

DYNREG

Dynamic Regions in a Knowledge-
Driven Global Economy
Lessons and Policy Implications for the EU

WORKING PAPERS

Going for Growth: A Theoretical and Policy Framework

**Peter Nijkamp
Patricia P. van Hemert**

“Going for Growth; a Theoretical and Policy Framework”

Peter Nijkamp and Patricia P. van Hemert

Department of Spatial Economics, Faculty of Economics and Business Administration

& Centre for Innovation and Corporate Sustainability

VU University Amsterdam

De Boelelaan 1085

1081 HV Amsterdam

The Netherlands

patricia.van.hemert@cimo.vu.nl

Abstract

This paper introduces scenario planning as a tool to explore plausible developments for SMEs in the Netherlands until 2040. Globalization has resulted in the emergence of an increasingly borderless society with greater unrestricted movement of information, travel, and currency between countries. As policy and technological developments in the past few decades have spurred increases in cross-border trade, investment, and migration, new policy approaches in the economic, political, environmental, and social sphere will be necessary. On the national level, SMEs are acknowledged to play an important role in the economy serving as agent of change by their entrepreneurial activity, being the source of considerable innovative activity, stimulating industry evolution and creating an important share of the newly generated jobs. Entrepreneurship should therefore be promoted, but on a national level, since global development takes places in stages. Government policy, it is believed, can play a considerable role in facilitating entrepreneurship on a national scale. There is however great uncertainty on the scale of future bottlenecks and the economic conditions under which SMEs will need to develop. Scenarios can help map out possible changes and what effect they may have on national welfare.

Introduction

Nowadays economists and policymakers increasingly believe that entrepreneurship is a major contributor to employment and social and political stability, as well as to innovation and competition. There is believed to be a clear causal chain running from entrepreneurship to innovation, productivity and finally growth. The growing interest for entrepreneurship is closely related to the further globalization of society and the consequent rising demand for new technologies favoring small scale production, for specialized goods and services that seems related to growing per capita income, and for the rise of the services sector. The relationship between growth and entrepreneurship at the macro level is, however, a complicated one. How for example do these processes interact and affect each other? Would it be possible to optimize such processes in the long term? Important questions, when you consider that there is a significant gap between the US and European countries, which reflects for a very large extent a productivity gap. Innovation has lagged behind in the EU on average, while innovation is widely believed to be the key for productivity gains, among others in ICT-related activities. Small and medium sized enterprises (SMEs), particularly new ones, hereby often act as a vehicle of entrepreneurship. For this reason, increasingly, there is a growing consensus that entrepreneurship is good and should be encouraged.

Governments have an important role to play in encouraging entrepreneurial activity, but this role is likely to vary according to the income level of a given country. Therefore, when it comes to entrepreneurial policy, one size does not fit all. Effective policies with respect to entrepreneurship need to be tailored to the local context and depend on what aspect of its entrepreneurial portfolio a country wishes to enhance. However, predicting what will happen

ten years from now, let alone twenty or forty years, is difficult. Postponing policymaking is an option. More information will become available over time. It might however also result in the need for even harsher measures at a later date. Scenarios have proven to be a proper tool to manage uncertainty when formulating strategic policy choices. Overall, the time horizon of most analytical models is limited. It is for this reason that scenario thinking has become a very popular model over the last years, since it appears to be a perfect tool for providing background for analyzing strategic issues that take place in the long term future. The model, however, neither predicts the future nor indicates which developments are most likely to occur. The uncertainty is too great for such judgments. Scenarios explore the future by consistently working out different lines of thought, which makes it easier for policy makers to respond in a consistent way to future uncertainties. 'Forewarned is forearmed' is here the credo.

It is nowadays widely believed that entrepreneurship is an important stimulator of growth and governments are encouraged to stimulate the developments of, especially high-growth, SMEs. However, remarkable little is known about the relationship between entrepreneurship and economic growth, including how it works, what determines its strength and the extent to which it holds for diverse countries (Reynolds et al. 2000). For national governments not to lose out on economic strength, national policies should be developed to enhance entrepreneurship. Often, these policies appear to be somewhat unstructured and often do not seem to take into account future changes in society. In this paper, scenario planning will be introduced as a means to support the policy debate on the future role of entrepreneurship for economic growth. After a general overview of the effects of globalization on society as a whole, the benefits of entrepreneurship for economic growth will be further explained by means of literature research. Having defined the changing economic landscape and the increasing importance of entrepreneurship therein, next, a first attempt will be made to introduce scenarios as a guiding framework for national governments to map out possible changes in the activity of SMEs and what effect they may have on economic growth and welfare in the broader sense. The Netherlands will be used as a case study. For a developing country, completely different scenarios might, however, be formulated.

An Ever Globalizing World

First, we will discuss some of the changes that have taken place in society since the 1980s, when the first effects of globalization became apparent, and their effects on entrepreneurship. Globalization has brought about a major increase in worldwide trade and exchanges in an increasingly open, integrated and borderless international economy. As policy and technological developments in the past few decades have spurred increases in cross-border trade, investment, and business life to such an extent that many observers believe the world has entered a qualitatively new phase in its economic development, new policy approaches in the economic, political, environmental, and social sphere will be necessary. This has also

necessarily had its effect on the level of entrepreneurship behavior. In order to further visualize the ongoing societal changing and how this may affect future economic activities of small companies, four of the most important driving forces impacting entrepreneurship behavior will be discussed in more detail. The following drivers can be distinguished: the effect of global markets, an intensification of innovative behavior leading to more creative destruction, a rise of regional competition alongside the global economic, and development of interwoven network constellations.

Global markets

Academics and policymakers have responded to waning productivity growth and increased global competition by calling for a revival of entrepreneurship (Hébert and Link 1989). Since the 1980s and 1990s, there has been a reevaluation of the role of SMEs and a renewed attention for entrepreneurship (Wennekers and Thurik 1999). But what exactly is entrepreneurship? At the macro level entrepreneurship is more and more seen as a driver of structural change and job creation. At the micro level entrepreneurship is the engine behind the formation and subsequent growth of new firms (Stam et al. 2006). According to its current definition companies with fewer than 50 employees are categorised as "small". Although entrepreneurship is not restricted to persons starting or operating a small firm, it is believed that especially small enterprises lend a special impetus to overall innovation, especially through new firms, by their nature of being innovative (Acs 1992). Medium sized companies, on the other hand, are usually defined as firms with fewer than 500 employees, although a number of countries – including the Netherlands – use a lower cut-off point of 250. Usually companies whose headcount falls below the limits of 250 employees are simply called small and medium sized enterprises or SMEs. SMEs play an important role in national economies, as they make up over 95 per cent of enterprises and account for 60 to 70 per cent of jobs (OECD 1997). SMEs seem to account for most of the entrants, exits, growth and decline, and as a result they form an integral part of a competitive process that contributes significantly to aggregate productivity growth – even if at any particular time, their level of productivity is lower than that of larger firms. The terms entrepreneurs and self-employed are often used indiscriminately, hereby making no clear distinction between entrepreneurs, i.e. those who creatively destroy, and the self-employed in general (Bosma et al. 1999). Wennekers and Thurik (1999) have defined the following types of entrepreneurs (Table 1):

Table 1 Three types of entrepreneurs

| | Self-employed | Employee |
|-----------------|--|----------------------|
| Entrepreneurial | Schumpeterian Entrepreneurs | Intrapreneurs |
| Managerial | Managerial business Owners | Executive managers |

Source: Wennekers and Thurik (1999)

In Table 1, a distinction is made between the concepts *entrepreneurial*, in the sense of perceiving and creating new economic opportunities, and *managerial*, i.e. organizing and co-ordinating. A further distinction is the one between business-owners or *self-employed* (including owner-managers of incorporated enterprises) and *employees*. In this way, three types of entrepreneurs can be distinguished, namely Schumpeterian entrepreneurs, managerial business owners, and the intrapreneurs. SMEs are common in many countries, depending on the economic system in operation. Typical examples include: small shops, hairdressers, tradesmen, solicitors, lawyers, accountants, restaurants, guest houses, photographers, small scale manufacturing. SMEs are usually independent businesses. Of these shops, approximately one-fifth to one-fourth enter or exit the market each year (GEM 2006). These turnover rates vary significantly across industries. They are overall larger in high-tech manufacturing and some business-service industries, in particular those related to ICT. For a country to increase productivity and growth, therefore, what really matters is creative destruction particularly in those strategic sectors that badly need new firms to bring new technologies and new ways of production. We will discuss the importance of especially innovative SMEs in more detail in the next section.

