appears not the only one option. A lot depends on formulation of "strategic choices" and on the role of particular decisions at a given historical moment. Complex, multi-stage decisions can often be disaggregated into specific bi-variate choices, shaping a tree of objectives and consecutive, supplementary targets. The second- and third- round choices (decisions) would be then selected successively, pending upon outcomes of earlier actions, depending also on the behaviour of other actors and evolution of the international environment.

For example, a general strategic decision (critical choice) on a further enlargement of the EU could be, in principle, positive. That choice could be however translated into an affirmative answer

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as fateful, stand in a particular relation to risk. Fateful decisions are usually almost by definition difficult to take because of the mixture of the problematic and the consequential that characterises them", A.Giddens, *Modernity and Self-Identity. Self and Society in the Late Modern Age*, Polity Press, Cambridge 1991, pp. 112–114.

[3] Cf. A.Kukliński, *Europe—the strategic choices. Six methodological reflections*, in the collection of papers submitted to this workshop: The Polish Association for the Club of Rome, *The Future of Europe. The Global Future. The Club of Rome*, A Workshop of the German and Polish Associations for the Club of Rome, Warsaw, November 19^{th}–21^{st} 2004.

[4] Y.Dror, *The Capacity to Govern, Frank Cass*, London 1999, p. XIV, as quoted by A.Kukliński, op.cit. See also J.Kotyński, *Global risks and the European integration*, in: *Europe—the global challenges and the strategic choices*, Edited by A. Kukliński and K. Pawłowski, RECiFER Eurofutures Publication Series REUPUS, WSB–NLU, Nowy Sącz 2004, Vol. I.

[5] A.Kukliński, *Towards a dichotomic model of strategic choices*, in the collection of papers, op.cit.

to the accession pleas of some countries, and vague or negative answers to other applicants, at least for the time being.

One can perhaps argue that only a clear dichotomised answer ("yes" or "no" now) can be interpreted as a "critical choice". But what then about "strategic choices", which—from the definition—should be based upon some underlying long-term (strategic) vision, encompassing also possible trajectories (main guidelines), time-tables and dynamic scenarios, to be implemented consecutively and conditionally, pending *inter alia* upon future actions of other players on the global chessboard. Moreover, "pure" political models and extreme solutions, though desirable, are rarely directly applicable to the complex community of national, historical states of Europe. This may regard also the critical choices on a future shape of the European Union, types of its governance ("federal vs. non federal" model), possible new enlargements, etc.

It appears that a number of strategic political decisions (choices), though urgent and necessary, cannot be made effectively today at the European level, not only because of the uncertainties involved, but also due to a complicated decision-making process within the Union and numerous cleavages among politicians and the public opinion, separating not only, and not so much, the member states, but going rather across individual countries, political factions and institutions. Those frictions may concern not only a designation of governance methods at the European level, but primarily and more importantly possible formulation of common political, economic and social objectives.

This brings us to the second principal issue, namely who does and who should make such strategic decisions (choices) at the national and European level.

Obviously, there is not—and hopefully there never will be—any single Machiavelli's Prince or a modern Emperor to lead and to rule Europe, apparently on behalf of all, but actually in the interest of a single nation, ideology, political party, social group, etc.

After tragic experience of past centuries, and in view of emerging challenges, the peoples and nations of Europe need unity and do wish stricter but democratic co-operation, although they are generally cautious in ceding more power to unknown and mal-defined supranational bodies. They are also suspicious when observing attempts aimed at creation of restricted coalitions or informal groups of countries aspiring to a leading position within the evolving Union. In such circumstances, nationalistic and cynical politicians, seeking a wider national electorate and personal gains, might sometimes misuse the fears and disorientation of the public.

In this context the evocation of prof. Kukliński for overcoming three barriers: those of conventional wisdom, political correctness and intellectual self-satisfaction should be perhaps reconsidered. We all probably agree with the assertion of prof. Niznik that "*Everything seems to provide evidence that Europe urgently needs bold decisions that would be adequate to unprecedented economic, social and political experiment of European integration and would successfully confront both internal and global challenges.*"[6]

Bold and brilliant intelectual ideas should be however accompanied by enhanced transparency and credibility of the new concepts of international governance, by greater efforts aimed at explanation of their sense and purpose to the wide European public, and by a democratic practice of their implementation. In this respect, the comments made by Dr Anna Gąsior-Niemiec should be fully endorsed[7].

In my opinion we should also agree that what has been oficially accepted in the EU, after painful and complex negotiations, should be as soon as possible put into practice. European

[6] J.Niżnik, op.cit.

[7] A.Gąsior-Niemiec, *A Comment on Antoni Kuklinski's paper "Europe—the strategic choices of the XXI century. Six methodological reflections*".

integration is a long-time venture, advanced gradually, by joining vision with pragmatism, during a strenuous stop-and-go process.

To make this process more effective in face of common urgent challenges, more federalistic solutions are rather necessary, with the subsidiarity principle still playing its crucial role. To be practicable and sustainable, potential reforms should be well prepared and widely debated, in a transparent and democratic way, without attempts of imposing some individual positions on other partners.

Although there is an apparent contradiction between the requirements of efficiency and solidarity at the national level as well as at the European one, a synergy between pursuing the execution of both objectives appears also very important, not only in the economic and social area, but also in the political field.

Establishing a technically efficient governance mechanism appears an essential but insufficient condition for reaching political cohesion and enhanced international acting power of the Union. Traditional political and economic objectives, interests and ambitions of leading European powers should not automatically outweigh different views and priorities of other member states. Paternalism and arrogance should not appear in the intra-European debate, and the *faits accomplis* should not replace the mood of dialog and conciliation in reaching a common approach to major global or regional problems and vis-à-vis external partners.

This seems to be a proper way to increased confidence and compatibility in European policy-making and in shaping up the common external policy of the Union.

In such conditions the all-European debate on the important issue of international and regional governance could gain ground and to embark hopefully on some politically feasible and viable solutions, needed by the countries of the enlarging Union.

THOMAS SCHAUER

COMMENT FOUR
A reply to "Europe—the strategic choices" by Antoni Kukliński

The following remarks start from a pragmatic point of view. They do not take into account the possibility that visions may cause dramatic changes in development and lead to "light at the end of the tunnel". The pragmatic point of view means an evaluation of the strategic options with respect to the degrees of freedom for decisions which are remaining presently.

The first field of strategic choices in the paper by Antoni Kuklinski is demography. Of course the principal possibilities exists that women older than 30 may still get three children. But this is not probable. The decision to reduce the population in Europe drastically has been made in parallel by the national governments some decades ago when they decided not to support families adequately, but to get re-elected for giving potentials for "Selbstverwirklichung" to their population. Children would have disturbed the consumerist lifestyle. Now we may still decide whether to cut pensions drastically or to take up millions of immigrants.

The second field is the economy. Here, the strategic option is in fact related to the Lisbon agenda—will we really follow only the growth- and competitiveness oriented path or will we be able to establish efficient policies for sustainable development?

The third field is science and technology. Here, important ethical discussions are ahead. The stem cells scientific community is promising never ending life and easy substitution of organs and we have to decide whether we want to believe in these promises or whether we will stick to the traditional definition of human life.

In the fourth field, the educational one, there will be even more choices. Do we subordinate education to the needs of economy, do we breed perfectly working managers and engineers in our institutions or do we want to educate self-conscious citizens?

In the fifth field, the cultural one, there is little choice. Culture has proven to be a field with an own dynamical development. In the past, trials to maintain traditional cultures frequently failed and the younger generation has always chosen what they preferred.

In the sixth field, Europe will be probably a federal and not a centralistic entity. This implies also that the relation between the centre and the periphery will be complex. The centre will not be a unique place but there will be several different centres of excellence and different peripheries with different problems.

And of course, there are more choices on the agenda. For example the choice/development of a European identity which is still in its beginning, the choice of the degree of social security which Europe will be ready to pay for, the choice of new member states which will depend on the fragility or stability of the present Union and of course the choice of political priorities which will hopefully go beyond the Lisbon Strategy and include adequate environmental and social standards as the key factors for sustainable development.

JÓZEF NIŻNIK

COMMENT FIVE

Professor Antoni Kukliński presented "reflections", which—in fact—look like a programme for a many years long activity of a centre for strategic studies. I would like to comment on two issues, both quite general although their generality are of different level. The first is the very concept of strategic choice, and the second is present at the background of all prof. Kukliński's reflections, and that is the problem of public-elite gap. In conclusion, I will argue that the language of strategic choices—apart from its substance—should become part of a public discourse.

The concept of "strategic choices" inevitably gets us back to the issue of determinism versus indeterminism. Although in political studies this dichotomy is rarely recalled it is hardly possible to point out a better area to illustrate the case of determinism than politics and international relations. Here is why.

Because of specific political context only certain choices are possible, some are unavoidable while others are clearly the most rational. Also, (this it is quite a trivial observation), certain choices are definitely setting down future options. In reality this trivial truth only very rarely affects political decisions which in most cases are dependent on a number of factors which have little to do with the long term rationality and more with the existing interests games. But this is only one aspect of determinism in politics. Many events determining our future do not depend just on a simple wish or decision. For example, there is a number of publications devoted to speculations around the possible course of the world's affairs in case of a different outcome of famous battles. What would happen if the battle of Marathon would had been lost by the Greeks? What would happen if the battle of Warsaw in 1920 would had been won by the red army? There is no doubt that in both cases the whole world history would be different. Battles and their results may not look like a choice, but in every case we can—at least—enumerate the whole sequence of choices that ended in a particular military confrontation. From this point of view decisions of commanders in chief belong to the different dimension of the problem.

