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Demand, employment and labour productivity in the European economies

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ABSTRACT

This paper represents an explanation of the causes of the deceleration in labour productivity in the European economies in the last few decades. In the first instance, the weakness of domestic demand is what determines that slowing down in productivity. However, the differences in the (mediocre) rates of productivity growth in the European countries are related to the specific characteristics of their respective labour markets. In this way, in a context of weakness in domestic demand, there is a trade-off between labour productivity and employment growth.

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This paper presents an alternative explanation to the one offered by the neoclassical mainstream on the causes of deceleration in growth in labour productivity in the European economies during the last few decades. In the first instance, the weakness of domestic demand is what determines that slow-down in productivity. However, the differences between the (mediocre) productivity growth rates are related to the specific characteristics of their respective labour markets. In this way, in a context of weakness in domestic demand, the larger or smaller amount of work incorporated in the economic growth generates a *trade-off* with the performance of productivity.

The work is divided into six sections. The first lays out the main reasons why the mainstream explanation for labour productivity is unsatisfactory. The second puts forward an alternative theoretical approach in which the demand dynamic is the structural conditioner of the pattern which productivity follows. The third section analyses the empirical evidence which relates demand and productivity in the European economies between 1960 and 2004. The fourth section examines the characteristics of the labour markets which lead to economic growth incorporating a larger or smaller amount of work. The fifth section presents the different styles of economic growth in terms of labour content and productivity performance. The final section synthesises the conclusions obtained in the previous sections.

The countries considered (EU-14) are those which made up the European Union before the latest enlargements, with the exception of Luxembourg. The distribution of the periods between 1960-2004 does not follow the conventional rounding up of fifties or decades, instead it corresponds to the evolution of the economic cycles in the European economies during that period. 1960-73 is the final phase of the strong expansion which characterised the Golden Age, followed by the period of crisis 1974-83. Afterwards, each of the cyclical periods of 1984-93 and 1994-2004 includes respective phases of expansion and recession¹. The main source of statistical information used in the work is *Annual-Macroeconomic Database* (AMECO) which is compiled by the Directorate General for Economic and Financial Affairs of the European Commission.

1. THE DISTORTED FOCUS OF THE MAINSTREAM

Most studies on productivity performance focus on supply which is characteristic of neoclassical theory. Briefly summarised, the main features which those studies contain can be distilled into six points². *Firstly*: the analysis is conducted through aggregate production functions which define the economy's balance in the long-term. *Secondly*: productivity growth is separated between the variations in capital intensity (capital-labour ratio), which expresses the dynamic of the accumulation of

¹ In Palazuelos (2006) the methodology is explained which has been used to establish the cyclical periods considered in this work.

² Wolf (1997) includes an extensive selection of works by the main authors which analyse productivity from a neoclassical theory such as Solow, Denison, Griliches, Abramovitz, Jorgenson, Baumol and others.

factors, and the total productivity of the factors, which expresses the global efficiency generated by technical progress³. *Thirdly*: although capital intensity in the long-term, in a static state, is considered constant, the majority of work which analyses productivity in the nineties coincides in highlighting that the fundamental determiner is the new information and communication technologies (ICT) because they increase both the capital intensity of the sectors which produce those technologies as well as total productivity through the diffusion in sectors which use such technologies⁴.

Fourthly: the strengthening of technological capital (through research and development efforts) and of human capital (centred on higher education) is found to be closely related to the innovation and diffusion of ICT⁵. *Fifthly*: macroeconomic stability and institutional flexibility also favour the diffusion of ICT and, in general, act as an important stimulus to the improvement in the total productivity of factors. Stability is guaranteed through the orthodox management of economic policy in order to control the public deficit and inflation. Flexibility is guaranteed through the liberalisation of markets in order to establish a predictable economic framework which facilitates the creation of companies and the entry of foreign capital⁶. In particular, the absence of regulations in the labour market favours the generation and mobility of employment, which redounds in a greater efficiency in the labour market⁷. *Sixthly*: the favourable performance of productivity is exemplified in the evolution of the United States from the middle of the nineties. This is the way in which the acceleration of the pace of growth of its productivity through the strong impulse of ICT is referred to, benefiting from the technological push and the improvement in human capital in a context of macro stability and flexible markets. As Fred Bergten, director of the Institute for International Economics stated in 1997: “[*The American model*] ...is definitely better for everybody”.

That interpretation was developed in the United States during the late nineties in academic and professional circles tied to the Federal Reserve and the National Bureau of Economic Research, later being adopted by international organisations like the IMF and the OECD and becoming the uniform discourse of the majority of institutes and research departments and of circles of political power. It is the same vision as the one which in Europe runs through the Pact for Stability and Growth, the “Lisbon Strategy” approved by the European Council in 2002 and the subsequent evaluations carried out by the Commission (Sapir report) and the Council (the *Kok Report*) of the European Union.

³ The standard formula is: $\Delta y/l = \alpha \Delta k/l + \Delta a$, so that the rate of variation of labour productivity is equivalent to the sum of the variations of the capital intensity (considered by the participation of capital in income) and the technical progress.

⁴ Among the extensive literatura available, five representative works are: Jorgenson (2002), Jorgenson and Stiroh (2000), Bartelsman and Doms. (2002), Colecchia and Schreyer (2002) and Oliner and Sichel (2000).