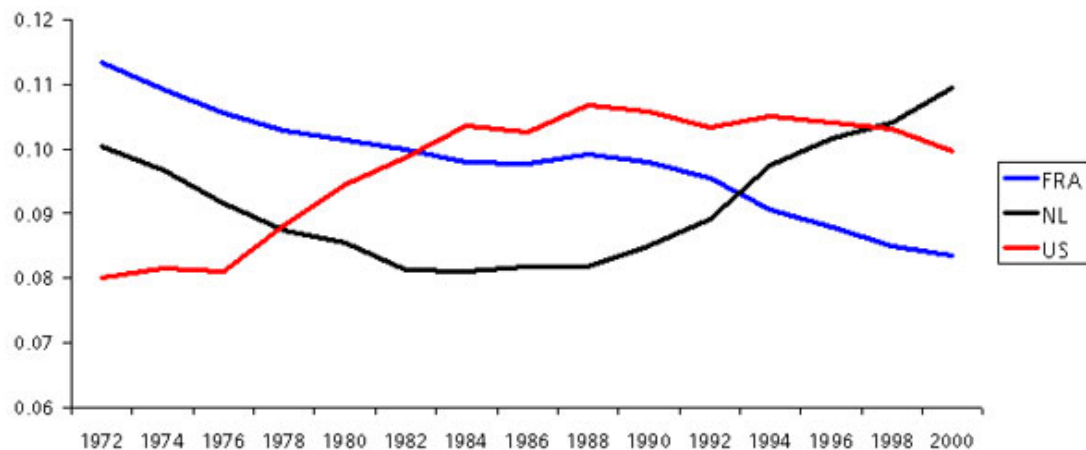
Innovation and creative destruction

Many entrepreneurs are important agents of innovation, especially in high income countries. Interestingly, the contribution of new firms to productivity growth is generally modest in low-technology industries. New firms, however, make a strong positive contribution in technologically more advanced industries, most notably in ICT-related manufacturing industries. This suggests an important role for new firms in promoting the adoption of new technologies. While existing firms often find it difficult to adjust to the work organization and infrastructure to the requirements of new technologies, entering firms do not have to face the legacies of old modes of production and are often better at harnessing new technologies. Technological advances through globalization have significantly lowered the costs of transportation and communication as well as data processing and information storage and retrieval. Improvements in the early 1990s information and communication technology (ICT) in computer hardware, software, and telecommunications have caused widespread improvements in access to information and economic potential. New information technologies, especially the internet, allow knowledge to spread quickly. This information technology (IT) revolution has brought about a wave of IT-related start-ups and has made life easier for many other SMEs. Turning an innovative idea into a valuable product and putting it on the market is now within reach for anyone with computer access and telephone connections. These advances have greatly facilitated efficiency gains in all sectors of the economy. As economies have become more interconnected with global trade and investment patterns, small enterprises are becoming increasingly important pillars of the economies of the major trading partners. They provide the necessary innovation that is required to succeed

in the global market, where knowledge has replaced raw materials and physical labor as the key resource (Drucker 2001). According to Wennekers (2006), dummy variables for recent decades suggest a positive impact of global trends such as the ICT revolution, deregulation and the onset of a 'network economy'. Whereas the fraction of the labor force that is self-employed decreased in most Western countries until the mid 1970s, the self-employment rate has risen again from the 1980s onward. In the Netherlands for example the number of new start-ups (excluding subsidiaries) increased from 25.000 in 1987 to about 42.000 in 1995 (see figure 1), not taking the negative or U-shaped influence of the level of economic development into consideration that is increasingly referred to in the literature, nor taking into account the level of dissatisfaction, uncertainty avoidance and social security entitlements that also affect the rate of entrepreneurship..

Figure 1

Business ownership in France, the Netherlands and the United States, 1972-2000



Number of business owners as a fraction of total labour force.
 Business owners include unincorporated and incorporated self-employed, and exclude unpaid family workers.
 Business owners in agriculture, hunting, forestry and fishing are excluded.
 Source: COMPENDIA 2000.2.

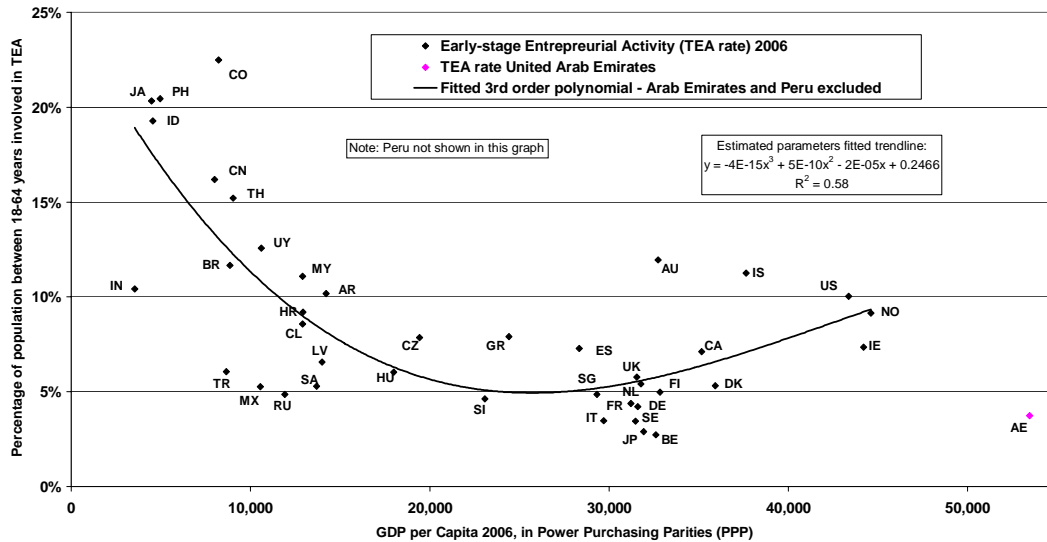
According to the OECD (1998), then, modern (global) entrepreneurship is characterized by three important dynamics: a dynamic process in which new firms are starting up, a process where existing firms are growing, and a process of closing-down or restructuring of unsuccessful ones. Business dynamics already brought to light by Schumpeter (1934), who believed that the entrepreneur is constantly seeking for new combinations while destroying in a creative way existing constellations, also known as the process of 'creative destruction'. Innovation is a bumpy process, where entrepreneurs start new firms and by doing so introduce and disseminate innovative products and processes throughout the economy. Existing firms not driven out are forced to innovate. Under such conditions, then, the entrepreneurial environment seems excessively important: open information exchange, face-to-face interaction, presence of knowledge centers and R&D facilities, skilled labor force, trust and solid codes, and so on (Audretsch and Feldman 1996). The institutional environments

that entrepreneurs operate in – political, legal, and cultural – directly influence their activity and hence the course of economic development of the country.

Global versus regional competition

There seems to be a strong interrelationship between the global and the local economy, which supports the idea that there does not seem to be a singular approach to regional economic development policy (Audretsch and Fritsch 2002). When looking at entrepreneurship behavior on a global level, a systematic relationship seems to exist between a country's level of economic development and its level and type of entrepreneurial activity. Countries with similar per capita GDP tend to exhibit similar levels of entrepreneurial activity, while significant differences exist across countries with different per capita GDP levels (Bosma and Harding 2006). What the GEM 2006 results show, is that at low levels of per capita GDP, industrial structure is characterized by the prevalence of many very small enterprises. As per capita income increases, industrialization and economies of scale allow larger and established firms to satisfy the increasing demand of growing markets and to increase their relative role in the economy. This increase in the role of large firms is usually accompanied by a reduction in the number of new enterprises, since a growing number of people find stable employment in large industrialized plants. As further increasing in income are experienced, however, the role played by the entrepreneurial sector increases again, as more individuals have the resources to go into business for themselves in an economic environment that allows the exploitation of opportunities. In high income economies, through a growing service sector, enhanced differentiation of consumer wants, and accelerated technology development, entrepreneurial businesses enjoy a newly found competitive advantage. Of course, the rate of aggregate entrepreneurial activity also depends on the demographic, cultural and institutional characteristics of each country. Figure 2 shows that early-stage entrepreneurial activity is generally higher in those countries with lower levels of GDP.