There are, however, radical differences between singular events—even if they are of a scale of the above mentioned battles—and political or macro-economic choices that have to be made by a policy making body of a major political system like the European Union. Although in both cases the effects may determine the future possibilities in many areas of life, policy making—at least at first glance—indeed involves a choices since it is always directed by specific political , economic or social objectives and usually seem to enjoy substantial degree of freedom (limited, of course, by specific political context). If these objectives refer to fundamental options of the future development we can correctly call such choices "strategic". In case of a battle everything depends on its outcome, which not always reflect strategic talent of the commander in chief or morale and skills of the fighters. In case of strategic choice in policy making, a proper agency seem to make decisions which are free and rational. Are they? Are they especially in case of the EU? How far European Union is free to make decisions that seem most instrumental for desirable future effects? Of course, one can be a determinist and maintain that there is no such a possibility like a completely free decision.

The problem is that in case of the EU we cannot even formulate such question because of quite a different reason: there is no accountable, effective system of decision making in the European Union. Such system would require—first of all—a working concept of European interests. In reality, everything what determines European future, what in fact demands a strategic choices, is an object of intergovernmental negotiations in which the concept of European interests rarely appears, most often replaced by tacitly assumed national interests of the participants of negotiations. Therefore, one can be afraid that strategic choices of the EU are far from the best possible. But, if the whole experiment with European integration is to be treated seriously, can any member state win while the EU is loosing? Is it possible to define national interest of any country in opposition to the European interest? These are again wrong questions. We all know that national interests of a particular state are formulated not in opposition to the European interest (at least not in full awareness) but in opposition to the assumed national interests of other states. In fact such situation demonstrate important deficiency of European integration. Why it is so? It is so because the concept of European interest is absent both in political discourse of European integration and in the minds of Europeans who quite rarely feel and experience their European identity.

One can hope that with the time European identity will get stronger in all European nations, and also the concept of European interest will become the common category in Europe. The problem is that we cannot wait for this moment while future chances for the adequate position of Europe in the world are at stake and demand decisions right now. Decisions clearly of a strategic significance. Can Europe effectively decide about its own future? Is European Union able to make its strategic choices Antoni Kukliński is talking about? My view is that unless European Union becomes a federation, national rivalries will prevail over European interests and, in effect, all nations will be loosing.

And here we are getting to the second issue. I believe that in order to move on with the crucial problem of the form of political system of the EU we have to solve another problem first: the problem of widening gap between elites and the public in the EU.

Until now the process of European integration was elite driven. With majority of European population being quite passive or indifferent, elites, very slowly, were moving the whole project ahead. Looking back it is clear that all what has been done so far brought Europe closer to the federal form of governance. At the same time such option, the federal option, is almost fully removed from the public discourse and today there is no politician who would dare to recall Jean Monnet's idea of United States of Europe. In fact very modest step toward this direction, that has been made in the Constitutional Treaty, may be rejected in some of the countries.

Here is the problem. Can we afford to continue building European Union mainly by the elites? Shouldn't we start working on a policy which would get the public directly involved in the process of European integration? The whole discussion about the democracy deficit might be missing the point? We probably have as much democracy as it is needed or even more. Besides, we cannot insist on intergovernmentalism and at the same time demand more democracy, which can be much easier envisioned within federal polity. What is lacking—first of all—is adequate level of political knowledge of the public. And here I see the most important implementation of the approach of Antoni Kukliński. Shouldn't we try to reach the public with the knowledge about all challenges that European nations have to face in order to survive? This kind of knowledge is probably the only chance to change public view on the nature of European integration and on the best ways to cope with the challenges. This is why prof. Kukliński's approach in the language of strategic choices should become a basic educational practice and essential element of the public discourse on Europe.

KRZYSZTOF PORWIT

"THE MULTIPLE EGO" OF EUROPEAN KNOWLEDGE-BASED ECONOMY AND EUROPE'S STRATEGIC CHOICES FOR THE 21st CENTURY

(Comments to Professor Kukliński's notes dated June 13th 2004)*

Both notes[1] have in common a diagnostic assessment (or diagnostically based assumption) that European development involves processes which (in their nature) are—and will be—in part spontaneous (being driven by the global market forces) and—in another part—will have the nature of guided processes—driven by the decisions made by organizations (or public institutional bodies) called " the grand actors of the global and European scene" (such as European Union, OECD, the World Bank, IMF, as well as the transnational corporations or the national governments and regional self-governents). I am ready to accept these and other methodical assumptions (proposed in note A) but I think that some additional features deserve more attention, because otherwise we shall be vulnerable to "sins of ommission" in our considerations.:

(1) The background for discussion (in the note A) is asymmetrically concerned with the viewpoint "from above" i.e. of decision centers, supposed to guide development processes , which are otherwise spontaneous and also influenced by "the global market forces" [2].

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* My comments have been written thanks to the request and encouragement of Professor Krzysztof Pawłowski, the Rector of Wyższa Szkoła Biznesu-National Louis University in Nowy Sącz, Poland

[1] I am refering to *"The Multiple ego of knowledge-based economy in Europe. A discusson paper"* and to *"Europe—the strategic choices of the XXI Century. An editorial note for discussion and evaluation"* . The first of these notes refers to the issues tackled by the European Commission in the volume *"Third European Report on Science and Technology Indicators—2003. Towards a knowledge-based economy"* Brussels 2003 as well as in some other related studies. A deeper inquiry is suggested, the main points of which will refer to forces likely to enhance KBE promotion and to overcome potential obstacles. The second note announces intentions to publish a volume which will hopefully gather opinions on several strategic choices which will have to be made in the future developmental processes (seven fields for such choices are mentioned in the note). I understand the notes as initial suggestions of topics for future research and my comments are offered in that context. The notes will be called: A and B respectively. My comments are addressed directly to note A and indirectly to several fragments of note B.

[2] Professor Kukliński says that processes of development in Europe will be simultenously "leseferic and dirigistic" (which probably means that various kinds of processes may coexist). I would add a reservation that consciously devised guidance differs from "dirigisme". The latter does not approve spontaneity, which exists but as an opposing force. The concepts of coexistence or complementarity do not seem so controversial if applied to somewhat softer notions, i.e. respectively to market self-regulation and to subsidiary functions of public bodies, with a crucial qualitative condition that both are based on sufficiently strong institutional foundations (including the ethos of public benefit and service)..

It would not be enough to assume that the main and decisive causal factors for development processes in Europe can be found in the roles of "grand actors" . They are essential but within a context of their interrelations with spontaneous movements and changes ("ups and downs") , which are primarily resulting from micro-activities observed in the sphere of economic and societal life. One can argue that such endogenous micro-aspects (considered from a holistic macro-perspective) deserve more attention[3],—mainly as "grass roots" factors , which may enhance good chances or may create obstacles. Their relevance is particularly great at present—in view of extraordinary extent and speed of changes (which lead to abnormal profileration of variety in many fields of societal and economic matters). There are many problematic features of micro-economic and micro-societal activities , in particular when they are observed and considered from the angle of their interrelations with more general and wider (holistic) concepts used in our consideration of Europe's development, at present and in the future. The role of global impacts seems particularly relevant in this context. They create problems in micro-sphere, reactions to problems lead to various spontaneous transformations in that sphere and in turn—to changes in challenges and constraints which must be faced by the grand actors as critical choices (or dilemmas) in their tasks of guidance.

(2) It seems that we can try to touch only a few chosen aspects in a rather complex problematique of the mutual relations between the notions of "spontaneity" (in processes supposed to be driven by market forces) and of "guidance" , sometimes "control" (which are the tasks expected from the grand actors).

The adjective spontaneous applied to contemporary practice of market processes has a peculiar and relatively limited sense because respective activities, although directly not dependent on any exogenous instruction, are nevertheless supposed to take place within certain constraining bounds, which are predetermined by formally binding law and by other generally accepted informal rules. A large part of these constraining obligations (in other words—expressions of an institutional order) have their origin in certain societal arrangements and their experiences, which are usually somehow influenced by the public bodies (called "grand actors" in note A), and the same was true in a recent and a more distant history. At the same time it seems crucially important to remember that the nature and characteristics of each "grand actor" has been somehow conditioned by feedback interrelations between their own activities and the outcomes of spontaneous processes and "bottom up" pressures in the areas of economic and other societal matters. It would be wrong to opt for concentration of power in the hands of central public bodies[4] and also—it would be naive to expect that a sheer act of their will would suffice to allow "the grand actors" to shape the future of Europe, especially if the prospects for just mentioned "bottom up" outcomes and pressures would not be aimed in similar directions. Unfortunately it also happens (as in contemporary Europe) that there are two parallel and interdependent ailments.