⁵ On the importance of human capital: Bassanini and Scarpetta. (2001), Black and Lynch (1996), Nelson and Phelps (1996) and OCDE (2004).

⁶ On the influence on the macroeconomic context: Ahm and Hemmings (2000), Blanchard and Giovazzi (2003) and OCDE (2004).

⁷ On the relationship between the institutions and the labour market on labour productivity: Layard et al (1991), Baily and Kirkegaard (2004), Blanchard (2001, 2004), Dew-Becker and Gordon (2006) and Nickell and Layard (1998).

Nevertheless, that direct causal link between the ICT, the liberalisation of the markets and growth in labour productivity comes up against certain conflicting points when it is set beside some data. We will limit ourselves to underlining the three following conflicting points. The first is that when productivity levels are calculated per hour of work -in dollars according to the parity purchasing power- the United States does not come top but has been behind three European countries (Belgium, the Netherlands, France) for decades, and in the last few years it has also been behind Ireland, while Germany and Austria reach similar levels to the American levels. Therefore the “technological frontier” is set by those countries without them standing out – not even within Europe – for the generation and diffusion of ICT, nor for R&D efforts or higher education.

In second place, when the United States’ economy is analysed one of the elements which stands out since the nineties is the importance which the foreign deficit has on the growth dynamic. Frequently that fact is referred to as an exceptional situation due to the position which the USA occupies in the world economy and above all in international financial markets. However, the recognition of this exceptional feature disappears completely when the evolution of American productivity is analysed and when it is compared with what takes place in the European economies. The theoretical limitations imposed by the supply focus based on production functions means that the decisive importance of this constant increase in domestic demand through the widening of its external disequilibrium is completely ignored.

In the third place, when the growth of investment in new technologies (ICTI) and labour productivity during the second half of the nineties are analysed evident paradoxes spring up. Finland registers ICTI increases which are double those of Greece (average annual rates of 16% and 8%), but both countries have similar growth in labour productivity per hours worked. The ICTI increase of Portugal and Austria is even less (5-6% annually), yet its productivity exceeds that of Finland. While the ICTI of the United Kingdom and the Netherlands grow at a similar rate, the productivity increase of the UK is substantially greater than that of the Netherlands. The same is true of Spain and Austria which have similar rates of ICTI growth, but whereas Spain has the lowest increase in productivity in the EU, Austria’s is among the highest.

The same lack of a causal link can be seen when technological effort and productivity are compared⁸, or when the synthetic indicator which the OECD has developed as “Investment in Knowledge” is used, in which expenditure on R&D, expenditure on higher education and investment in software are considered. Therefore, the data does not show a really clear and direct relationship between ICT and labour productivity. Nor does it show one between the larger or weaker “flexibility” of markets

⁸ The same happens when the technological effort and productivity in 1994-2004 is compared with that of 1984-93 in a single country. Only in half the countries in the EU-14 is a parallel performance found in both variables. The two variables do not perform in parallel in Spain, Portugal, Finland, Belgium and Denmark. An increase in technological effort is not matched by a larger increase in labour efficiency, nor is it matched in the Netherlands where the inverse situation is produced. It is no less paradoxical that the two countries which make a technological effort far greater than the rest, Sweden and Finland, obtain productivity increases which are inferior to those registered by various countries which come behind in rankings on R&D expenditure.

and productivity. The most evident example is in the United Kingdom, whose level of liberalisation since the Thatcher years even exceeds that of the USA in many aspects and yet productivity growth is lower than that of Austria, Finland, Greece or Sweden, countries with significantly more regulated markets.

Those conflicting points give rise to serious doubts about the explanation provided by the mainstream, but its analysis is all the more profoundly unsatisfactory since its roots are based in a school of thought whose premises are clearly contradictory to the facts observed in the economic reality and yet, despite that, the theory is used to understand the reality and also even to set out courses of action. The playing out of the fantasy to which that academic tradition continues to be subjected continues to run its course, and repeating its traditional litany when it studies labour productivity. With respect to that study, there are three main criticisms.

The first criticism concerns the way in which productivity growth is broken up with the aim of concentrating the impact of technological progress in the component of total productivity of factors, considering that the capital-labour ratio represents a uniform accumulation of factors. However, it is not logical to sustain that there is no incorporation of technical progress in the K/L dynamic. If that assumption is rejected, the “total productivity” component again has the doubtful significance which residual had in the first Solow formula before it was associated with technology⁹.

The second criticism is concerning the direct causality relationship established between technology and productivity. This end-of-the-century *discovery* favoured with a Schumpeter-esque flavour by traditional neoclassical authors remains substantially far away from the interpretative proposals of specialists who study the evolution of technology, such as Pavit, Freeman, Soete, Dosi, Chandler or Rosenberg, whose formulas assume a greater complexity and weaker immediate link in that relationship. Some, such as the historian of technology Tunzalan (2000), are more emphatic in stressing that technology and productivity are separate entities which move at different times and which can even head in opposite directions. The elements which mediate in the relation of that binomial are diverse, operate in a discontinuous way over time and generate notable spatial differences between countries and/or regions. All that is, however, ignored in the pan-technologist version which predominates the analysis of productivity since the end of the nineties.