Figure 2 Early-stage Entrepreneurial Activity and GDP per Capita, 2006



Source: GLOBAL ENTREPRENEURSHIP MONITOR 2006 results

In the figure, you can also see that early-stage entrepreneurial activity is relatively low in high income countries, especially for the core countries of the European Union and Japan. Countries with the highest levels of GDP, however, show increasing early-stage entrepreneurial activity suggesting a new increase in opportunity related entrepreneurship (as opposed to necessity related entrepreneurship). As such, figure 2 suggests the association between entrepreneurship and the level of economic development outlined earlier, although this does not imply any causal relationships between entrepreneurial activity and economic development. Regardless of the level of development, and firm size, entrepreneurial behavior, namely, is a crucial engine of innovation and growth for the economy and for individual companies, since, by definition, it implies attention and willingness to take advantage of unexploited opportunities. It is good to realize that entrepreneurial efforts are not confined to new ventures, but also involve the continuous process of adaptation and retooling of existing businesses or processes in general for that matter. We will, nevertheless, in this paper focus on the role of SMEs in particular.

Network constellations

A new phenomenon in modern economies is the emergence of interwoven global networks which allow for global interaction and communications, a process through which the market areas may obtain a worldwide coverage. ICT for example has proven to be an important new means of communication with a world-wide coverage. Networking broadly consists of exchanging information and establishing personal connections. Networks appear to create various externalities in terms of entrepreneurial spirit, search for opportunities, self-organization and self-education, and business information and access to local markets.

Communication potential and knowledge are hereby seen as critical success factors. Networking as a business strategy requires investments in social communication, informal bonds, training and education. In the local surroundings various types of networks seem to blossom that tend to encourage entrepreneurial behavior. Networks may of course also extend towards the global level. Often the local environment though (including its culture, knowledge base and business attitude) acts as a critical success factor for new forms of entrepreneurship (see Malecki 1997; Camagni 1991). An interesting illustration of the importance of local networks for new firm formation can be found in the literature on ethnic entrepreneurship. According to Van Delft et al. (2000), such networks may relate to socio-economic support, provision of venture capital, or access to the urban community at large. The importance of social bonds and kinship relations has also been emphasized by several authors (for instance, Boyd 1989; Chiswick and Miller 1996; and Borooah and Hart 1999). With this, there comes a critical responsibility to thoroughly analyze the respective competitors, as there are both significant opportunities and risks associated with network partnerships. The absence of viable competitors in a successful network can cause a provider to restrict resources, consider fees increases, or otherwise create an environment contrary to the users' benefit. Of course, networks may exist in many forms; one can discern business networks, knowledge networks, information networks, human networks, technology networks, social networks, geographical networks, and political networks. They may have a physical character (such as telecommunication networks) or be virtual of nature (knowledge networks). A network that is currently gaining momentum are the sustainable business or environmental networks. In the 1990s, efforts by governments, NGOs, corporations and investors began to grow substantially to develop awareness and plans for investment into business sustainability. There are now many initiatives to improve business practices around the use of renewable resources, the environmental and human rights impact of business practices. This includes businesses that may want to operate in a socially responsible manner, as well as protect the environment.

Implications for economic environment

Globalization has beyond doubt changed perspectives on modern business life and has impacted the economic environment. Developments in the ICT sector, technological process and innovation have had an enormous impact on modern day economy. Since the past twenty-or-so years, new and small firms have been identified by most western governments, as significant components of economic strategies for job and wealth creation. The entrepreneur, it is believed, has the ability to play a prominent part in global modes of production and transportation. But entrepreneurs are present in every country and every cultural setting. After decades of weakening technological progress, the US and other, smaller, countries have seen a major revival. Unfortunately, this is not the case in much of the EU. Outside some English-speaking and Nordic countries, there has been little productivity

catch-up with the US over the past 15 years. Countries like Spain, Italy, the Netherlands, and Austria continued to lose ground. Evidence is consistent with the view that in the US, there is greater market experimentation. In the US, new entrants are small, more heterogeneous and often less productive relative to well-established businesses. Many of the new entrants fail, but the more productive survive and grow rapidly. The institutional environment plays an important role in the direction of the activities of entrepreneurs. Thus, the creation of institutions conducive to entrepreneurial activity, such as property rights, monetary stability, respect and enforcement of the rules of law, legal and financial transparency, market openness, and a fair competitive environment are fundamental responsibilities of government all over the world. When looking at the US, it seems that the improvement of the framework conditions for entrepreneurship might make the difference. There exists however still a lot of uncertainty among academics and policy makers as to what would be the right way to optimize entrepreneurial behavior for the benefit of society as a whole, even more so when effective entrepreneurship policy needs to be tailored to the local context. Modern society has gone through major technological changes. Modern-day entrepreneurship strategies may be entirely different from those in other countries, from those in the past or, for that matter, from those in the future, as the institutional and technological environment of entrepreneurship has drastically changed and will change further in the future. Economic growth is not automatically emerging from technological innovation or knowledge networks, but is the result of deliberate actions and choices of various stakeholders, including the government. Unfortunately, the predictive power of our analytical apparatus is insufficient to unambiguously map out the future of entrepreneurial behavior in society. There appear to be many uncertainties that policy making seems sheer impossible without a proper overview of future developments. With the scenario method this future may be further visualized. Especially, since it may be shaped to address national difficulties and needs. Next, we will try to map out some of the changes that may take place in the near future as a result of the ongoing globalization and what their effects may be on the economy.

Changing patterns of growth

Governments have become increasingly aware of the positive effect of entrepreneurship on economic growth, and have set up programs to actively stimulate entrepreneurship and new business activity. Globalization, however, is an ongoing process that is neither steady nor linear. There seem to be different forces at work that make policy making a difficult task. Will for example growth of incomes continue, or will growing insecurities lead to a more sustainable approach with a trend towards slow motion and a lower action radius? In order to get a better understanding of the different forces at play in the globalization process, we will first give an overview of the most important issues that are associated with the ongoing globalization. These issues will be discussed for the three dimensions that have gained

considerable importance as the pillars of global society, namely profit (the economic return), people (the consequences for people, inside and outside the company), and planet (the effect on the natural environment) (see SER 2000). Next, an attempt will be made to show their long-term effect on firm behavior and more in particular entrepreneurship, and how policies might cope with them.

Profit

Overall, globalization has greatly increased international trade relative to world income. Specialization has increased as well as integration of the economy through trade and investments. Integration is increasingly taking place by means of global interwoven networks. This has led to a decrease of the transaction costs, i.e. the costs of communication and transport costs. Declining transaction costs, in turn, have led to more cross-border trade and portfolio and direct investments. Consequently, a perception of tremendous and unprecedented economic opportunities has risen. Knowledge and information have become widely available, and ICT has offered unlimited opportunities to less developed regions. Also, foreign investment has in general been good for labor and capital in developing countries. There are of course disruptions as well as gains. For example, although per capita income has grown for the world as a whole, not all countries have experienced satisfactory growth. There appears to be an increase in inequality **within** countries over the past two decades (Masson 2001). A widening gap between wages of skilled and unskilled workers both in developed and developing countries is taking shape. Evidence suggests that it is for a large part technological change that has driven this widening premium (Slaughter and Swagel 1997; Krueger 2000; Krugman 2000), instead of increased openness and reduced barriers to trade. The process of outsourcing, where the production of such commodities as textiles and television sets has moved to low wage countries, increased income as well as inequality in developing countries. In western countries, outsourcing led to a restraining inflation, permitting real economic growth, and stimulating economic development abroad, while at the same time imposing costs on some elements of the labor force.

People

The past fifty years have seen a remarkable rise in living standards, as well as dramatic improvements in health and education (see Masson 2001). Globalization has contributed to these advances by facilitating its spread throughout the world. Medical advances have been pioneered in the richer countries, but improvements in health have also occurred in developing countries. Life expectancy rose dramatically as well. In China it essentially doubled (to 70 years) over 1960-99, while in India, it rose by 20 years, to 64 years (World Bank). Education has also shown a strong improvement in developing countries. It is believed that the advances in living standards, health, and education have occurred because flows of goods, capital and information have allowed poorer countries to use modern technology in local production and public services. Openness to trade has proven to be a key ingredient for

this more rapid growth. One of the costs of globalization, it is believed, is however unemployment in the high wage industrialized economies. Although the low unemployment rate in high wage nations and their high rates in many low wage nations disapprove this allegation (Intriligator 2005). On the other hand, in the near future a demand for labor is expected in developed countries due to the current economic growth and falling birth rates. It is also by many believed that globalization might be threatening the social welfare provisions of some states, but others are of the opinion that this is first and foremost the responsibility of national policy. This of course underlines the importance of necessary institutions to deal with problems stemming from globalization. Too often, the regulatory regimes of nations and even international organizations are porous and easily overcome through advances in technology.