[3] I have in mind here the features studied by such fields of literature as these concerned with transaction costs, with asymmetry of information, with various morally doubtful practices in business and in public sector. One way or another they indicate an extending range of pathologies or weaknesses in contemporary spontaneous market regulation (They are market failures—but in a wider sense, not covered by a traditional scope of that notion). Their occurance leads to increasing demands for public action (of governmental or local bodies) but demands are too large, in comparison with feasible potential of supply. This happens also in the area of R&D and innovations (problems of that kind were discussed in *Society—The endless frontier. A European vision of research and innovation policies for the 21 th century* by Paraskevas CARACOSTAS and Ugur MULDUR, European Commision, Luxembourg, 1998)

[4] One should remember in that context a well known "priniciple of subsidiarity" , which is declared as binding in European public matters—but the extent of its implementation is too small. *"The Economist"* (June 12th 2004) in its leader on the European elections (entitled "Apathy contest") presents suggestions on feasible ways to counteract the symptoms prevailing in Europe and called "democratic deficit". Suggestions refer to the rules of subsidiarity,*"which provide for powers to be exercised at the lowest sensible level of government"* (p.16) and they postulate that this criterion should be more emphasized in considerations of legislative proposals made by the European Commission.

On the one hand—"the grand actors" (especiall in public matters) are frequently willing to gather in their hands too many functions, responsibilities and attributes of power. On the other hand—there are widespread symptoms of neglect and failure on the part of persons, who could have been active at micro-level in shaping, supporting and improving societally desirable institutional order.

These deplorable cases of neglect or failure are destructive in two senses i.e. being harmful to engagement in local and regional civic duties as well as to contributions in "bottom up" processes (which are meant to assist endeavours to improve institutional order in respectively larger areas, up to national or "Union wide" extent).

(3) I am sharing opinions that the chances of setting in motion and promoting adequate sanative processes (i.e. essays to counteract pathologies and deviations in spontaneity and guidance interrelations) are depending primarily on the chances of adequate transformations in personal patterns of behaviour. The roots of such chances can be looked for and also hopefully found in the sphere of personal minds and souls of human beings. Ultimate causal factors for these changes are predominantly within respective ranges of responsibility that each person has for her/his behaviour (being grown-up and normally sane, i.e. acting according to one's own free will, reason and conscience).

Important are in that context the personal features related equally to merits and criteria of reason and knowledge, which are acquired through education, training and experience as well as those related to deeper motives of existential wisdom, faith and loyalty concerned with fundamental values, linked to a superior sense of human dignity and finding expression in a strong concern for judgements of personal conscience[5]. A justified concern for these issues is motivated not so much by potential diversity among individual behaviours but by various qualitative aspects of interdepence between personal behaviour and the practice of societal relations.(or even—with global issues of mankind). We can trace here the roots and main characteristics of micro-relations (in a basic, closer sense of families and other micro clusters), and also of respectively wider relations in areas, where the human values (conceived in consciences as multiple personal sources) are somehow expressed by the notions of common (public) good (benefit) and by respective criteria of evaluation for activities and decisions undertaken for public purposes (i.e. neither private nor individual).. The nature of such criteria seems most understandable and transparent if they are clearly built upon a common will to accept superior position of human dignity (of every person) as well as to acknowledge parallel importance of human rights and human obligations within a truly democratic societal order. In short—I think that the phenomena marked at present with the names "Knowledge-based economy" and " Knowledge-based society" will not be sufficiently successful and beneficial unless they gradually develop and undergo transformation into "**Knowledge, Ethics, Wisdom—based ...economy and society**"

This line of thought excludes any assumption that the desired changes would be imposed by exogenous pressures and sanctions, within any kind of an ideological project (similar to those of historically experienced totalitarian regimes, or being a somehow camouflaged its new mutation). However, one cannot forget other arguments, which maintain that aforementioned chances for improvement are in fact and will be heavily hampered because the voices raised in their favour are consciousely neglected and excluded from a scientific and public discource by a majority of institutional features, as well as by the unwritten rules of political correctness, which are visible in many existing democratic societies (and in their economic systems). This is due perhaps to the emphasis on tolerance, which is usually understood and promoted in a peculiar sense. It is supposed

[5] These foundations of personal behaviour are (approximately) expressed in the professional literature by the notions of human capital and social capital respectively. Both of them include certain specific evaluations of personal behaviour considered from the viewpoint of a wider benefit (i.e. not individually of each person concerned).

to give priority and privileged treatment for such concepts of behaviour, which are somehow original in deviations from any earlier accepted normal standards. In some cases this brings valuable innovations, elsewhere, however, that attitude leads at present to discrimination of those, who are arguing against some aspects of modernism (because of their dangerous implication for the fate of mankind). It seems that we are facing a kind of adverse selection of quasi-innovations in societal matters, which go together with many valuable technological innovations. This may contribute to extending of deplorable societal ailments (e.g. destruction of family life, regres in pre-school conditions for children, contempt for honesty and fairness in business or in public and human relations etc). Preference seems to go for behavioral patterns which are just opposite to the postulates aimed at curing the societal ailments. This is not so strange, because preferred are in contemporary practice such behavioral patterns which seem relatively easier, promising prompt satisfaction or offering higher immediate benefits (without concern for secondary or delayed losses).

Such happenings may be understandable but, nevetheless, they seem detrimental for the future of mankind, thus they are far from being expressions of wisdom.

I am fully aware that these reflections are just a tentative and rough outline of problems for discussion on prospective conditions which would hopefully decrease extent and frequency of failures and of mischievious activities in societal matters. They are trying to follow the lead of thoughts and suggestions published in the volume *Europe in the Perspective of Global Change*, edited by Antoni Kukliński and Bogusław Skuza, The Polish Association for the Club of Rome, Warsaw 2003[6].

(4) The future of mutual relation between "the grand actors" and European spontaneous development forces, and of their institutional order, will be also shaped by the main problems of to-day, in particular by the impacts and challenges caused by simultenously occuring processes of (i) European Union's enlargement, (ii) proclaimed endeavours to promote (soon) Union's economy to a leading competitive position in the global area[7], (iii) the essays to achieve (simultaneously) the goals of Lisbon Strategy, and to implement its respective tasks, in the fields of KBE development and rising productivity as well as of attaining more societal coherence (with reduced unemployment , with better jobs and with less symptoms of social exclusion).

In my opinion—there are reasons to argue against one aspect within a concept of "a new strategic goal[8]" (adopted at the Lisbon European Council of March 2000). I have in mind the declaration of political will to transform the European Union by 2010 into *"the most competitive and dynamic knowledge-based economy in the world ..."*. In other words—this means also that European Union's economy was confronted with a goal which compels to strive for leadership at the global arena, which was supplemented with indications that that leading position will be taken from the USA.

My reflections and arguments are not meant to imply any objections against endeavours to increase dynamics of development and of competitiveness in the economies, which are forming the Union. However, I think that it is not advisable to apply a total (aggregate) formula in expressing

[6] My contribution there was explicitly concerned with the role of Christianity and respective inspirations for European institutional order. However, there are also numerous cases of similarly directed arguments, where similar suggestions for institutional improvements follow from arguments of mainly mundane and reason-based (rationalist) considerations. E.g. there is a line of thought related to potential qualitative merits of striving for "global ethics" which would not accept the motivation of "hate" and of "fighting against" as forces preferable in social relations.

[7] I am refering here to the aim (expressed within the Lisbon strategy to transform Europe (in 2010) into *"the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"*. The aim of leadership is implied in the initial part of this statement, the rest may rouse reflections on complexity of the aim and on potential conflicts of its particular aspects.

[8] I am refering here to the text concerned with that goal printed in Chapter 1 (p.1) of *Third European Report on Science & Technology 2003*, European Commission 2003

the goal for the whole Union, because one should remember that the Union is composed of diverse economies which are presently at different distances from the above mentioned ambitious target of leadership[9]. The aggregate approach (and corresponding averages in terms :per capita, per worker, per hour etc) may imply priority for total quantitative growth effects (in terms of GDP and related productivity indicators) without adequate concern for the pattern of the components, for structural features of the latter—as well as for the consequences of growth promotion and of the impacts of globalization. These consequences may be unfavourable for some qualitative aspects of in the processes of Union's enlargement as well as for the chances to attain the aims of societal nature (more employment , cohesion, safety etc). The latter may become handicapped everywhere, even in more developed European economies.

Besides, there are arguments[10] that some performance indicators in several European economies are already nearer to the top than those of the US economy.

The indicators for the whole Union will become uncomparable (over time) alongside the processes of Union's enlargement , which leads to another argument against paying much attention to the position of the whole Union in global rankings.

Much more important conseqences may be resulting from other i.e. structural features of development processes of the whole Union, considered as a large system composed (now) of 25 states-subsystems and correspondingly greater number of smaller subsystem-regions. Considering the utmost importance attached within the Union to the redistribution of public funds among subsystems it seems particularly essential to continue considerations of comparative effectiveness of variants , which would be characterised—however—not only by various GDP and productivity growth assumptions and by intensity and patterns of redistribution flows, but also by various patterns of relative competitiveness in subsystems (and their changes over time), looked upon in two perspectives i.e. of global and intra-Union markets. The essays to narrow the differences between the competitiveness of relatively poorer (weaker) and richer (stronger) subsystems may lead to controversial problems whenever the process involves possible regres for a stronger subsystem.