The third is a continuation of the previous criticism and is to do with the fact that the simplification of the connection between technology and productivity is even more exaggerated when technical progress is subsumed into what happens with new information and communication technologies. It is one thing to stress their importance in economic and social life since the nineties and quite another to consider technical progress exclusively through ICT, which gives the technologist interpretation an

⁹ Lipsey and Carlaw (2000) provide an extensive list to the "total productivity of factors".

exponential degree of exaggeration¹⁰. The distortion is so clear that when many of those studies refer to the importance of research and education – as elements which promote labour efficiency – they only relate them to the generation and diffusion of ICT.

Therefore, the interpretative hypothesis offered by works immersed in that academic tradition suffer from a distorted focus when they address productivity. The *focus* of the analysis is placed on a reduced number of variables whose behaviour is predetermined by theoretical premises and by the format of specific models stemming from the neoclassical aggregated function. That analytical distortion is translated into the diagnostic of the European situation and to the proposals which are formulated to improve labour efficiency.

2. AN ALTERNATIVE FOCUS FOR ANALYSING PRODUCTIVITY

From a general point of view, there is no doubt that investment in new technologies, educational level and institutions influence the development of labour productivity. Not only that, but from an analytical perspective which accepts the existence of long cycles in the historic trajectory of capitalism it seems evident that waves of technological changes and institutional changes which are concentrated in determined historical moments are those which determine the creation of new periods of prosperity, incorporating a greater level of productivity efficiency. But not even in those moments of sharp transformations, such as the post-war decades known as the Golden Age, did those techno-institutional changes deliver an adequate explanation on the productivity dynamic.

In an economy which functions in conditions of full use of its productive potential, the identity which relates the rise in production with the variations in employment and labour productivity can be expressed as a causal relationship of the type $\{\Delta L + \Delta Y/L\} \rightarrow \Delta Y$. However, in real terms, that situation is manifestly exceptional given that economies almost always operate below the full use of their resources. In this case, hypotheses from the tradition which feeds on Keynesian and Kaleckian theories make a lot of sense, as far as they consider that the level which effective production reaches compared to potential production is determined by the size of aggregate demand¹¹.

That being the case, variations in productivity are determined in the first instance by the performance of aggregate demand. Therefore, if $\Delta D_E \rightarrow \Delta Y_E$ the identity $\Delta Y \equiv \Delta L + \Delta Y/L$ does not allow the establishment *a priori* of any causal relationship, rather – in the face of a concrete demand dynamic – the increase in production admits a combination of variations between employment and productivity. As a consequence, the larger or smaller *amount of work* generated by the economic growth in each

¹⁰ It would be fitting to make an analogy between the artificiality of the stock exchange rise of ITC companies and the distorted theoretical extrapolation given to the importance of these technologies, with the important observation that the stock exchange bubble burst in 2000, returning the listings to more realistic values while the analytic exaggeration has been maintained.

¹¹ Representative works of that tradition are: Cornwall (1994), Eatwell (1996), Marglin and Schor (1990), Mitchell et al. (2006), Setterfield (2002) and Stockhammer (2004).

country and in each period is to be found narrowly related to the factors which influence the functioning of the labour market.

Therefore, the analysis of the dynamic which labour productivity follows presents two levels of determination. In the first instance, the aggregate demand which – determining the effective production¹² – mediates the performance of productivity through three channels:

a) *Scaling effect*: the increase in the market by any of the components, private or public, of demand allows a larger use of the installed capacity, through the reduction of the capital-output ratio [$\Delta Y/L \equiv \Delta K/L - \Delta K/Y$].

b) *Capitalisation effect*: Non-residential investment promotes the subsequent increase in the potential supply through a larger granting of productive capital, increasing the capital-labour ratio.

c) *Modernisation effect*: the increase in capital stock is not uniform from a technological point of view, rather that level is increased through the incorporation of technical innovations, organisational improvements and *learning by doing*, resulting in a rise in capital intensity and/or a decrease in the capital-output ratio¹³.

In the second instance, in the face of either an expansive or recessive context in demand, the productivity varies depending on the elements which influence the rate of employment.

On one hand, the evolution of the *labour force participation rate* (labour force / total population) is influenced by demographical factors – including migratory flows – and by social and institutional factors which affect the willingness of certain segments of society (women, young people) to participate in the labour market¹⁴. On the other hand, the *rate of employment* relates the level of people employed to the labour force ($ER = E/LF$). This rate is conditioned by the factors which act from the supply side (the willingness of people of a working age to become active workers and the willingness of unemployed active individuals to look for work) and from the labour demand side (the expectations of businesses, wage earners and other institutional aspects which affect labour costs).

Therefore, the dynamic of demand, which may be more or less expansive, conditions the capacity for growth in the economy, but it only partly conditions productivity results given that the amount of work which growth creates also depends on factors which influence the rate of employment. Taking into account that demand context, therefore, there exists a *trade-off* between growth in employment

¹² In their turn, different schools integrated in the Keynesian-Kaleckian tradition provide different responses to the elements which determine aggregate demand performance. A good sample of that plurality is found in Setterfield (2002).

¹³ Certainly, from the empirical point of view, at a macroeconomic level, it is not possible to ascertain to what extent investment generates capitalisation effects or modernisation effects (the *proxis* which are used are too basic), but even though it is still possible to defend that we are dealing with two distinctive routes which part from the assumption that demand influences labour productivity.