Planet

Overall, potential non-economic impacts of globalization are perceived as posing the greatest risks and potential costs. One is that of security, where the negative effects of globalization may lead to conflicts. The very process of globalization may lead to the integration of markets which could make conflicts escalate beyond a particular region or to raise the stakes of conflict, for example from conventional to weapons of mass destruction. On the other hand, one may suppose that greater contact should both mitigate differences and permit greater understanding of others. This would seem especially plausible when economic relations are at stake. A second non-economic area in which globalization could lead to catastrophic outcomes is that of political crises, which may escalate from local to large-scale challenges and, if unresolved, to a catastrophic outcome. Further, there are worries about the environment and health. Increased economic integration has also made environmental problems an international concern. The environment is now considered the "common heritage of mankind," and environmental problems are increasingly the subject of international efforts because of their cross-border effects and the impossibility that just one or a few nations can solve these problems on their own. In many ways, protecting the environment and promoting economic growth are complementary goals. Also, many people around the world are coming to question the impact that globalization is having on their cultural identity. The question of how the protection of local or indigenous cultural values comes into conflict with the forces of globalization is uncharted territory for many policymakers. However, efforts to protect local culture from the homogenizing effects of globalization are often intertwined with other, sometimes questionable, motives, including economic protectionism and the political suppression of ideas. It is often difficult to draw lines around what are legitimate cultural activities, worthy of special protective measures.

Forces at play

Broadly, globalization has led to both positive and negative developments. A growth of per capita incomes, increasing living standards, medical advances, and technological

improvements all have a positive impact on society. Increasing inequality between developed and developing countries, the poor and the rich, or high-skilled and low-skilled workers, growing environmental problems, growing feeling of insecurity, and increasing fear for cultural attenuation seem to negatively affect society. Clearly, the different global developments might, when taking the overhand, have varying effects on firm behavior and may consequently need different policy approaches. Overall, we can distinguish eight future developments that might affect firm behavior.

1. There is a movement towards a further globalization of markets, where global entrepreneurial networking becomes more important as counterweight for the growing influence of multinationals. On the other hand, there is a tendency towards regional and local production systems, which would require a more regional focus on entrepreneurship.

2. From an environmental perspective, we may witness a tendency towards continued economic growth, with the environment acting at best as a constraint. However, also an ecological orientation may be favored which would presume a change in life styles and human behavior and also a diminishing economic growth.

3. The growing global insecurity may make the economic policy of governments change in countries. One, the one hand, we might see a further development towards more deregulation and privatization. Countries might also, due to a growing feeling of insecurity, choose for a more inward looking policy approach. A government may then opt for re-regulation and give itself a more coordinating role. This will also have its effects on entrepreneurial activity.

4. A fourth development is related to a rediscovery of national identity. In a competitive global market we may observe monopolistic competition elements with distinct market niches, a phenomenon sometimes called the 'hamburger economy' (Nijkamp et al.2005). This type of economic organization is based on rationalized and standardized products (Coca-Cola, McDonalds), which have a worldwide image. In reaction, we might see a trend toward market niches or culturally oriented products.

5. Further economic growth asks for more innovation. This consequently leads to a growing demand for high skilled workers and more investment in R&D. On the other hand, there is growing market for goods and products, which has led to an increase of large-scale production. We might in future therefore also see a growing demand for low skilled workers who might become more difficult to find, due to a growing access to knowledge as a result of the developments in telecommunications.

6. The current economic growth and falling birth rates may in the near future lead to a growing demand for labor, especially in developed countries. On the other hand, the persistence of inequality across and within countries may become a powerful force for migration to richer countries. Migration then may cause a large flow of both high- and low-skilled workers on the labor market of developed countries.

7. In a modern society we observe a trend towards individualization with a strong emphasis on freedom and self-determination. Due to for example trends like increasing inequality,

growing environmental problems or more global insecurity, collective care and solidarity might return high on the agenda of policy makers.

8. Lastly, and closely associated with the previous development, is the trend towards sustainable development, i.e. continued economic growth without eroding at the same time the environment and resource base of the economy. A government can choose sustainable development over the replacement for economic growth for financial profit only. Sustainable development supports the use of economic growth for social change and technical conversion. Sustainable entrepreneurship will in that case also be greatly stimulated and supported.

The above described opposing future forces of growth can be summarized as follows (see Figure 3).

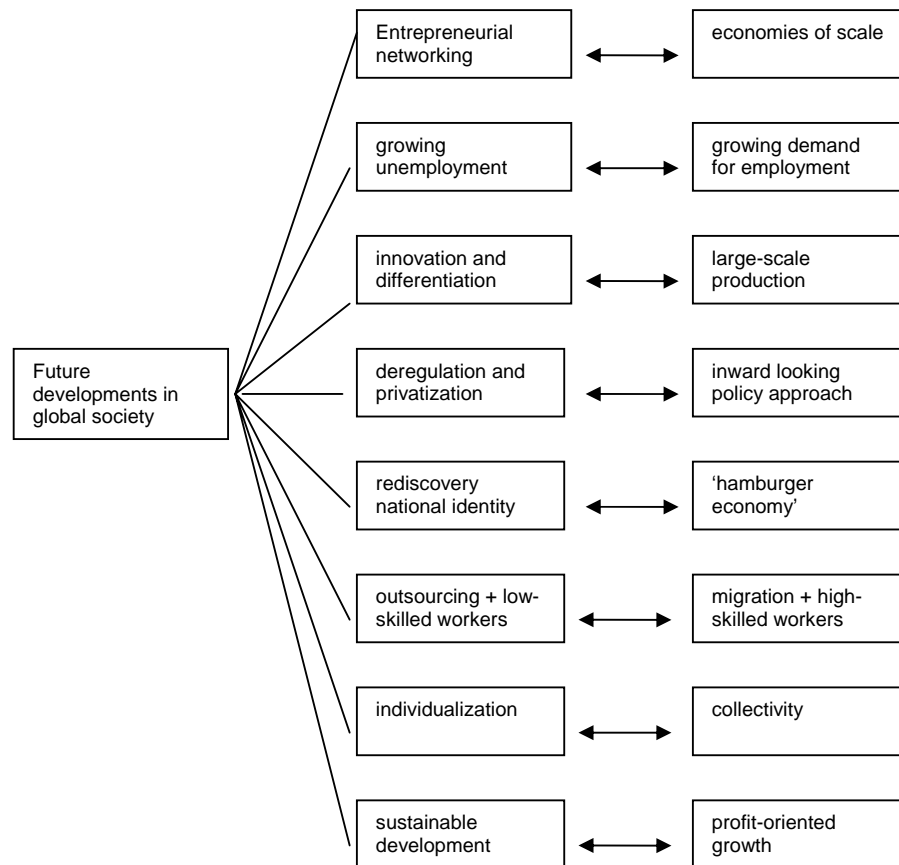


Figure 3 Opposing forces of growth

The future of firm behavior then holds many uncertainties that are not easily met and often conflict with one-another. It is therefore useful to try to map out some of these developments in a structured way in order to gain better insight into the differing paths and possible solutions. Of course, the developments described above are only a few of the numerous force fields at play, but they appear however illustrative for this particular case. Next, we will try to make a first modest attempt at framing the force fields described above for the economy as a whole and entrepreneurship in particular by means of scenarios. Before we turn to our scenario framework, we will however first discuss in more detail some of the drivers of entrepreneurship behavior.