(5) According to Lisbon Conclusions it was assumed that the aim of overcoming the main global competitors will be approached without essays to imitate the USA, which was confirmed by a following statement:[11]. *"The Union must shape these changes in a manner consistent with its own values and concepts of society"*

The nature of these European values and concepts of society seem particularly relevant for understanding and trying to disentangle a dilemma, whether more competitiveness can be attained in Europe together with improvements in achievement of above mentioned societal aims of more employment, cohesion, safety etc. If one assumes that European Union's "own values and concepts of society" are identical with these expressed presently in practice (as well as in the recent history of Union-15) then it would be justified to venture a conclusion that the task seems hopeless, i.e. that relative successes in competitiveness (and the merits of their economic effects) seem doomed to be accompanied by inevitable forces towards regress in societal domains (not necessarily in

[9] One can hardly imagine, why ordinary Europeans should feel joy and satisfaction when they will be told that European economy is the leader (as if a "world champion" but in what competition ?, should we strive for a feeling of superiority towards all who are less afluent? what sense would be in implying that such motivations will make us proud to be Europeans?)

[10] See e.g. *The Economist* June 19th 2004, Special report *Europe v. America* pp.75–77, Similarly oriented, although differently motivated arguments and comments were presented also in *Europe in the Creative Age* by Richard Florida and Irene Tinagli, February 2004

(A booklet published by Carnegie Mellon Software Industry Center, co-published in Europe with DEMOS, London UK)

[11] *Third European Report... ibid* p.1

aggregate terms (seen in short-term horizon) but mainly in structural and distributional aspects, which—in a longer perspective—will have also harmful consequences for aggregate quantitative indicators).

European Commission's volume (Third European Report...2003, op.cit. pp. 9–10)

refers in this context to some important lines of thought, which are meant to look for chances of finding another answer to the dilemma, i.e. finding such institutional and other systemic changes which would be able to help European economies to harness societally detrimental secondary effects of their strife for higher competiveness and for more market successes. Attention is focussed primarily on measures which will sufficiently help to match structures of labor markets supply and demand sides. This line of action includes already eneavours to increase:

(a) mobility of persons looking for employment and also (b) their ability and flexibility in mastering new professional skills and in adapting to new places of employment. More measures will certainly have to be done in the area of education (and continuous training). Their effectiveness will depend—in turn—on various surrounding conditions (in terms of enhancing their friendliness to the chances of achieving the basic aims. The section entitled" *Competitiveness with high social cohesion?"* ends with the following sentences (p.10):

" However, thinking that the population, via education and training, can be adapted to new market conditions and that education and training will, thus. resolve the social problem, is a fallacy. Investment in education, training and life-long learning might be inefficient if it is not backed up by social investment: children's ability to learn and success in school depend directly and powerfully on the social situation within their families. Lingering social inequalities unavoidably produce educational and cognitive inequalities. Active social investment is also an answer to new needs created by changes in the family structure: new household forms and life-style patterns.... Therefore, it appears to be important to redefine social policy in order to nurture strong and viable families adapted to the new and rapidly changing working conditions."

All above mentioned measures in the areas of improving effectiveness of labour markets, as well as of education and social investment oriented towards stronger and more viable families, are conceived primality as catalysers. In other words they can prove sufficiently effective if they are no serious dicrepancies between total labour demand and supply, so that the problems will be solved through more effective adaptation within labour market. However, such assumptioms are not justified so the whole problem of unemployment and exclusion deserves much more attention.

(6) I aggree with an ephasis on institutional and behavioural studies (expressed within "methodological assumptions" , in note A, p.1). However, I would add that such approaches seem useful not only in "studies analyzing the modus operandi of the grand actors". They seem also necessary in the sense of considering institutions as "rules of the game" related to all particularly relevant systemic processes and interconnections[12]. The latter are not confined to linkages among "global forces " and "the grand actors" and—on the other hand—respective internal European economic and societal issues (in particular—of KBE and KBS). They are also explicitly concerned with certain important qualitative issues in the status of European societal and economic systems, with the manner and qualitative features of intra-European markets as well as with the qualitive attributes of their instituional order.

It seems that contemporary socio-economic practice is characterized by many symptoms of institutional disorder. There are visible symptoms of continous decay, which are pehaps most

[12] Refering e.g. to *Oxford Advanced Learners Dictionary* one may remind that the word "institution" is used in practice to express two different notions, i.e.(1) of established rules of human interactions in economic & social relations (established formally by law or informally originated by customs or by personal moral conviction), (2) of an organization (usually for social welfare or for other public functions). Institutionalist scholars concentrate attention on the former interpretation (e.g. Douglas C.North)

frequent in the sphere of individual behaviour[13], whenever the people in their diverse roles (in business, in employment, in public service, in professions, in families and other human inteactions) forget their human obligations towards others but prefer to interpret liberty and human rights in a way, which boils down to neglect or outwitting of all existing societal rules (not only imposed by law but also those of an informal moral code) [14]. In other words—we are witnessing in practice frequent destruction of institutional constraints, which are supposed to matter but are in fact too weak. As far as I know there are no precise statistical data which would allow to assess the extent of institutional disorder, particularly in that part which refers to misbehaviour not covered by remedial activities of courts, public police etc. Nevertheless it seems justified to express words of warning, because :(a) there are numerous and growing cases of press reports, which indicate respective regretable facts ,(b) wide-reaching voices of public opinion express negative judgements for proliferation of mischief in societal matters (which in itself become relevant factors for socio-economic perspectives), (c) professional literature and serious periodicals show concern for many generalized types of problems emerging in that context.

[13] I do not want to underestimate the importance of formally binding laws and of all arrangements set for protection of public order. However—one should remember that without sufficiently clear and strong moral code (worthy of human dignity) there will be an inevitable dilemma in "negative" choice of lesser evil i.e. what is preferable—is it lack of order and safety? or dangers signalled and experienced by symptoms of autocratic regimes.

[14] My reflections to these issues were presented in section 2 above. I am offering other thoughts in that problematique elsewhere in this volume.(see: chapter on *Some difficult problems facing Europe on the way towards a top-rank knowledge-based economy.*).

KAREL MÜLLER

REFLECTIONS ON PROPOSED RESEARCH AGENDA "THE KNOWLEDGE-BASED ECONOMY IN EUROPE: THE REGIONAL TRAJECTORY"

The aim of this communication is to join the discussion, which has been started by prof. Kuklinski and his colleagues and intends to mobilise research efforts in favour of internationally supported research project. I will be focused on two papers which have argued basic ideas and methodological framework of intended project and been recently circulated[1] even if I take into account previous publications and intellectual efforts of prof. Kuklinski.

The knowledge-based economy is the key notion of the suggested project. Here, it should be reminded that prof. Kuklinski has played a pioneering role in introducing this concepts in the debates about possible course of economic reforms in the accessing countries (The knowledge-based economy, 2000). The question, how human intellectual resources can be mobilised in favour of economic and political advancement has been always the leading issue of his interest. In the present proposal new cognitive issues have been raised. They are concerning both the conceptual and the methodological matters. In conceptual perspective a structured approach is proposed taking into account both centralizing (globalising) and de-centralizing (localising) factors of current changes. It is supposed that closer study and evaluation should be paid to the role of international and national actors as well as to regional ones. The methodological suggestions are referring to experience of large international agencies, which have developed the indicators and databases of human resources, their capacities and environments of their growth. In a comparative perspective such data offer an interesting approximation to an assessment of knowledge resources in economic growth and social change. The paper is demonstrating how such data could be combined in order to give a picture about differences among the proposed countries (4+4). Moreover, it is suggested that also a qualitative approach should be applied—assessment of best practices or benchmarking which should give a more consistent picture about the ways, how the available resources are employed and the current results achieved in the studied countries and regions. I understand it so, that the second paper about a dichotomic model is drawing attention to the methodological difficulties in a study of regulatory / self-regulatory regimes. It is in fact suggesting which issues should be taken into consideration when studying best practices of this or that country or region.

I share the idea that human resources, and the knowledge they are disposing of, have become the key resources of economic growth and a concept of knowledge-based economy should be

[1] Kuklinski, A., Burzyuński, W., The knowledge-based economy in Europe: the regional trajectory (model 4+4+4+22); Kuklinski, A., Towards a dichotomic model of strategic choices

taken seriously in assessing the situation of the countries of Central and Eastern Europe. One can have in mind lot of political and cultural reasons for raising this issue to public attention and debate. In political terms one can count with both the strong pull effects of EU environment and its selective impact on political landscape of the accessing countries and the political efforts of CEE countries for authentic action and performance in diversified and competitive environment of EU. In cultural terms one can count with functional revival of differentiated social systems (of education, technology, science, public administration, health care). They were heavily supported in old regime but in their functioning (and systemic nature) shaped rather by ideological aims while their present existence and transformations have to adapt to mutual "checks and balances" among the social sub-systems and do so, moreover, in an open and competitive environment. I claim, that the KBE concept is "located on the track" of these transformations and can give important cognitive support for their orientation. Of course, such support can become more powerful provided the KBE concept is aware of its social and cultural implications. In the commented papers such awareness is presented in a strong statement about virtuous circle between knowledge-based economy and knowledge-based society and more specified in the paper about dichotomic model of strategic choices. I would like to develop my arguments in this perspective and suggest some topics, which could accomplish a picture about societies, which make use of and attempt to promote role of human resources and knowledge in their economic systems.