¹⁴ $LFprate = LF/P = (LF/LFpop) * (LFpop/P)$, LF being the labour force, LFpop the population of working age and P the total population. Therefore, the variation in activity rate depends on the demographic changes which influence $LFpop/P$ and on the social and institutional changes which affect $LF / LFpop$.

and growth in productivity, so that in the presence of a $\Delta D_E \rightarrow \Delta Y_E$ relationship there is an inverse relationship between labour increases and productivity¹⁵.

3. DOMESTIC DEMAND AS A STRUCTURAL LIMIT TO LABOUR PRODUCTIVITY GROWTH: 1974-2004.

3.1. Weakening of domestic demand: evidence and reasons

The data in table 1 reveals an incontestable fact: an intense deceleration in domestic demand takes place in European countries from 1974 while exports and imports maintained a larger pace of growth¹⁶. That strong deceleration was shared by all the EU-14 countries, except Ireland which in the last period saw exceptional growth, determined by the massive inflow of foreign direct investment (FDI) by large transnational corporations, mainly electronics and chemical-pharmaceuticals¹⁷. Leaving that exception aside, no other country recorded average growth above 3 percent annually. In fact, in the majority of the countries the growth rate kept falling period on period and in very few cases exceeded that 3 percent average in any period; no country did so between 1974-83, two did so in 1984-93 and four in 1994-2004.

We are not dealing, therefore, with episodic *shocks* in which economic activity temporarily contracts but with a continued period of several decades in which the economic dynamic undergoes a severe restriction in terms of domestic demand. That restriction affects private consumption and public demand but has been all the more rigorous in the gross creation of fixed capital – above all foreign investment – whose growth has suffered a strong slowdown, reaching moderate rates even during phases of stronger economic dynamism.

¹⁵ From different perspectives, authors like Buchele and Christiansen (1999) and Gordon (1997) have proposed that there is an inverse relationship between the evolution of employment and productivity.

¹⁶ As an average of the 14 countries, in 1974-2004 the average rates of growth in exports and imports of goods and services were, respectively 5.4% and 4.9% annually, while the rate of growth in domestic demand (excluding stocks) was 2.3 percent annually. Calculations stem from AMECO.

¹⁷ The massive inflow of FDI between 1995 and 2000 – 70% of which comes from the United States – was concentrated in the financial sector and in industry. Within that, 71% was made in electrical-electronics production and chemical-pharmaceuticals. In precise terms, the intense growth in the Irish economy is based on finance and industry, with annual average growth of 31% and 38% respectively. In those years the two sectors have increased their joint proportion of industry from 37% to 57%, also concentrating 60% of investment in the sector and 62% of exports. Foreign capital makes up 94% of investment and almost all exports in those two sectors. The influence of transnational corporations is still greater because of its notable presence in sectors such as food and graphic arts, and greater still in finance and commercial distribution. Therefore, the determining factor in the Irish growth has been an exogenous character, the decision of transnational corporations to set up in that small European country which offered various advantages in terms of location. Source: Central Statistics Office Ireland, <http://www.cso.ie>

Table 1. Evolution of Domestic demand and productivity. Average rates of annual variation in each period.

	1960-1973	1974-1983	1984-1993	1994-2004	1960-1973	1974-1983	1984-1993	1994-2004
	DOMESTIC DEMAND (excluding stocks)				PRODUCTIVITY (per hour worked)			
Austria	4.9	2.4	2.4	1.7	5.6	3.2	2.3	2.7
Belgium	4.7	1.7	2.3	2.0	6.1	3.2	2.2	1.6
Denmark	5.2	1.1	1.7	2.6	3.7	2.2	2.7	1.6
Finland	5.1	2.6	0.4	3.3	5.1	3.1	3.1	2.3
France	5.6	2.2	2.3	2.2	5.4	3.9	2.2	2.0
Germany ^a	4.6	1.5	2.8	1.1	5.2	2.8	2.6	1.8
Greece	7.8	1.5	1.5	3.9	9.5	1.3	0.8	2.9
Ireland	5.1	2.4	2.0	6.5	5.1	4.2	4.0	4.4
Italy	5.4	2.4	2.2	1.7	6.5	2.7	2.3	1.0
Netherlands	5.0	1.5	2.3	2.6	4.7	3.5	0.8	1.2
Portugal	6.7	2.3	3.6	2.8	7.3	3.6	3.5	2.1
Spain	7.6	1.5	3.5	3.9	6.1	4.2	2.3	0.7
Sweden	3.9	1.1	1.4	2.0	4.7	1.5	1.6	2.4
United Kingdom	3.2	1.0	2.7	3.4	3.8	2.6	2.2	2.1

a) In order to guarantee the coherence of the data prior to and after reunification in 1990, the series of the period 1984-93 has been created from 1991 by applying the variation rates of the unified country to the FDR data. Drawn up from *Annual-Macroeconomic Database* (AMECO) and Groningen Growth and Development Centre (GGDC) Database.