Drivers of entrepreneurship

One cannot gain insight into future pattern of entrepreneurship behavior, without having a clear idea of what exactly drives entrepreneurs. It may therefore be useful to list some of the most important drivers influencing entrepreneurship, before we turn to our scenario model. This will give some idea of the backgrounds of entrepreneurship behavior and will hopefully provide some further fundamentals for the scenarios. Focus will here be specifically on five sorts of drivers, namely social forces (values), demographic trends (ageing, increasing female labor participation rates, immigration), institutional settings (regulation of entry, incentive structures, functioning of the capital market), economic drivers (unemployment, profitability of private enterprise), and technological forces (R&D, innovations, knowledge incubators). Of course, there are factors that may have only a temporary effect. Particularly the current outsourcing and deregulation waves may dry up in coming years (Bosma et al. 1999). They might however also grow. What is more important: these developments are difficult to influence, unless it would be actively discouraged through taxes or so. This does however not seem realistic. Here, the focus will therefore especially be on the more permanent activities like the new technologies favoring small-scale production.

Social drivers of change

First of all, there are social forces that determine the choice for entrepreneurship. These forces concentrate on the decision-making of individuals and, as such, study the micro perspective of entrepreneurship. Shapero (1984) has distinguished four social factors, namely displacement, disposition to act, credibility, and availability of resources. The displacement motive might consist of push factors like loss of job, dissatisfaction with present job, discrimination, migration or social unrest. Pull factors could be new market opportunities or completion of a study. Another social factor is a disposition to act. Here, an individual has a strong wish to change his position in order to be independent or develop his own career pattern. Next, the credibility motive may be an important start-up motive, i.e. the need to receive recognition in a business environment. Finally, the availability of resources may be considered the most important factor for start-up in terms of financial support, tax exemptions,

subsidies and so forth. Among social forces one may also count psychological factors like need for achievement or risk taking (Hornaday and Vesper 1982). Main topics in the psychological field are traits of individuals (Brockhaus 1982). Overall, it is difficult to attribute causality to psychological factors, though, as the relative presence of these factors might also be found among non-entrepreneurs or unsuccessful entrepreneurs.

Demographic drivers of change

It is believed that different demographic groups are assumed to have their own propensity for starting up a business. In this particular instance, demographic groups may, for example, be women, older people, immigrants, and so on. This is regarded as the supply side of starting entrepreneurs, as a result of demographic characteristics of the labor force. According to Bosma et al. (1999), the decision to become an entrepreneur is clearly rather complicated and cannot be described in a single equation, each motivation for the decision to enter having its own story on the micro level, that is hard to quantify. In the micro perspective, age and gender do not seem to have a decisive influence. On the macro level, however, it is believed that demographic structures do influence the supply side of entrepreneurship. Trends like ageing, increasing labor participation of women, and immigration are frequently mentioned in the literature on entrepreneurship.

Institutional drivers of change

Institutional settings also play a role of importance in the choice for entrepreneurship. A low societal appreciation for entrepreneurship may lead to a low entry rate of start-up firms. If the recognition profile of successful entrepreneurs is high, though, we may see a huge interest in entering the business sector (Nijkamp 2003). Here lies an important role for governments. Positive legislation favoring entrepreneurs may be induced in order to stimulate self-employment. The merits of positive legislation towards entrepreneurship are discussed among others by Etzioni (1987), and OECD (1998). Positive legislation instituted by nations are labor and capital market reforms, reduction of regulatory and administrative barriers for business start-ups, new competition policies, specific programs and services in support of new and small firms, promotion of entrepreneurship and an increasing attention for entrepreneurship at all levels of the educational system. Financial incentives are overall not regarded as major growth stimulators.

Economic drivers of change

Next, economic forces can be mentioned as drivers of entrepreneurial activity. A structurally low number of enterprises – the situation in many Western economies in the late seventies and early eighties – contribute to structurally low unemployment. This situation of unemployment getting higher in turn leads to a lower replacement ration as well as in wage moderation. It is especially this wage moderation then that helps to restore the profitability of private enterprise. For an economic perspective, especially unemployment and profitability

are important factors stimulating entrepreneurship. Renewed push and pull factors have over time been created to stimulate an increased supply of entrepreneurship, for example the positive legislation mentioned before. This does however not prevent profitability from diminishing when the number of entrepreneurs structurally exceeds the equilibrium, hereby leading to higher exit and lower entry. As such these factors lie at the heart of the entrepreneurial process, constantly restoring equilibrium in a market economy.

Technological drivers of change

Finally, technological factors may play a decisive role. Here we especially refer to technological changes. These factors can be illustrated by the share of ICT business start-ups in recent years, and the related wave of new products, new firms, and faster productivity growth worldwide since the middle part of the 20th century. Viewed from the perspective of the product market, technological conditions influence the optimal size of the enterprise and thereby the room for self-employment. Traditionally this is viewed as the carrying capacity of the market, but in the present times of structural change and paradigm shift it is also viewed as the demand for entrepreneurship (Casson 1995). New technologies favoring small scale production may be seen as an important determinant for entrepreneurship, together with an increasing variety of demand for specialized goods and services that seem related to growing per capita income.

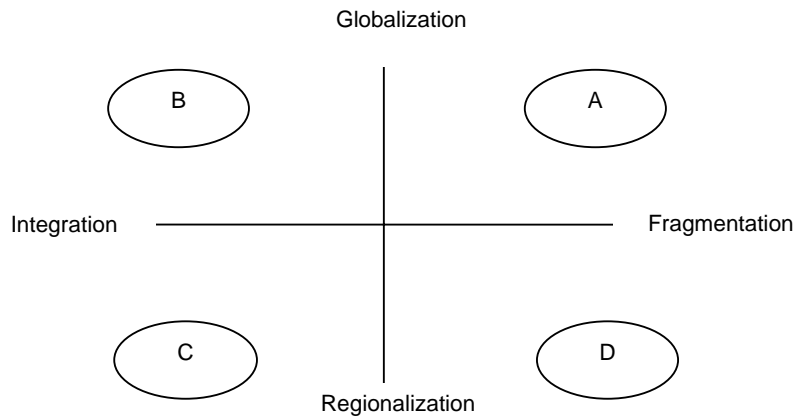
Clearly, there various factors that influence the demand for and supply of entrepreneurship and the above overview is far from complete. Many other drivers might be mentioned in this regard. For now, however, an overview of the most important forces of growth may suffice, as it is will only be used to give a broad idea of the working of globalization on the economy and society as a whole. In the next section, we will make a first attempt at outlining these future movements and their effects on the European economy. Of course, analytical models and expert interviews are necessary to give this idea scientific value. The scenarios described in the next sections are far too simple yet to draw conclusions from. Yet, they might show the value for gaining deeper insight into entrepreneurship behavior and its added value for spurring economic growth now and in the future.

Four future scenarios

In order to make optimal use of the capacity of entrepreneurship, it is important for a country to know what future developments entrepreneurs may be faced with. This is important not only for the entrepreneur, but maybe even more so for a national government. Europe's productivity problem, which is essentially one of slowing technological progress (Brinckley and Lee 2006), can for an important part be compensated by well-functioning SME-markets. As entrepreneurs are an important link in economic growth, a government should do the utmost to keep the entrepreneurial level in its country, at least, stable. A country can, then,

avoid the decline of self-employment that many countries have experienced until at least the early 1970s (Blau 1987), and make more optimal use of its innovative capacity. However, the information that is available on the working of SMEs is still rather incomplete and very fragmented. Scenario thinking may, in its form of a structured brainstorming technique, help to widen the perceptions of researchers and policymakers regarding future possibilities and their impact, while at the same time better structuring their current knowledge of SMEs and their working. Scenario writing might help to give better insight into a given process, by creating, registering, discussing, analyzing, synthesizing, documenting, storing, retrieving, and presenting useful information on SMEs for specific future developments. As such, a scenario experiment is a knowledge-based and relevant future image, even though these scenarios are based on a vision that is not necessarily realistic.

To give an idea of the future consequences of globalization and its effects for entrepreneurship, we will make a first attempt at mapping out four illustrative scenarios and interpret them by the SPIDER-model (for details see Nijkamp et al. 1998; Nijkamp et al. 2005; Huizinga and Smid 2005; and Fuller-Love et al. 2006). Different categories of scenarios may be used, among which descriptive or normative, projective or prospective, commonsense oriented or expert-based, and trend, reference, or knowledge scenarios. Here, the scenarios are prospective, meaning that they are based on back casting, in which first the situation in the future is described, while next the paths (e.g. policy measures or societal changes) to it are presented. In this way, there is more room for imagination and an open-mind. These kinds of scenarios are often normative in nature. Central point of departure, here, is that globalization and economic growth are inextricably connected with entrepreneurship. Hereby, the scenarios are broadly based on the four long term scenarios for Europe and the Netherlands of the Dutch Central Planning Bureau (CPB 2003 and 2004). The model consists of two intersected variables, of which each of the four resulting quadrants is treated as a possible future (see Figure 1). Here we may visualize that economic growth might go together with a high level of entrepreneurship (scenario A). It may however be just as likely that growth will slow down and the level of entrepreneurship decrease (scenario C).