If one has in mind current concepts of KBE and looks at current conceptions of knowledge societies he finds right away a striking difference at their evaluative framework: while the conceptual approaches of knowledge-based economy are mostly giving positive evaluation to the (economic) role of knowledge, the conceptions of a knowledge society are giving rather ambivalent, if not problematic, assessment to social role of knowledge. There are two simple reasons for such difference: (i) study of societies makes it possible to follow and assess all possible implications of knowledge, and (ii) a closer look at process of diffusion and implementation of knowledge brings also additional knowledge on process of knowledge generation, including its various forms. Starting from the latter issue some starting differences and classifications can be formulated. Speaking about knowledge we have in mind modern (discursive) knowledge. It forms basic knowledge ground of modern societies. Yet, its application in different social spheres (sub-systems) and impact on human life, have disclosed some serious social problems (about emancipative role of modern knowledge and its relation to power, institutional trans-formations of science and technology, relation to everyday-practical-knowledge). Some of these problems are reflected in the studies of changes in science production systems: more profound utilisation of science in social subsystems has not only influenced their performance but also has led not only to qualitative transformations in science system (transformation from Mode I to Mode II) but also essential transformation in nature of social relations and institutions: ".. the mergence of more open systems of knowledge production—Mode 2 science—and the growth of **complexity and uncertainty** (underlined by K.M.)—Mode-2 society—are phenomena linked in a co-evolutionary process."(Nowotny, Scott, Gibbons 2001: 245). Even more critical approach has been developed in the debates about a role of information and informatisation in current societies. Closer studies of social implications of ICT as well as post-modern interpretations of current situation in modern societies are suggesting that information has become crucial medium of social interactions and has been pushing out discursive knowledge of this role (in studies of Lyotard, Baudrillard, Vattimo and others). Consequently, one should speak about information societies rather than knowledge societies (Lash 2002).

What can we learn from these debates? How could we apply this knowledge to the discussion about dichotomic model of strategic choices, or virtuous circle between knowledge-based economy and knowledge-based society, as formulated by prof. Kuklinski? At the first glance it can be said

that the virtuous circle is laden by both new challenges and new constrains and uncertainties. Rather positive picture has been offered by studies of social impact of ICT and relevant concepts of information society. Explosion of information has been up-grading performance of many areas of human activity, like professional growth, education, and profit-formation in business. But such findings are mostly interpreted in a framework of technological determinism: after identifying social implications of a particular technology it is expected that these implications will be transformed in social assets. The position taken by social sciences, particularly by their idiographic discourse, is more cautious about a social power of technology—rather an approach of social shaping of technology is preferred. In this perspective not only new challenges for social action but also impact on existing forms of power, social control and inequalities have been identified.

The current understanding of turbulent changes in modern societies is, of course, laden not only by different concepts but also by re-examination of basic social science notions. E.g. Lash is expecting that informatisation of current life is so profound that it changes principal form of wealth creation and accumulation. So in his view, we cannot count with notion of capitalism (Lash 2002). On other hand Webster, after having reviewed all essential concepts of information society, has been suggesting that the state of current societies is more influenced by capitalist forms of social control. He claims, that the following "principles have spread round the globe at an accelerated pace in recent decades:

- Ability to pay will be the major criterion determining provision of goods and services
- Provision will be made on the basis of private than public supply
- Market criteria—whether something makes a profit or loss—are the primary factor in deciding what, if anything, is made available
- Competition—as opposed to regulation—is regarded as the most appropriate mechanism for organising economic affairs
- Commodification of activities—i.e. relationships are regarded as being amenable to price valuation—is the norm
- Private ownership of property is favoured over state holdings"
- Wage labour is the chief mechanism for organising work activities (Webster 2002: 268–9).

The above-mentioned assessment is, in my view, overestimating a role of capitalist markets in co-ordination of social activities in modern activities and underestimating changes in nature of present forms of work. The concepts of institutional cluster of modernity, which has been suggested by A. Giddens, seems to me to be better representing scope of means and environments of social co-ordination in modern societies (Giddens 1990). He counts with four dimensions of institutional cluster of modern societies—besides capitalist market economy he counts with three other dimensions without which modern societies can not be understood: the state with its surveillance function, control of means of violence and industrial dimension (reflecting relationship to nature and a formation of "artificial nature"). Each dimension is, however, outlined in terms of diarchic nature of power: the above-outlined dimensions are complemented/balanced by relevant movements (labour, political, peace and environmental ones). Such theoretical framework is much more sensitive to account for impact of social factors. E.g. the issue of ICT need not be understood in view of its ambivalent (positive and negative) social impacts but also in ways, how the formative actors of this or that dimension as well as relevant movements make use of ICT -a much more descriptive and situational picture can be gained. M. Castells has presented such picture in case of social and cultural implications of Internet. He has come to understanding that in general social terms Internet is representing

- Challenge to freedom—internet can be appropriated and monopolized; for this reason struggle for access to and control of internet is a struggle for freedom;
- Challenge to exclusion is influenced by situation of access or non-access to internet;

- Challenge to advancement of personal capacities for processing of information and knowledge formation—growth of capabilities to make use of databases in the course of whole life.

He has also drawn attention not only to impact of internet on a context of human action but also on forms of intersubjectivity and solidarity. He has found out that diffusion of internet is associated with formation of four types of communities and cultures:

- Technological and meritocratic culture growing out of ethos of academic science and its extensive facilities ("big science") which is open to prevailing power structures;
- Hackersïculture which has produced professional excellence with orientation on freedom of action, free access to technology, independence on power;
- Virtually communitarian culture which is associated with a growth of communities, re-discovery of society, with orientation on freedom, horizontal communication and interactivity in improvement of human condition of life (without adherence to technology);
- Enterprising culture—orientation on innovative ethos, wide application of new technologies and business aims with a potential to oppose existing rules and institutions (Castells 2001).

The above-mentioned examples are well documenting that one can identify not only positive or negative implications of modern knowledge and industrial resources but also understand that social actors and environments are operating on their own, enhancing their capacities via appropriating modern knowledge and shaping technology within their framework of action. Such findings are fruitful not only for the case of better understanding contexts of knowledge production, diffusion and application but also for governance of such processes.

It has been already mentioned above that these processes are not only governed by the principle—"the more we know, the more we control our environment and more certain are conditions of our life". On contrary, the more modern knowledge is diffused and applied in society the more open, flexible and uncertain there are context and environment of our actions. For this reason N. Stehr is correctly claiming that social control of knowledge and governing of knowledge societies are crucial and disturbing issues of current societies (Stehr 1994). The issue of governance can be theoretically approached from different positions: either from action, which is charismatic or well-networked in order to generalize its purpose or meaning, or from self-referential social systems, which are able to reduce complexity of present societies, or from combination of both. Anyhow, a study of institutional context of knowledge societies seems to me to be a productive research problem where advantages of both the theoretical and the empirical cognitive approach can be applied. I shall come to this issue in concluding part of my commentary.

The above outlined discussion has aimed to refer to 16 dichotomic strategic choices to the future of Europe, which are mentioned by prof. Kuklinski in his paper about dichotomic model of strategical decision making. In view of this proposal my comments have an intention to draw attention to some additional points:

1. Since strategical decisions are taken in context of institutions it would be productive to associate their interpretation with some basic institutional (functional or structural) framework of current societies; the above-mentioned institutional cluster of modernity—highlighting economic, political, industrial and military aspects—could be a good example of such framework;
2. Important issue is concerning the cultural and evaluative issues—model of dichotomic choices counts with several issues, which have an explicit relation to context of values and social norms. Of course, one could treat values as preferences, order them and draw implications for a culturally supported growth of this or that sub-system. I draw attention to different approach which treats valuation issues as a relatively independent since their function rests in cohesion of values being reproduced in human (everyday) practices; diarchic arrangement of power, impact of social movements seem to be important and productive environment enabling

that life worlds of collectivities—their capabilities to produce mutual understanding, respect to norms of inter-subjective action and shared values—can become formative factors of social and cultural reproduction and transformations.

3. Another level of institutional arrangement can be specified for the forms of social co-ordination and control—having in mind in particular markets with their proprietary and competitive environments and democracies with their role in granting equality and producing public reputation. In analytical terms these aspects can be understood to be disjunctive and present systems of market control have been strictly observing that informal co-operative agreements are not corrupting competitive environments of markets. But a closer look at current forms of governance is indicating that "borderlines" between competitive and co-operative forms of social co-ordination (as well as between privates and public spheres) have been under pressure of permanent changes in course of which each spheres has been adapting to another one: the issue is, therefore, not only to observe the specific function of this or that sphere but also to find a balance in their role with respect to specific situations. E.g. study of innovation policies in selected accession countries has indicated that inability to balance the regimes of competition and co-operation is one of the weaknesses of these countries in promotion of innovation (Innovation policy 2001). For analytical reasons it seems advisable to study not only dichotomic regulatory positions but also ways, how the dichotomies could be balanced and complemented.
4. Next issue is concerning the first point and intends to draw attention to position of economic system in relation to the other social sub-systems. In the preceding text some arguments have been already mentioned to the relationship between industrial system and economic one. Now, I would like to draw attention to a precarious issue of relationship of economic system to state and the political public.[2] The experience of EU has been evidently documenting that economic factors have been playing crucial role in its formation but are not sufficient for its embedding in a reliable institutional framework. Of course, many interpretations could be suggested how a co-evolution of both spheres might and could be promoted: one can expect that sufficient economic growth and abundant public finances could settle the issue; one can count with a limited role of state and political systems (in a perspective of libertarian perspective). Many authors are, however, worried about lagging role of political institutions in present world and its globalisng factors and actors. I shall mention recent publication of J. Habermas, which seems to me to be persuasive enough about circumstances of emergence and consequences of such deficit (Habermas 1998). In his view an expansive growth of market-based global networks and the declining legitimising and regulatory role of national states have been representing main factors of influence on the growing gap between economic and political forms of governance. "Catching up of global networks" in formation of global agencies which would produce regulatory and legitimising function is, however, severely constrained by lack of common ethical and political dimension—a citizenship, a nationhood or similar "imagined communities" which were shaped in the course of formation of national states. He is suggesting that very sensitive balancing of globalising economic factors and factors influencing a formation of trans-national democratic decision-making should be followed. In the latter case he expects that local and regional issues will play crucial role even if any inter-national agreements, alliances and coalition in favour of growth of regulatory and legitimising efforts for global situations should be supported.