The reasons which explain that *anaemic growth*, in the words of Aglietta and Berrebi (2007), are to do with the interaction between various factors, among those which stand out a) the falling back of the profit rate in the industrial sector in the seventies, b) the growth of financial power, and c) the restrictive character of budgetary and monetary policies applies since the eighties. Those factors led to the breakdown of that institutional network constructed during the Golden Age which stimulated the virtuous interaction between aggregate demand growth, productivity increase and income redistribution. The *social pact* between employers and employees guaranteed the generation and distribution of productivity and real wages, which had at the same time a very positive effect on investment and consumption. The *political pact* established by the extension of the welfare state committed governments to demand management and income redistribution. The *international pact* established in Bretton Woods, based in currency stability and control over capital movements in order to favour the expansion of international trade and national autonomy of monetary policies in order to favour economic growth.

a) The slump in the profit rate in industry hatched at the end of the seventies and deepened during the subsequent decade as the symptoms of the exhaustion of the accumulation model of the Golden Age began appearing¹⁸. That fall in relative business profit rate broke the pace of growth in industrial investment and encouraged its move towards other countries and towards other activities and other forms of obtaining better profitability and of escaping the regulations established by those governments.

¹⁸ See Marglin and Schor (1990), Brenner (2002) and Palazuelos (2006).

b) Financial supremacy became the hallmark of the economy as growing masses of money rotated quickly with the sole aim of obtaining short-term gains. The rapid increase in financial capital increasingly conditioned other forms of investment. In large companies shareholder value became supreme, giving way to short-term profitability strategies limited to the search for quick profits to share out among shareholders. As a consequence, the reference variables which determine companies strategies are those which define investment in the capital markets, in other words, stock market quotations, interest rates of other financial assets, exchange rates and inflation¹⁹. The strengthening of financial activity brings with it the growing influence of the large banks and other financial institutions since they receive a growing part of the business profits, influence economic policies and manage to ensure that the relationship between savings and consumption of the domestic sector is subordinate to the relationship between financial investment and financial debt.

To sum up, *financialisation* means that the coordinates of the economic dynamic are tied to the strategies, agents and operations of a financial character, causing grave consequences. Investment in productive activities loses relevance and its viability is dependent on the computing of profitability it offers compared to financial investments. Mergers and acquisitions of companies become financial business, as do the breaking up and purchase and sales of production lines. Large companies convert the management of their treasuries into gains through investments and sales of financial assets. Short-term profitability demands consistent reduction in labour costs, which becomes an obsessive and permanent objective. The growth of home consumption remains at the expense of their financial investments and of their possibility to increase their debt level since salary rises are limited.

c) At the same time, European governments opt for economic policies based on orthodox budgeting, monetary restrictions and the liberalisation of markets, assuming the business discourse, above all financial, which advocated the elimination of controls on capital movement, the reduction of taxes, the minimising of public expenditure and the fight against inflation as a priority and permanent goal²⁰.

The decline in budgetary activity began in the eighties in several countries (Belgium, the Netherlands, the United Kingdom and Ireland) and became generalised throughout the EU from 1992 when the *Maastricht Treaty* established a limitation on the public deficit as a prerequisite for creating the monetary unit, at the same time as the governments reduced fiscal pressure. Since then, tax cuts have been made and public expenditure commitments have been reduced, to the extent that the majority of European governments achieved positive, null or lightly in-deficit balances, apart from Germany, France and Portugal where imbalances have remained above 3% of GDP. The imposing of that budgeting orthodoxy led to the weakening of redistributive policies, the containment of public demand and, with that, its drivers towards consumption and private investment.

¹⁹ On the financialisation of the economy: Aglietta and Rebérioux (2004), Aglietta and Berrebi (2007), Chesnais (1994), Plihon (2003), Epstein (2005) and Duménil and Lévy (1999).

²⁰ On the economy policies: Arestis et al (2005), Stockhammer (2004), Hein and Truger (2005, 2006), Bi-bow (2001), Pasinetti (1998), Aglietta (2007) and Modigliani (2000).

The uniformity of the governmental behaviour was all the greater in monetary policy. In the eighties a pendulum reaction took place in the face of the monetary laissez-faire of the previous decade when most countries maintained real interest rates which were either negative or zero. The pendulum swung towards monetary rigour when inflationary pressures showed their persistence and, at the same time, the monetary hardening led since 1979 by the Federal Reserve of the USA stimulated the growing exit of European capital from the country. Nominal interest rates were between 4 and 6 points above inflation and rates of exchange remained almost fixed from the middle of the eighties, extending that situation until the crisis which shook up the European currencies in September 1992. The *Maas-tricht Treaty* meant that since the summer of the following year anti-inflationist rigour was again imposed, slightly toned down during the process of the creation and functioning of the single currency in what has been called the *Brussels-Frankfurt Pact* between the European Commission and the European Central Bank.

Therefore, the weakening of industrial profit, financial supremacy, deregulation of markets and the restrictions imposed by the budgetary and monetary policies destroyed the institutional order created in the Golden Age and became adverse factors for the growth of salaries, investment in productive activity, public expenditure and redistributive activity by governments.

3.2 Deceleration of labour productivity and limitation on demand

The evolution of productivity per hour worked (table 1) reveals that its growth rate was cut drastically during the sixties. It was also a persistent deceleration to the extent that in 1994-2004 the majority of the countries showed growth rates less than those registered in previous periods and much less than those reached during the Golden Age. The average of the EU-14 (considered according to the relative weight of each country in the aggregate GDP of the 14, measured in dollars according to Parity Purchasing Power) reduced its average growth rate successively from 4.9 percent annually in 1960-73, to 3.1 percent in 1974-84, to 2.3 percent in 1984-93 and, finally, to 1.7 percent in 1994-2004.