- A. Knowledge Economy
- B. Common Market Economy
- C. Protectionist Economy
- D. Sustainable Economy

Figure 4 Illustrative future entrepreneurial forces

A. Knowledge Economy

The upper right quadrant represents a development towards a 'knowledge society'. In this scenario, a further acceleration of modern technology is foreseen. Global trade and development flourishes. That involves opportunities for strongly international oriented SMEs. Global entrepreneurship flourishes in this scenario, as there is a growing demand for new businesses, new products, and new processes of production. Further technological development (tele-working, tele-shopping, etc.) makes the start-up of a company easier, especially for those individuals who previously 'missed the boat' (inhabitants of developing countries, or women who divide time between work and child-care). Also, there is an increasing economic integration between countries, regions, and network groups. On an entrepreneurial level, these networks are instigators of new forms of creative entrepreneurship. A further globalizing market enhances the area of distribution for entrepreneurs. Also, enterprises will make more and more use of various networks and ways of co-operation to succeed in the 'survival of the fittest'.

B. Common Market Economy

The Common Market Economy, in the upper left corner, is based on the assumption that especially multinational companies dominate the market and are the main provider of employment, economic activity, and tax revenues. However, within this transparent, extensive market there are chances both for large enterprises that compete strongly as to costs and for

highly specialized SMEs competing in the field of service and quality. In this scenario, Europe becomes a large internal market in which regulation and legislation is restricted to a minimum in its member countries. To compete, countries and regional political districts offer incentives to enterprises such as tax breaks, pledges of governmental assistance or improved infrastructure, or lax environmental and labor standards. For national SME-sectors, Europe has overall been the most important market, anyway, so there remain plenty opportunities for SMEs, especially in the service sector and in small parts of the care sector. Further, the diversity of starters increases, as there will be more foreign and older starters, and the opportunities arise for those starters that will be active in Europe right from the start.

C. Protectionist Economy

In a Protectionist Economy scenario the focus is again on protectionism of the national markets, with a large emphasis on employment, social security, and social welfare. The global economy as a result becomes highly fragmented. Countries may become more inward looking and protectionist, due to for example a large scale economic crisis which demonstrates the new risks and volatility in rapidly changing globalized markets. Economic policy is focused on restraining trade between nations, through methods such as high tariffs on imported goods, restrictive quotas, a variety of restrictive government regulations designed to discourage imports, and anti-dumping laws in an attempt to protect domestic industries in a particular nation from foreign take-over or competition. The SME-sector changes little in nature and composition. People, overall, look for a more secure working environment, often in a large company or the public sector. The number of starters as well as the diversity of the starters decreases. There is little renewal and dynamism and there is considerable certainty among both enterprises and employees. Dutch enterprises lose international competitiveness and become less alert. There is however a large feeling of social security, even though unemployment is relatively high.

D. Sustainable society

Finally, the 'sustainable society' option is based on the idea that due to changes in society, there is a plea for a more social and human approach, in which everyone accepts his/her responsibility. As such, firm activity is relatively high, since this is part of the 'entrepreneurial spirit', i.e. the right blend of business skills and personality traits that are necessary to become a successful entrepreneur. Trade patterns modify, as Europe becomes less of a consumer market, and more of a purchasing market. Innovative behavior is stimulated. Dutch society becomes more innovative providing pioneers with more opportunities, particularly in the ICT sector, biotechnology, and care and welfare. Society is characterized by trial and error, being successful, failing and trying again. This results in a great deal of turbulence amongst businesses, i.e. many entries and exits, much growth and decline of enterprises, and many employees changing jobs. Diversity among starters increases, and the number of

innovative starters is given an impulse. This scenario is marked by a high level of ethnic and female entrepreneurship due to the possibilities the field of entrepreneurship. Because of great uncertainty, fewer long term investments are made.

The four futures of the Dutch economy, described above, have been organized around two key uncertainties. The first concerns the extent in which the Dutch economy will grow internationally and on a national or even local level and how this might influence firm behavior. The level of integration also has an effect on firm behavior and economic growth. In all scenarios, the baby boom generation has aged and the growth of the population decreased in comparison with the period 1971-2001. The economic growth is assumed to be highest in the Knowledge Society and the lowest in the Protectionist Society. The scenarios differ regarding immigration (policy) and birth rates, leading to differences in the growth of the population. In order to draw policy lessons, however, it is also important to interpret some of the most important underlying developments. Only through the identification of future developments and possible bottlenecks can policy strategies be envisaged. In this paper, we will give an initial impetus to further defining these contingencies and bottlenecks.

Forces of entrepreneurial growth in scenarios

At the macro level, technological, economic, institutional, and cultural factors all play a role in explaining the decline and self-employment, i.e. the role of entrepreneurship, in individual countries. In the below overview diagram based on the SPIDER-concept (see Figure 3) these conditions will be included to further visualize the four general scenarios described above. The scores on the attributes of each scenario are based on qualitative rank orders, so that the results can only be interpreted in a qualitative sense. Also, no absolute significance can be ascribed to the size of the area within the envelope curve of each scenario.

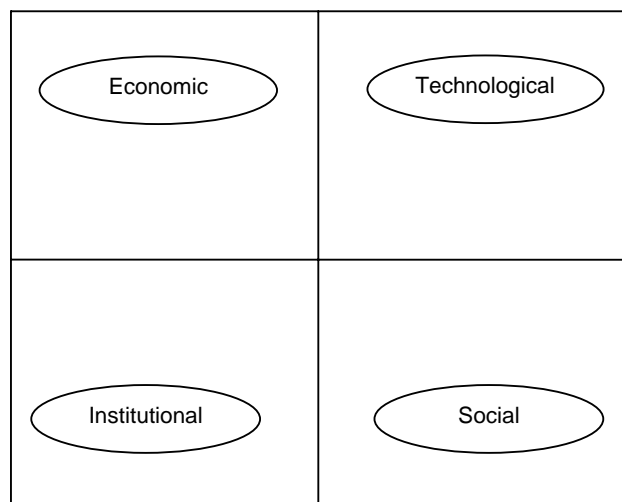


Figure 5 The SPIDER model

A. Technological contingencies

Technological developments play a decisive role in the Knowledge Economy. New technologies favoring small scale production may be seen as an important determinant for entrepreneurship, together with an increasing variety of demand for specialized goods and services that seem related to growing per capita income. The Netherlands should significantly increase their investments in this area in the future, as it appears to have one of the lowest productivity growth rates over the last decade (OECD 2007). Increasingly, network participation seems needed for entrepreneurs to cope with the many market uncertainties, while at the same time powering learning and growth. Networking can at the same time be regarded as a bottleneck. They may for example hamper innovative behavior due to for example a lack of competition within the network. A successful high-technology cluster with considerable entrepreneurship and innovatory activity is a complex network system with many inter-linking components. Good policy decisions can only be made on the basis of recognizing all these characteristics. Overall, cluster formation should therefore be facilitated, but not directed. Attention should also be focused on the encouragement of spin-offs, incubator centers, and information sharing, as technological cross-fertilization is considered an important stimulator of technological innovation.

B. Economic contingencies

The Common Market Economy exploits its economic development opportunities by means of economies of scale. Small firms, overall, thrive in the slipstream of large firms. As such, concentrating specific support on SMEs might ignore this natural ecology of industry. A focus on support of medium sized firms may therefore be more efficient (see also Brinckley and Lee 2006). In this scenario, the number and diversity of starters increases, due to the activity of more foreigners, older people and 'born globals' (those people who are not restricted by national borders in any way). Many of those people find work as an entrepreneur. As SMEs become more specialized and within Europe more international, there should be a major shift in the share of the EU structural funds towards supporting R&D. The EU should stimulate support for SMEs through general innovation infrastructures, including incubators, science parks, regional development bodies, and knowledge transfer organizations. Also, new firms thrive in the proximity to the companies, investors and educational and research centers.