[2] This formulation is referring to diarchic arrangement of public system with controlling function of state and activities of political movements at public sphere as formulated by A. Giddens

The aim of the above-enumerated arguments is to draw attention to the issues of institutions, their role in governance of current global situations, changing interfaces among them and trans-formation in their roles and internal structures.

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MAROSÁN GYÖRGY

TIPPING POINT, CRITICAL MASS AND SOME NEW CONCEPTS

There are a lots of concepts which describe the changes in the course of transformation of systems. These concepts explain trends and the point from a system changes their behaviour and qualities. To characterise the transitions and changes we use different concepts: tipping point, point of no return, critical mass, phase transition, critical poins, self-organized criticality, threshold, point of inflexion,

The "tipping point" phrase was first used by Morton Grodzins in his analysis and was published in Scientific American 197 (October 1957) in "Metropolitan segregation". It become known in the classic paper of Thomas Schelling, "Dynamic models of segregation" in Journale of Mathematical Sociology" 1 (1971). Both paper sought to explain the abruptness of white flight from racially mixed neighborhoods, once a critical number (about 20%) of black people move in. What's so counterintuitive about this phenomenon in that a seemingly harmless individual preference (a slight desire to have some neighbors like yourself) can snowball into drastic and undesirable socoial outcome (total racial segregation).[1]

The wider public first become aware of the concept of the *tipping point* after publication Malcolm Gladwell Tipping point.[2] The author provide a lots of examples about abrupt changes in very different phemomena: in social movements, epidemics, and fads. All phenomena was dependent on contagion in one form or another. In his book "Six Degrees". D.J. Watts[3] analise the mathematics of epidemics, by teh SIR (lossof immunitiy, infection, recovery) model. By describing the emergence of the logistic growth, displaying the slow-growth, explosive, and burnout phase—he identify the threshold of an epidemic. These types of critical thresholds are connected to the concept of phase transition, and also connected to the tipping point.[4]

The epidemic's like changes one can be discovered in the diffusion of new ideas, or new products also. The Sharp introduced the first low-priced fax machine in 1984 and sold 80,000. For the next three years the business growth slowly, but steadily. The tipping point of the fax machines was in 1987—when enough people had faxes, that make sense for everyone to get a fax—and suddenly was sold more than 1 million fax machine.

The *critical mass*—based on the dictionaries—minimum weight of fissile material required to sustain a chain reaction. In the socal sciences the concept of critacal mass is used to describe the phenomena that in different fields of social life there are a minimal cost, expenditure,

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1 Steven Strogatz. Sync. New York 322 pages.

2 Malcolm Gladwell The tipping point. Abacus. 2001.

3 Duncan J. Watts. Six Degrees. (The science of a connected age) W.W. Norton and Company. 2000.

4 Albert-László Barabási. Linked. Perses Publishing. 2002

attention which maintain a process, or sustain a trend or make possible the continuous work of an organization. There are some more concepts coming from the phisical sciences—critical point—which widely used to describe social phenomena.

The *critical point* describe a certain level of the phase transition. Originaly the Van der Waals' theory explained the existence of a critical point at which the liquid and gaseous states of a substance become indistinguishable. In his book Phipip Ball[5] find that "it is now fashionalbe to see critical points everywhere... and are at least a good methaphore, and sometimes rather more than that, for strange combination of unpredictable and the rule-bound that governs much of our life". [6]

The phenomena of *self-organized criticality* was discovered by Per Bak, Chao Tang, and Kurt Wiesenfeld. They analise the behaviour of a pile of sand. Dropping grains of sand one by one onto a table top. The pile builds up slowly into a little sand mountain. Once the slopes reach a certain steepness, dropping new grains on top can trigger an avelanche. Before a certain point, the grains are held in place on the slopes by friction, which prevents them from sliding. Each avelance releases "tension" in the pile, lowering the angle of the slope and restoring the stability. But than, as continouosly new grains are addad on the pile, the system newly reaching the point of self-criticality, and the very next grain could trigger another landside.[7]

[5] Philip Ball. Critical Mass. William Heinemann: London. 2004.
[6] Philip Ball 283. page.
[7] Philip Ball. 298. page

ANTONI KUKLIŃSKI

POST SCRIPTUM TO THE REUPUS VOLUME TWO "EUROPE—THE STRATEGIC CHOICES"

The design of research programmes in the experience of social sciences A challenge for our imagination, intellectual capacity and the will of implementation

I would like to analyze three challenges which are involved in the processes which lead to the design of a research programme in the field of social sciences:

The challenge of intuition and imagination
The challenge of intellectual capacity
The challenge of implementation

The challenge of intuition and imagination

In the design of a research programme an important role is performed by the artistic spirit of intuition and imagination. Without this spirit we will not be able to dismantle three barriers which are blocking the way leading to an really innovative research programme:

1) the barrier of conventional wisdom
2) the barrier of political correctness
3) the barrier of intellectual self-satisfaction

The challenge of intellectual capacity

Intellectual capacity is the key factor in the design of a research programme. The main test of this capacity is the ability to formulate the proper questions.

In this context it is advisable to quote the following observation of Gunnar Myrdal:

"'Theory' in this context means nothing more than a logically correlated system of questions addressed to the material. It is in the nature of this conception of theory—which will be further developed in the Prologue—that the author of a theory should not fear, but expect as a perfectly normal consequence of fresh research, that further insights into various components of the complex of social interrelationships about which he has tried to inform himself will invalidate his theory, perhaps in fundamental respects."

In order to formulate the proper system of questions we need three elements:

1) "the material"—in other words—the diagnostic knowledge
2) a theoretical framework illuminating the selective process leading towards the proper questions
3) the willingness to reformulate the theory following the results of empirical analysis

I would like to suggest to apply this test of imagination and intellectual capacity—to the system of questions emerging from the rich content of the Twin Volumes dedicated to the European Parliament.

In this framework we can also formulate a broader methodological question—how to grasp the interaction on the axis theoretical reflection versus empirical analysis.

The challenge of the will of implementation

There is no sense to design research programmes without the real prospect and explicit will of implementation. I am convinced that the broad field of questions created by the Twin Volumes will promote an intellectual and pragmatic climate leading to feasibility studies—opening the way to a set of research programmes designed and implemented by an innovative consortium of outstanding European and American academic institutions.

I hope that this consortium will recognize that the content of RECiFER Eurofutures Publication Series is providing a new source of inspiration for theoretical and pragmatic reflections related to the brainstorming topic—"Europe—the global challenges and strategic choices".

Warszawa–Nowy Sącz
November 25th 2004.

KATARZYNA ŻUKROWSKA

COMMENT ONE

Comments to **A. Kuklinski's** paper on "**The Design of research in experience of social sciences. A challenge for our imagination, intellectual capacity and the will of implementation. A note for discussion**".

Professor A. Kukliński states that there are three challenges which are involved in process of designing a research program. They embrace: (1) the **challenge of intuition and imagination**; (2) the **challenge of intellectual capacity**; (3) the **challenge of implementation**. I fully agree with this. Discussing point one, professor **Kukliński mentions three barriers** a) of **conventional wisdom**; b) of **political correctness**; c) of **intellectual self-satisfaction**. There are additional barriers worth adding in order to create a full picture of obstacles, which can be involved in the process. Going further one can include other barriers of: d) **departing from a schedule**, used by all or overwhelming majority; e) **of being rejected and criticized** by forming new ideas; f) **of fame**; g) **of ability to evaluate the information critically**; h) **of being different**; i) **of opposing and arguing own concept**; j) **of conformism.**

Intellectual capacity enables to formulate proper question what according to professor A. Kukliński requires: (1) **the material**; (2) **theoretical framework**; (3) **the willingness to reformulate the theory.** Generally I agree with this statement but **reformulation or formulation of theory not always is a result of planed activity**. **In most cases one formulates conclusions from his observations or forms and proves a thesis without thinking about it as formulation or reformulation of a theory**. This can be so, if one is aimed at rejecting some old views, but most often new findings are resulted by accidental events or thoroughful observations, which are made automatically by the observant without any relation to theoretical background.