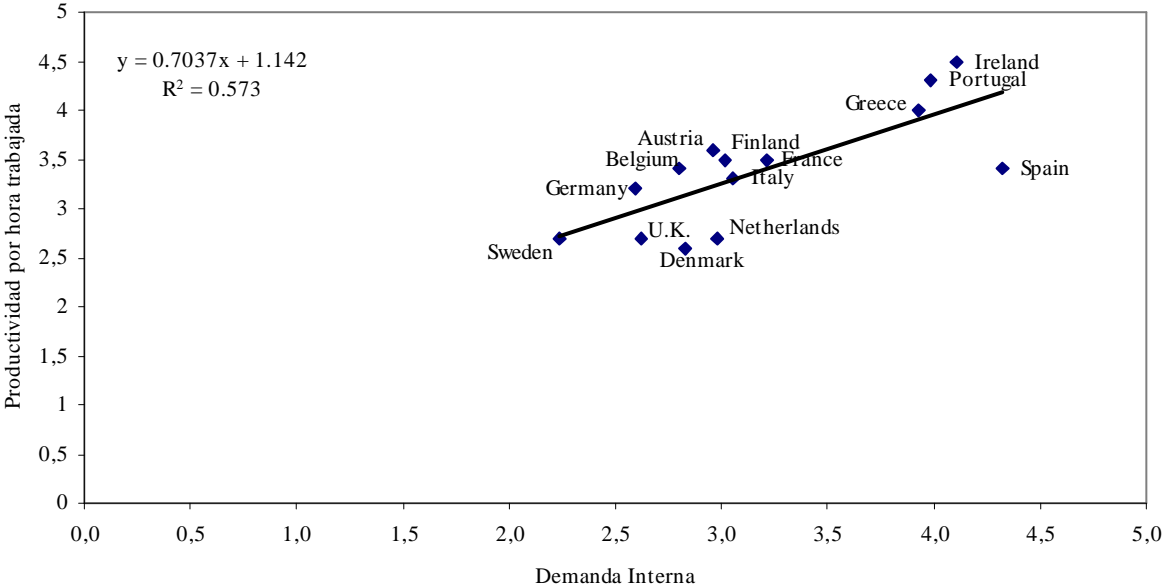
When we consider the two last periods, Ireland shows a growth rate superior to 4% annually and only three countries (Finland, Portugal and Austria) exceed 2.5% annually in any of the two periods. The other countries are around 2% annually, except Italy, the Netherlands and Spain which have lower rates. In the last period (1994-2004), without considering Ireland, only Greece and Austria are above 2.5% and in the case of the three “tortoises”, to use the expression of Dew-Becker and Gordon (2006), the Netherlands and Italy hardly even exceed 1% and Spain does not even reach that meagre rate of growth in productivity.

It is clear, therefore, that since the sixties the economic dynamic in the European countries is characterised by a simultaneous weakening in domestic demand and labour productivity, with the sole exception of Ireland. Graphic 1 represents the evolution of both variables between 1960 and 2004. The linear adjustment of annual growth rates gives a straight line with a pretty positive gradient and a coefficient of acceptable determination. It can be seen that the largest rises (annual rates of 4% annually)

correspond to the four countries which started off with levels of development which were further behind than the others, although the increase in productivity in Spain is clearly inferior to the increases of the other three. The other countries are found in coordinates defined by growth rates around 3%, below the positions of the United Kingdom, the Netherlands, Denmark and Sweden.

That said, if the same graphic is drawn up for each of the cyclical periods it can be noted that only in 1960-73 is there a similar match between rates of growth in domestic demand and productivity, with a straight line with a gradient of almost 45° and an R² of 0.59. By contrast, in the three subsequent periods, in other words when demand is weakening and productivity is decelerating, the data sample is more disperse, the straight line reduces its gradient and the adjustment is weak²¹. In fact, the correlation between the annual rates of variation of both variables is very weak in almost all the countries.

Graphic 1. Evolution of domestic demand and productivity: 1960-2004: Average rates of annual variation.



Therefore, the empirical evidence supports the theory that, in the first instance, there is a **structural conditioning** of productivity on domestic demand but there is not a direct and uniform causal relationship. That structural conditioning is what explains the rapid growth in demand during the Golden Age which drove an intense increase in productivity, through the three channels highlighted. The increase in the market (*the scaling effect*) provided the incentive for a larger use of the installed capacity, reducing the capital-output ratio. The strong growth in foreign investment generated a *cap-*

²¹ The determining coefficients for the three periods are: 0.26; 0.01 and 0.35.

talisation effect which increased the capital-labour ratio and a *modernisation effect* which accentuated the fall in the capital-output ratio and/or the increase in the intensity of capital.

Subsequently, the weakening in demand held down those three effects and structurally conditioned productivity growth, meaning that it does not grow at a high rate even when the economy has a new wealth of technological innovations as is the case in the nineties²². So, the weakening in demand came followed by the slowing down of productivity increases. In the same way, when the results for the countries for the period 1994-2004 are compared with those recorded during the previous 10 years, some degree of improvement in the rate of increase in domestic demand is accompanied by a similar evolution in productivity (Greece, Sweden, the Netherlands), while the worsening of domestic demand is accompanied by a falling back in the rate of productivity growth (Portugal, France, Belgium, Germany, Italy).