C. Institutional contingencies

In the Protectionist Economy, the dynamics in the economic life are less dominant; there is much emphasis on the maintenance of stable local markets. Here, public 'interference' may stifle innovation and entrepreneurial activity if proper incentives are not provided for by the

government, especially with a further ageing of the population and an insufficient increase of the working population through, for example immigrants. Also, the high taxes in this scenario lead to a relatively low discretionary income, so that by definition the expenditures on luxury goods will be lower. Therefore, investments in core public functions such as promotion of leadership, basic research and university funding are necessary in this scenario. The role of the public sector through public procurement, improved productivity in public services and public support for R&D is also highlighted in encouraging innovation in goods and services. Also, a high level of uncertainty avoidance might prove a treat to the level of productivity of a society whether material or non-material. Support programs should be set up to make entrepreneurship a more promising alternative. This requires for example, easing the effect of bankruptcy. It does not necessarily mean giving out subsidies, but conversely weakening the laws protecting the benefits of seniority and 'time-related' benefits in established firms, etc.

D. Social contingencies

The breaking down of global barriers allows companies to benefit from the largest and cheapest workforces, raw materials and technology. In this scenario, unemployment may become a severe bottleneck, especially in developed countries, due to much turbulence (outsourcing, immigration) and large diversity of starters. Investment in knowledge is therefore crucial. Since, start-up activity remains low, there appears to be no structural alternative to unemployment. Workers' lack of significantly positive net worth (beyond equity in a home or a car) makes it very difficult for them to start-up their own business to avoid unemployment. This situation of unemployment getting higher in turn leads to a lower replacement ration as well as in wage moderation. This might hamper economic growth in the long run. Policy should focus on making entrepreneurship easy. Also, increasing attention should be focused on the promotion of education in order to be able to deal with the further outsourcing of production activities to low wage countries. Government policy should facilitate investments in R&D, education, training and knowledge centers, hereby creating the seedbed conditions for successful entrepreneurial performance.

The previous observations and findings are summarized in the following survey table (see Table 3).

Table 2 Bottlenecks and solution directions of the four scenarios

| Scenario | Bottlenecks | Solution Strategies |
|-----------------|---|--|
| A | Network obstruction Poor technological cross-fertilization | Facilitation of cluster formation by means of Information provision and network linking Encouragement of incubator centers, and rules for information sharing |
| B. | Inflexible public institutions promotion leadership | Investment in core public functions through |

| | | |
|----|---|---|
| | Ageing of population | Technological progress through investments in R&D |
| C. | Uncertainty avoidance High fiscal burden | Entrepreneurship support programs easing effect of bankruptcy, etc. Facilitation strategy over controlling strategy or further privatization |
| D. | High unemployment Outsourcing | Promotion entrepreneurship through fiscal arrangements and subsidies Encouragement of education and research and university funding |

Contradictions in entrepreneurship policy

The above forecast supports the idea that entrepreneurship indeed matters. Entrepreneurship, especially in the form of small enterprises, is increasingly seen as the engine for enhancing the innovative capacity and growth potential of regions, although there is of course a large sectoral and geographical variation among the success or survival rates of new entrepreneurs (see Acs 1994). This also explains the current growth and interest in networking and spin-off activity (see Shane 2004). Clearly, the decline and revival of self-employment is optimal in a network economy, where technological, economic, institutional, and cultural factors all seem to play a considerable role of importance (see OECD 2000). Networks appear to create various externalities in terms of entrepreneurial spirit, search for opportunities, self-organization and self-education, and business information and access to local markets. In this light networks prove instrumental, but proper management is essential to avoid the social trap that prevents real entrepreneurial creativeness. Already, governments in Europe and elsewhere are devoting increasing amounts of money to universities, with the goal of turning them into engines of economic growth through spin-off company formation. Also, networking is nowadays regarded as important growth stimulator and receives increasing attention from academics and policy makers.

Clearly, technological progress is not exogenous 'manna from heaven' and entrepreneurial policy is as such faced with many challenges. It appears to be part of the complex architecture of a regional economy and is determined by both internal and external R&D investments, on-the-job training, learning-by-doing and spillovers from university research. Spillovers resulting from R&D expenditures and other activities generate increasing returns to scale for reproducible production factors (Lucas 1988; Romer 1990), the existence of which implies the possibility of long-run divergence in per-capita income levels. On the other hand, the literature has generally found that while per-capita income levels between the poorest countries (of Sub-Saharan Africa) and the richest countries (the United States and Europe)

have diverged over the past few decades, there is convergence among countries that are similar in terms of initial conditions and policies, for instance among the countries of the European Union or the fast-growing East Asian economies. There is also evidence that per capita income levels among regions within countries have diverged markedly in recent years, particularly in large, diverse countries such as China and India. An increase in disparities that does not necessarily imply that an increase in agglomeration does not also lead to knowledge spill-over into other regions and sectors of the economy, on the contrary. This highlights the idea that regional development policies are essential for promoting economic growth and human development.

Not surprisingly, governments at both the country and at the supranational level are increasingly being tuned towards fostering entrepreneurship (OECD 1998; European Commission 1999). Various nations have instituted labor and capital market reforms, reduction of regulatory and administrative barriers for business start-ups, new competition policies, specific programs and services in support of new and small firms, promotion of entrepreneurship and an increasing attention for entrepreneurship at all levels of the educational system. However, there is a variation in business ownership across countries that partly stems from differences in the level of economic development. Additionally and partly unrelated to the stage of development, historically rooted cultural and institutional differences contribute to the variation in business ownership. One should therefore not come to all too hasty conclusions when comparing the level of entrepreneurship across countries. Yet, based on the above, Irrespective of the scenario that will take place, SMEs and entrepreneurs will have to be alert and their organizations flexible enough to change according to the (international) developments that will take place. For developed countries like the Netherlands, then, some general policy opportunities and lessons may indeed be distinguished.

Policy opportunities and lessons

On the basis of the above suggested scenario framework, the following policy field may be highlighted with regards to the promotion of entrepreneurship. Of course, this list

Research & development

Investments in R&D are necessary to stay competitive in the modern society. Scientific progress should be promoted by means of basic research and university funding. In order to improve conditions for technology-based enterprises, knowledge transfer should be made easier. Also, incubator centers should be encouraged.

Education

Entrepreneurial spirit can be stimulated from an early age onward. Here lies an important role for the educational system. Good practices related to raising entrepreneurial awareness and educating entrepreneurial skills should become part of the educational system.

Attitude

Negative attitudes towards failed entrepreneurship are deeply rooted in many countries. Bending these attitudes is therefore a matter of structural, consistent promotion of entrepreneurship in this respect.

Networks

Another element that needs special attention is the importance of networking. Support organizations, like the Chambers of commerce, can set up and facilitate these networks of (starting) entrepreneurs. Planning can and should, however, never replace the imaginative spark that creates innovation. It is therefore important that network behavior is facilitated, but not directed.

Fiscal arrangements

In order to foster the entrepreneurial drive, fiscal advantages might also prove a good stimulator. However, fiscal arrangements and subsidies are just meant to lower the financial costs. Policy measures in the field of risk-bearing financing are most effective, as they actually subsidize the additional costs of selection and support technological innovative firms.

Public infrastructure

Policy should focus on making entrepreneurship easy. This may be achieved through the implementation of better incentives for entrepreneurship, including higher labor market flexibility and lower 'opportunity costs' of self-employment versus wage-employment. Also, there should be lower legal and administrative barriers for new business start-ups and incumbent enterprises. In order not to hamper the dynamic process, it is important that the government overall takes on a facilitating instead of a controlling role.

Concluding remarks

The ongoing process of globalization and technological change ask for new initiatives that enhance local capacity and capability to develop and cope with rapid changes in an increasingly competitive global environment. The importance of entrepreneurship and self-employment is more and more being acknowledged by both scientists and policy makers. High degrees of entrepreneurship and self-employment are assumed to technological development, economic growth and job creation. This idea is increasingly adopted in policy programs worldwide. There is however still a great variety in policy approaches, and there is

a great many opportunities created by a better integration of existing – usually disjointed – policy measures. In this paper we have tried to deal with the question what future patterns of growth can be imagined with regards to entrepreneurship and how policies can cope with them by means of a scenario analysis. On the basis of literature research, we found that the Common Market Economy appears to be the best scenario for the development of SMEs and entrepreneurship, but in the Knowledge Economy innovative start-ups will develop better. This has led to policy suggestions in the field of knowledge, innovation, institutional change, and culture. The scenario analysis however needs further definition, in order to be really significant. There is a clear need for more analytical comparative research leading to research synthesis and transferable lessons. It would be interesting to model self-employment, entry and exit, and explanatory variables in order to be able to observe the possible development of self-employment in the coming years in a more elaborate fashion. Datasets of EIM and GEM on self-employment may hereby prove useful. For now, however, it hopefully gives some idea of the different movements of entrepreneurial growth that can be envisaged for the future years, as well as a further insight into more general entrepreneurial behavioral patterns.