Next statement: **it is not true that one needs always to know all theories in the field to form a new one replacing or supplementing the former ones**. In numerous cases scientists as well as researches without academic status come to certain conclusions not building upon existing knowledge but just as a side effect of some other activities. **Theoretical background often can be an obstacle in rejecting the theories, which prevailed in the past and often continue to function despite the fact that they are far from the real world**. In other words real world does not reflect any more what they state, nor they can be considered as model explaining linkages or sequences in real world.

Moreover, too **often common opinion "forms the reality"**, which can be called **"virtual"** as it exists only in writing (literature) not in real world. Such option exists often when models (simplifications) formed for analysis of certain dependencies are taken as reflection of real world.

Often knowledge is binding the thoughts, what creates difficulties to reject theories or simply ideas. **One has to know which model is still adequate to reality and which is not, where is the false ingredient and where is the proper observation?** In my opinion this is the most difficult part of research as in most cases the approach here is simple: a dogma is a dogma and one is not able to invent anything better.

Next option with misleading knowledge or information is the approach to ideas (opinions) given by a person, who has **high position in existing hierarchy** or **is awarded for his/her**

ideas with awards representing different value from award of the minister of science, rector, international award, ending the list with a Nobel Prize. Often **opinion of such person is always taken for granted, what not always is true**. As studies conducted by such a person where correct, proper and innovative in the time, when they were conducted, what happen 20–30 years ago. Now rewarded after years they reflect certain status quo from the past but no longer they are appropriate for current times, as it took too long time to bring the results to public and award it. In meantime the first link of the research chain, which is the "real world" on which the research or theory is based has changed dramatically. This happens in case of causing theories (theories that form conditions and roads of change) or reflection theories (making a photograph model of exiting dependencies). The conducted studies helped to change the reality but the award is granted for findings and observations which refer to first stage of research, observations and findings. This can be considered as form of popularization of the ideas, which cause freezing of the common knowledge in this field for a while. It is not a case always but quite often. In this sense **knowledge can be considered as condition binding formulation of the new ideas**. Interdisciplinary teams were often used as solution to overcome this specific barrier.

Those who are not able to formulate own ideas are in most cases unable to select with possessed knowledge information which is real from a false one. In other cases most of the scholars don't believe in own capacities to formulate ideas contrasting with those that prevail as approved by others. In such circumstances it is a question of **self-confidence**. But also self-confident people struggle supporting ideas, which not only have passed away, but often when still used they reflect only a small element of a model economy. Criticized for that (picking wrong citations, ideas) they defend easily their position with simple statement: this is a quotation after well known "X", who is awarded in numerous competitions. The citation comes from a book and was promoted by leading economic journals and highly ranked professors—may one be wrong in supporting his/her idea? The answer here is that citation without critical comments is an approval of the statement contained in the citation, as lack of rejection is approval. It is better to use own knowledge and intuition, when one is not able to choose which theory continues to bind and which only continues to exist only thanks to those, who still believe in its correctness and repeat someone's thoughts.

The final point deals with **challenge of the will of implementation**. I fully agree but this opinion does not cover all possible options. Here again, as in case of remaining, listed above points I will add something. In my opinion we face more challenges here. One can have will of implementation on the top of fulfilling of the all above mentioned ideas and still will not be able to form a new approach, following the prevailing opinions. The main problem in this case can be ascribe to selective knowledge of narrow specialization, what ascribes certain occurrences in the studied field to old stimulus not seeing that they have disappeared and that other occurrences have taken place of the old ones that have lost grounds and that the new occurrences cause similar effects as the old ones. Generally in such case the researcher will be assured that the old theory is still valid and reflects the reality.

I hope that my comments are clear and they give the real picture of abilities to analyze what goes on in real world. We have to learn ourselves and teach others how to reject ideas, how to be critical, how to form own observations, despite that they oppose overwhelming majority and undermine existing dogmas. Evolution of science is achieved in majority of fields through rejection and replacement old ideas by new ones. This is in case of ideas which are sensitive to changing conditions. Other theories bind despite the fact that they are old as they are universal. We have to choose among temporary, stage theories and those, which prove to be practical and binding despite changes of some of the conditions. Knowledge in social sciences has to teach us how to distinguish the first ones from the second ones and how to replace those of temporal character by new ones also temporary or permanent and universal.

TOMASZ ZARYCKI

COMMENT TWO

Any research project in social sciences is a multifaceted task. In this short note I would like to point out just to four of aspects of academic activity which seem particularly relevant in the context of reflection on the challenges of research project design. They could be presented as following four dimensions of social science research projects:

1. The political dimension of social science research
2. The institutional dimension (formal aspects of cooperation)
3. The theory-generation dimension of social science research
4. The description-production dimension on social science research

As I would argue, the aspects I have distinguished are related to the key problems which should be taken into account in research program design. In the same time they can be reformulated as dilemmas which have to be addressed during the research programme design. The more explicitly these dilemmas will be expressed and challenged, the greater the chance that the process of the research program design will lead to creation of an interesting and innovative research conception.

The political functions of research programmes

As I would argue, following several well known thinkers, the discourse of social sciences is by its nature part of the political and ideological discourse of societies they are created in. While the academic discourse can of course aspire to a non-partisan character, it can hardly be absolutely non-political and non-ideological. Ideological and political assumptions form the essential part of the theoretical foundations of any research project in social sciences. Consequently the political implications of any research, especially of its pragmatics conclusions, are also unavoidable and can not be ignored. What I consider important in this context, is first of al awarness of this dimension of the research. It is not always possible or even advisable to make all the ideological assumptions clearly explicit especially for the wider public. Nevertheless the denial of their existence may have several negative effects as well. One of the is the danger of one-sidedness of the research steaming form inability or unwillingness of recognition of plurality of possible approaches to a given issue. The purposeful or unconscious silencing of the political dimension of research project, especially in the phase of its design, may also make the much more difficult to overcome the barrier of political correctness.

On the other hand, hidden politisation of the programme may deter its potential participants as well as public in the later stage. In the same time, as I would argue, research projects of openly political character, while generally can be considered controversial, can have a very important and positive role, not only from the wider social and political point of view. From the purely academic perspective they may also appear the play the role of very important impulses to rethinking older schemas. In the same time they may present useful, straightforward approaches to research problems and above all they themselves make the links between political interests and ideologies obvious giving a valuable insight into the political dimension of the studied issues, increasing the level of our own self-reflexivity.

The institutional functions of research programmes

The institutional dimension of any research programme is often the most important factor influencing the design of the project. In particular the research projects financed by the European Union are well know for their absurd domination of institutional requirements of formalized, bureaucratized ideology of imitative research design over the pragmatic need of making them relevant, original and cost-effective. One of the fashionable patterns of research programs supported by many sponsors as the EU, are large research networks which are supposed to foster international cooperation and innovativeness. As I view it, this insistence on networking and other forms of centralized research financing is quite often a very negative factor reducing the effectiveness, competitiveness and in fact often innovativeness of the researchers. The main capital of any research community, especially in the context of social sciences, seems to lie in the creative personality of individual researchers. I am deeply convinced that the key question in the effective research design is the creation of optimal conditions for best individual researchers for expressing as fully as possible, their creative personalities.

One could propose a large list of suggestions concerning the ways this can be achieved. In practice, as I would argue, even if institutional functions of the project demand its centralization and high formalization, much emphasis should be made on non-restricting the creativity of individual researchers even at the cost of losing full control over the project and its formal coherence.

The theoretical functions of research programmes

One of the major paradoxes of planning scientific research is that in fact designing a truly innovative research project is simply impossible. Discoveries and new ideas simply can not be planned. The real breakthroughs in any discipline are the most unexpected moments of the creative process. Thus in practice the research project can be either based on the new but already born idea or just attempt to create conditions for progress without any guarantees for success. In the first case the project can have a very important function of empirical and theoretical grounding of an already known but relatively new idea. This function should not be underestimated as the grounding process is not only important end itself but it may also lead to quite unexpected results, for example appearing the during empirical verification of the theory or its confrontation with other theoretical models existing in the same field..

Alternatively, as it was mentioned, the project can be designed as an attempt of constructing of optimal conditions for creative process in some vaguely defined field. As I would argue, one of the best designs for such purpose is taking as a starting point a set of clearly contradictory approaches to a given issue. The contradictions can concern theoretical or empirical dimension but they can not be trivial. In any case, attempts of overcoming earlier contradictory approaches to a given problem seems one of the best stimulus for creative solutions. The key creative moments may consist of reformulation of the research questions. Equally important seems the issue of the adequacy of the notions used in the theoretical framing of the questions. Their modification, development or just criticism may appear the lead to the truly innovative approach to a given problem.

The descriptive functions of research program

While I consider the function of theory development and verification as the key part of the academic inquiry and see it as the basis of any ambitious research programme, I would not disregard the descriptive and interpretative functions of social sciences. They can also be labelled

as the function of "contextualization" of social science. Contextualization can be understood here as showing selected phenomena in a wider context and "translating" them into a new language.

Showing a wider context of social phenomena is a function of both theoretical that is academic and social that is political relevance. Ability to see the context in a coherent way also demands having a good theory. Explaining the context of the other hand is a key social function of social scientists. It includes first of all showing to their local audiences that the processes they are witnessing are not unique and have a wider, for example international dimensions. This may be an important element of helping the societies and in particular their leaders to adapt to the challenges of social transformations by understanding their more general nature and trans-national character.