However, the absence of a direct and uniform causal relationship can be seen in the fact that – within its mediocre growth rate – the productivity of the different countries contains margins of variations which are not directly defined by the performance of demand, as is manifestly revealed when we note the evolution of both variables (table 1). In this sense, the *anomalies* or most significant lack of connection are the following:

- Spain is – along with Greece – the country which achieves a larger increase in domestic demand (leaving Ireland aside), with an average rate of 3.9% annually, and at the same time records the lowest increase in productivity (0.7% annually).
- Finland substantially increases its rate of increase in domestic demand compared to the previous period (0.4% to 3.3%) while the rate of productivity growth is reduced (3.1% to 2.3%).
- Denmark presents a similar case since its rate of demand increases (1.6% to 1.7%) but the productivity rate falls (2.7% to 1,6%).
- Another anomaly takes place in the United Kingdom: with rising demand (2.7% to 3.4%) while productivity sees a slight reduction in its growth rate (2.2% to 2.1%).
- Austria presents the reverse situation since demand weakens its growth (2.4% to 1.7%) while productivity growth rate increases (2.3% to 2.7%).

In precise terms, the explanation for the lack of matches and, more in general, for the low coefficients in determination between the rates of variation in demand and productivity in the seventies, is to be found in the modifications which the labour market underwent during those periods.

²² A strong correlation can be observed between the variations in fixed investment and the net-product capital ratio, both during the period 1960-2004 and in the four periods. The correlation is only weak in three cases (Ireland, the Netherlands and Portugal). At the same time, a good correlation between the variations in net-product capital and productivity can be observed, above all in the periods 1960-73 and 1974-83. But the correlation becomes smaller in the last two periods, improving the correlation between the variations in capital intensity and productivity. That fits with the theory which is laid out in the next section on changes to the labour market and its relationship to productivity.

4. PRODUCTIVITY AND CHANGES IN THE LABOUR MARKET

4.1. From the erosion to the disappearance of the "labour market" of the Golden Age

During the post-war decades acceleration in productivity took place within an archetype or model of labour market made up of seven main features²³:

a) Relative stability in its activity rate (active population / population of a working age) which followed a slight fall in the majority of the countries (table 2).

b) Limited employment creation. The level of occupation grew slowly while the number of hours worked per employee fell, so that total employment in hours worked registered a minimal increment and even fell in various countries (table 2).

c) Minimal unemployment rate. In the majority of countries it represented less than 2% of the active population and only in three was it between 4.5% and 5.5% (table 2).

d) A notable increase in real salaries. The real wage per employee grew above 5% annual in half the countries and only in three countries was it below 4% (table 3).

e) Social pacts established through centralised negotiation between employees and entrepreneurs which institutionalised the distributive struggle through the adjustment between salaries and productivity.

f) Employment protection through public regulations which protected the right to work of workers and set dismissal costs.

g) Public aid to the unemployed and social benefits for the non-active population, awarded by the social policies of the *Welfare State*.

The erosion of that model began with the harsh labour adjustment which was produced in the period 1974 and 1983. While the activity rate showed a larger diversity of performance between the countries (table 2), total employment by hours worked contracted sharply – in many countries at an annual rate superior to 1% - due to which the level of occupation was weakened at the same time as the number of hours per active person rapidly diminished. As a consequence, the unemployment rate rose in a significant way, coming close to 10% in Spain and Ireland and reaching 6-7% in the other five countries.

²³ See Marglin-Schor (1990), Howell (2004), Stockhammer (2004), Aiginer (2004), Cette (2000) and Eatwell (1996), Setterfield and Cornwall (2002).

Table 2. Evolution of the labour market: average rates of annual variation in each period.