References

- Acs, Z.J. (ed.) (1994), *Regional Innovation, Knowledge and Global Change*, London: Frances Pinter.
- Acs, Z.J. (1992), Small business economics: a global perspective, *Challenge* 35 (November/December), 38-44.
- Audretsch, D.B., and M. Fritsch (2002), Growth regimes over time and space, *Regional Studies*, 36, 113-124.
- Audretsch, D.B., and M. Feldman (1996), Spillovers and the geography of innovation and production, *American Economic Review*, 86, 630-640.
- Blau, D. (1987), A time-series analysis of self-employment in the United States, *Journal of Political Economy*, 95, 59-68.
- Boroovah, V.K., and M. Hart (1999), Factors affecting self-employment among Indian and Caribbean men in Britain, *Small Business Economics*, 13, 111-129.
- Bosma, N., and R. Harding (2006) (2006), Global entrepreneurship Monitor: GEM 2006 Results, Retrieved February 2007 from the World Wide Web: http://www3.babson.edu/ESHIP/upload/GEM_2006_Global_Report.pdf
- Bosma, N.S., A.R.M. Wennekers, and W.S. Zwinkels (1999), *Scanning the future of entrepreneurship; a scenario analysis for the Netherlands*, Research Report 9901/E, The Netherlands, EIM: Zoetermeer.
- Boyd, M. (1989), Family and personal networks in international migration: recent developments and new agendas, *International Migration Review*, 23(3), 638-670.

- Brinkley, I., and N. Lee (2006), *The knowledge economy in Europe*, A report prepared for the 2007 EU Spring Council, London: The Work Foundation.
- Brockhaus, R. (1982), *The psychology of the entrepreneur*, in Kent, C., D. Sexton, and K. Vesper (eds.), *Encyclopedia of Entrepreneurship*, Englewood Cliffs, NJ: Prentice-Hall Inc.
- Camagni, R. (1991), *Innovation Networks: Spatial Perspectives*, London: Belhaven Press.
- Casson, M.C. (1995), *Entrepreneurship and Business Culture, Studies in the Economics of Trust*, Vol. 1, Cheltenham: Edward Elgar.
- Chiswick, B.R., and P.W. Miller (1996), *Ethnic networks and language proficiency among immigrants*, *Journal of Population Economics*, 9(1), 19-35.
- CPB (2000), *Trends, dilemma's en beleid; essays*
- Drucker, P. (2001), *The next society; a survey of the near future*, *The Economist*, 3 November 2001.
- Etzioni, A. (1987), *Entrepreneurship, adaptation and legitimation: a macro-behavioral perspective*, *Journal of Economic Behavior and Organization*, 8, 175-189.
- European Commission (1999), *Action Plan to Promote Entrepreneurship and Competitiveness*, Directorate-General for Enterprise.
- Fuller-Love N., P. Midmore, D. Thomas, and A. Henley (2006), *Entrepreneurship and rural economic development: a scenario analysis approach*, *International Journal of Entrepreneurial Behaviour & Research*, 12(5), 298-305.
- Hébert, R.F., and A.N. Link (1989), *In search of the meaning of entrepreneurship*, *Small Business Economics*, 1(1), 39-49.
- Hornada, J.A., and K.H. Vesper (1982), *Frontiers of entrepreneurship research*, Proceedings of the 1982 Babson College Entrepreneurship Research Conference, Center for Entrepreneurial Studies, Wellesley: Babson College, 526-539.
- Huizinga, F., and B. Smid (2005), *Four Futures of the Netherlands*, CPB Memorandum, CPB Netherlands Bureau for Economic Policy Analysis, 15 April.
- Intriligator, M. (2005), *Globalisation of the world economy: potential benefits and costs and a net assessment*, in Gangopadhyay, P., and M. Chatterji (eds.), *Economics of Globalisation*, Aldershot: Ashgate Publishing Limited, 67-76.
- Krueger, A. (2000), *Trading Phobias: Governments, NGOs, and Globalisation*, Centre for Independent Studies, St. Leonard's, Australia.
- Krugman, P. (2000), *Technology, Trade, and Factor Prices*, *Journal of International Economics*, February.
- Lucas, R. (1988), *On the mechanisms of economic development*, *Journal of Monetary Economics*, 22, 3-42.
- Malecki, E.J. (1997), *Entrepreneurs, networks, and economic development*, *Advances in Entrepreneurship, Firm Emergence and Growth*, 3, 57-118.
- Masson, P. (2001), *Globalization: Facts and Figures*, IMF Discussion Paper, International Monetary Fund.

- Mooij, R. de, and P. Tang (2003), *Four Futures of Europe*, CPB Special Publication, The Hague: Centraal Planbureau.
- Nijkamp, P. H., H. van Delft, and D. van Veen-Groot (2005), Sustainable mobility and globalisation: New challenges for policy research, in Gangopadhyay, P., and M. Chatterji (eds), *Economics of Globalisation*, Aldershot: Ashgate Publishing Limited, 67-76.
- Nijkamp, P. (2003), Entrepreneurship in a modern network economy, *Regional Studies*, 37(4), 395-405.
- Nijkamp, P, S.A. Rienstra, and J.M. Vleugel (1998), *Transportation Planning and the Future*, Chichester: John Wiley & Sons.
- OECD (2007), *OECD Territorial Reviews: Randstad Holland, Netherlands*, Policy Brief, March, Paris: OECD Observer.
- OECD (2000), *Learning Regions and Cities: Knowledge, Learning and Regional Innovation Systems*, Paris: Organization for Economic Cooperation and Development.
- OECD (1998), *Fostering Entrepreneurship, the OECD Jobs Strategy*, Paris: OECD.
- OECD (1997), *Small Businesses, Job Creation and Growth: Facts, Obstacles and Best Practices*, Centre for Entrepreneurship, SMEs and Local Development.
- Reynold, P.D., M. Hay, W.D. Bygrave, S.M. Camp, and E. Autio (2000), *Global Entrepreneurship Monitor: 2000 Executive Report*, Kauffman Centre for Entrepreneurial Leadership at the Ewing Marion Kauffman Foundation.
- Rodenburg, H., and D. van Vuuren (2004), *Arbeidsaanbod in de lange-termijnsenario's voor Nederland*, CPB Document 71, The Hague: CPB.
- Romer, P. (1986), Increasing returns and long-run growth, *Journal of Political Economy*, 94, 1002-1037.
- Schumpeter, J.A. (1934), *The Theory of Economic Development*, Cambridge: Harvard University Press.
- SER (2000), *Corporate Social Sustainability: A Dutch Approach*, Assen: Royal van Gorcum.
- Shapiro, A. (1984), The entrepreneurial event, in Kent, C.A. (ed.), *The Environment for Entrepreneurship*, Lexington, M.A.: Lexington books, 21-40.
- Slaughter, M., and P. Swagel (1997), The effect of globalization on wages in the advanced economies, *Staff studies for the World Economic Outlook*, December.
- Stam, E., K. Suddle, S.J.A. Hessels, and A. Van Stel (2006), *High Growth Entrepreneurs, Public Policies and Economic Growth*, SCALES-paper series, Zoetermeer: EIM Business Policy Research.
- The Work Foundation (2006),
- Van Delft, H., C. Gorter, and P. Nijkamp (2000), In search of ethnic entrepreneurship opportunities in the city; a comparative study, *Environment and Planning, C* 18(4), 429-451.

Wennekers, S. (2006), *Entrepreneurship at Country Level. Economic and Non-Economic Determinants*, ERIM Ph.D. Series Research in Management, 81, Rotterdam: Erasmus University Rotterdam.

Wennekers, A.R.M., and A.R. Thurik (1999), Linking entrepreneurship and economic growth, *Small Business Economics*, 13(1), 27-55.