This can be also seen as a part of function of academics as translators. Translation can be defined here in an abstract way as adapting descriptions of social phenomena to new contexts and new audiences. Contextualization in this sense can concern reframing the selected discourses (of rather theoretical or descriptive type) in new theoretical languages. The translation can imply adapting a given piece of discourse to the language of another academic discipline, explaining issues to foreign audiences or expressing older visions with the use of other ideological assumptions. Thus, in view of these needs, the re-contextualization of the social worlds for different audiences or the descriptive dimension of research in social sciences, as I would argue, should not be dismissed. A new contextualization of a selected social problem can be considered as a fully justified aim of a new research problem. In other words, while I consider theory development as the key task of science, it don't see its exclusive function which should be included in any research programme.

Conclusions

As I have mentioned, the four above mentioned functions of research projects can be seen as sources of four fundamental dilemmas. They can be formulated in the following way:

The **first** one would concern the degree of specification and formal declaration the political functions and assumptions of the project. On one hand too far reaching openness and regulation of these issues may restrict the creative process as well as complicate the reception of he project results in the wider public which usually retains a belief in the idea of non-political social science. On the other hand the non-recognition of political dimension may result in an even deeper politicization and one-sidedness of research hidden under the slogans of its objectivity.

The **second** dilemma lies in the choice between the respect for formal architecture of the research and necessity of granting maximum freedom for the most creative researchers.

The **third** dilemma is the dilemma between the coherence of the research plans and the need for reliance on contradictions as the main engine of creativity. It may also concern the choice of the research team, which on one hand should be able to cooperate and use a common theoretical language, but on the other should also consists of researchers of diverse views in order to create necessary tensions indispensable for a climate of creativity and innovative intellectual debate.

The **fourth** dilemma is the dilemma between social expectations of theory development and on the other hand expectation of 'translating' and simple descriptive role of the social sciences. Abandoning ambitious theoretical endeavours when there is a clear view of their achievement can not be justified by any means. But on the other hand insisting on highly theoretical functions of the research programme is not always necessary, in particular when the chances for achieving any special results in this respects are not clear. A highly challenging character of the process of contextualization of social phenomena should be fully appreciated and seen as a potential key element of research programmes.

Warszawa, 12 November 2004

ANNA GĄSIOR-NIEMIEC

COMMENT THREE

"Idols and Institutes. A few remarks on Antoni Kukliński's note on the design of research programmes in the experience of social sciences. A challenge for our imagination, intellectual capacity and the will of implementation".

A few centuries back, in 1620, an English scientist, philosopher and a stateman, Francis Bacon started to wonder why it was ever so difficult and dangerous to discover and promote scientific truths. Reflecting upon various aspects and phases of scientific activities, Bacon came to the conclusion that human progress through science was hindered by four categories of adverse factors. Interestingly, all of them were related to social nature of human beings[1]. The factors were distorting human cognitive potential and the actual process of cognition in a number of ways. He called the factors by the Greek name of "eidola", that is, more or less, idols.[2]

In Bacon's view the four categories of "idols", or distorting factors, could be classified and described in the following manner:

— 1st category comprised "idols of the tribe", that is those factors that derived from the characteristics of human beings as a species;
— 2nd category comprised "idols of the cave", that is those factors that were related to education and culture;
— 3rd category comprised "idols of the market", that is those factors that derived from exchange, communication and language;
— 4th category comprised "idols of the theatre", that is those factors that were related to (prevalent) philosophical doctrines.

Francis Bacon's typification of "idols" constitutes one of the earliest, and most incisive, attempts to identify and overcome social limitations and obstacles to do research, produce and use knowledge in human societies. It is quite intriguing to note that at least three out of the four categories of idols he described have institutional—and thus self-reproductory—character. In other words, they are created by recurrent patterns of activities that are believed or intuited to lower "transaction costs" involved in organizing and executing both collective and individual action of human beings. Institutions entail a certain regularity and ...inertia. Therefore, in terms of their impact on knowledge production and implementation, they are a source of both advantages and disadvantages.

Their main advantages include predictability and stability of organizational and intellectual frameworks within which the process of cognition may take place. A fair degree of continuity and cumulation of past experience—called also institutional memory—is strongly related to the stability

[1] Niżnik J. 1989. *Socjologia wiedzy. Zarys historii i problematyki.* Warszawa
[2] cf. Bacon F. 1955. *Novum Organum.* Warszawa; Niżnik, op.cit.

of the frameworks. Scientific institutional memory could in turn, as Thomas Kuhn would have it[3], be partitioned into different paradigms that prescribe procedures by which new knowledge may be efficiently produced. This is however also the point at which disadvantages of institutional frameworks might enter the stage.

"Transaction-friendly", ordered by paragons of scientific virtues, and colonized by dominant political *credo's*, scientific institutional memory (usually), in time, becomes over-routinized, rigid and insulated from challenges posed by ever chanaging reality. The vices of "conventional(ized) wisdom", "political correctness" and "intellectual self-satisfaction", named by Kukliński, creep in[4]. In such circumstances, indeed, the design of innovative research programmes capable of making a breakthrough could seem but a long-lost skill. Dedicated scientists cannot and need not, however, be utter pessimists.

One reason for reasoned hope have already been offered by Kuhn: sooner or later a number of anomalies inexplicable by current scientific standards appears, which makes (some) scientists have second thoughts on the dominat—institutionalized—scientific paradigm. It takes an individual or a group of researchers to rebel against the dominant paradigm, make a scientific revolution (and start ...institutionalizing a new dominant paradigm). The revolutionary pattern may not be entirely applicable to social sciences, as Kuhn's readers certainly know. Nevertheless, it points to one of the modes in which an institutional stalemate might be broken and overcome as far as the production of knowledge and its implementation are concerned.

Another, much more peaceful in nature, reason for being a bit more optimistic about the future of research programmes could be found in the success of the formula of intellectual exchange created by Antoni Kukliński himself and Krzysztof Pawłowski. Offering to the Reader, the first twin volumes of the RECiFER Eurofutures Publication Series which are "dedicated to the European Parliament to promote brainstorming reflection illuminating the global challenges and strategic choices emerging in the European intellectual and political landscape of the XXI century", the two editors are actualy co-responsible for instituting a flexible, voluntary mode of scientific inquiry and exchange.

"The editorial process of the preparation of the two volumes was a beneficiary of the intellectual capacity and good will of 60 eminent personalities from 14 European countries", they profess in the Foreword. The twin volumes were thus "built on the foundation of the pluralistic philosophy open to Authors representing different academic and political value judgments. This is the only way to promote an open-minded discussion related to the Future of Europe." Indeed, as it seems, building world-wide research communities, which consist of individuals drawn from a variety of institutional settings and represent a variety of scientific paradigms might be taken as a way to reinforce and widen global intellectual circles.

Moreover, it might also trigger an intellectual breakthrough that is needed if the design of research programmes is to overcome the three generic barriers to produce and implement new knowledge listed by Kukliński in his note "The design of research programmes in the experience of social sciences. A challenge for our imagination, intellectual capacity and the will of implementation". On the occasion of the twin volumes, for instance, several tens of intellectuals, scientists, policy-makers and businessmen, coming from different countries, have formed a virtual global institute where European and global issues are raised, critically discussed and commented upon by members who, more often than not, have never met in person.

[3] Kuhn T. 2001. *Struktura rewolucji naukowych*. Warszawa

[4] K. Żukrowska's and T. Zarycki's comments to Kukliński's note on the design of resarch problems (this volume) develop the issue in detail.

ANTONI KUKLIŃSKI

VIVANT SEQUENTES

The publication of the Twin Volumes should be seen not as an end but as a beginning of a new stream of theoretical, methodological, and pragmatic reflection being an holistic inquiry into the history and the Future of Europe. The panorama of problems and issues which can be discussed in this context is very broad and comprehensive.

To start this brainstorming intellectual venture let us mention only three topics:

1) the identification, analysis, and evaluation of the turning points in the historical and prospective experiences of Europe in the years 1950–2050,
2) the development of a new substantive and methodological structure of a challenging field which can be called—"The New Futurology for Europe". We should be not afraid to use the term "futurology" in relation to the European experiences. Just the opposite—this field should be promoted very strongly using both cognitive and pragmatic motivations.
3) The design and implementation of a grand European research Programme—"Europe—the global challenges and strategic choices".

The Twin Volumes supply a rich set of contributions which are direct inputs into the processes of formulation and implementation of this Grand Programme. Our Mind and Will should transform these inputs into an brilliant output—the Programme:

"Europe—the global challenges and strategic choices".

* * *

It is a great *laudatio* to see in the network of cooperation of sixty Personalities—the authors of the Twin Volumes—a *sui generis* virtual global institute functioning without the traditional privilege of a face to face contact in the form of a conventional conference creating the background for a post-conference volume. I think however that in the near future after the publication of the Twin Volumes we should try to organize a conference: *"Europe—the global challenges and strategic choices"*.

We can expect that the intellectual and pragmatic output of this Conference will be very significant for the spirit and matter of the holistic inquiry into the Future of Europe and for the promotion of the concept of the New Futurology. The Conference could provide a big push for the development of ideas, approaches, and proposals presented in the Twin Volumes.

Nowy Sącz – Warszawa, February 6th 2005.

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