	1960-1973	1974-1983	1984-1993	1994-2004	1960-1973	1974-1983	1984-1993	1994-2004	1960-1973	1974-1983	1984-1993	1994-2004	1994	2000	2004
	Labour force / Pop working age (average rates of annual variation)				Employed population / Labour Force (average rates of annual variation)				Unemployment / Labour Force (percentage)						
Austria	-0.4	-0.1	0.8	0.1	0.3	-0.5	-0.8	0.0	1.8	1.7	3.3	4.1	3,8	3,6	4,8
Belgium	0.2	-0.2	0.2	0.5	0.0	-0.9	0.2	0.0	1.9	7.1	8.6	8.5	9,8	6,9	8,4
Denmark	0.6	0.4	0.4	-0.1	-0.2	-0.9	-0.6	0.6	1.0	5.9	7.0	5.5	7,7	4,3	5,5
Finland	-0.7	0.8	-0.5	0.2	0.1	-0.9	-1.4	0.9	2.3	4.8	6.5	11.5	16,6	9,8	8,8
France	-0.2	-0.1	0.1	0.4	-0.2	-0.6	-0.5	0.1	2.0	5.6	9.5	10.3	11,7	9,1	9,6
Germany ^a	-0.2	-0.4	0.1	0.4	0.1	-0.4	0.5	-0.2	0.7	3.7	5.9	8.4	8,3	7,2	9,5
Greece	-1.1	0.4	-0.3	1.0	0.3	-0.6	-0.1	-0.7	4.4	3.1	7.1	10.3	8,9	11,3	10,5
Ireland	-0.6	-0.1	-0.1	1.1	0.0	-0.9	-0.4	1.1	5.6	9.5	15.6	7.6	14,3	4,3	4,5
Italy	-0.9	0.1	-0.2	0.7	0.2	-0.2	0.1	0.2	4.9	6.7	9.0	10.1	10,6	10,1	8,0
Netherlands	0.1	-1.1	1.7	1.0	-0.2	-0.7	0.2	0.1	1.1	6.7	6.9	4.3	6,8	2,8	4,6
Portugal	0.3	-0.1	-0.2	0.6	0.3	-2.0	-0.1	-0.2	2.5	6.6	6.4	5.8	6,9	4,0	6,7
Spain	0.1	-0.9	0.4	1.7	-0.1	-1.6	-0.1	0.3	2.6	9.0	15.7	14.0	19,5	11,1	10,6
Sweden	0.1	0.8	-0.4	-0.2	-0.1	-0.3	-0.4	0.2	1.9	2.3	3.4	7.3	9,4	5,6	6,3
United Kingdom	0.1	0.0	0.6	-0.1	-0.1	-0.8	-0.1	0.7	1.9	6.0	9.5	6.3	9,3	5,4	4,7
	Total employment (total hours worked) (average rates of annual variation)				Number of employed people (average rates of annual variation)				Hours worked per person engaged (average rates of annual variation)						
Austria	-0.7	-0.7	0.1	-0.4	0.0	0.1	0.6	0.5	-0.7	-0.9	-0.5	-0.9			
Belgium	-1.1	-1.2	0.0	0.7	0.5	-0.4	0.6	0.8	-1.6	-0.8	-0.6	-0.1			
Denmark	0.7	-1.1	-1.0	0.8	1.1	0.0	0.1	0.6	-0.4	-1.1	-1.1	0.2			
Finland	-0.1	-0.2	-2.1	1.3	0.4	0.4	-1.7	1.3	-0.6	-0.5	-0.4	0.0			
France	0.0	-1.3	-0.1	0.3	0.7	0.2	0.2	0.9	-0.7	-1.5	-0.3	-0.6			
Germany ^a	-0.8	-1.1	0.0	-0.3	0.3	-0.1	1.2	0.3	-1.1	-1.0	-1.2	-0.6			
Greece	-0.9	0.3	0.5	0.7	-0.5	1.0	0.6	0.9	-0.4	-0.6	-0.1	-0.2			
Ireland	-0.7	-0.4	-0.2	3.1	0.1	0.5	0.2	4.1	-0.8	-1.0	-0.4	-1.0			
Italy	-1.1	0.1	0.0	0.6	-0.3	0.6	0.4	0.8	-0.8	-0.5	-0.4	-0.2			
Netherlands	0.1	-1.7	1.8	1.3	1.4	-0.5	2.7	1.5	-1.2	-1.2	-0.8	-0.2			
Portugal	-0.3	-1.0	-0.3	0.5	0.3	-0.4	0.3	0.9	-0.6	-0.7	-0.6	-0.4			
Spain	1.0	-2.3	0.6	2.8	0.7	-1.3	1.1	2.9	0.3	-1.0	-0.5	-0.1			
Sweden	-0.5	0.0	-0.1	0.6	0.6	0.7	-0.4	0.5	-1.1	-0.7	0.3	0.0			
United Kingdom	-0.5	-1.4	0.2	0.9	0.3	-0.4	0.7	1.1	-0.8	-1.0	-0.5	-0.1			

a) In order to guarantee the coherence of the data prior to and after reunification in 1990, the series of the period 1984-93 has been created from 1991 by applying the variation rates of the unified country to the FDR data. Drawn up from *Annual-Macroeconomic Database (AMECO)* and Groningen Growth and Development Centre (GGDC) Database.

Simultaneously, real compensation per employee slowed in growth to half the previous period (2.25% annually as an average of the EU-14) although the maintenance of centralised negotiation continued to give workers a certain negotiating capacity. In the same way, in most of the countries – although to a greater or lesser degree – the main forms of employment protection were maintained and public aid was given to the unemployed and to other sectors. The fact that the adjustment to a crisis situation was centred on employment is what allowed the deceleration in labour productivity to be of a weaker intensity than the reduction from which demand suffered. As a simple average in the EU-14, while the rate of growth in domestic demand fell from 5.3% to 1.8%, as respective annual averages for the periods 1960-73 and 1974-83, the increment in productivity slowed more smoothly, passing from 5.6% to 3% (table 1).

The disappearance of the characteristics of the post-war labour model was almost complete over the course of the following period, between 1984-93. The rate of activity grew in almost all the countries while total employment continued to show negative variations, since even when the level of employment began to grow again, the number of hours per person engaged shrank more quickly (table 2). As a consequence, unemployment continued its upward trend, in an exaggerated way in Ireland and Spain but also reaching levels of 10% in four other countries and attaining rates above 6% in the remaining countries, except Austria and Sweden whose governments continued intent on their commitment to maintain low percentages of unemployment.

In parallel, the model suffered a harsh political and entrepreneurial attack on the rest of its components. Real compensation hardly rose (an average of 1.4% in the EU-14), meaning salaries as a proportion of income fell back in a generalised way, with losses of three to five points in almost all the countries (table 3) compared to the proportion reached in the previous period. In various countries the system of union negotiation was modified, eliminating or debilitating its centralised nature at the same time as budgetary policies limited social benefits and contractual forms were introduced which diminished employment protection.

Nevertheless, during those years a rather varied panorama of situations could be observed, precisely because the disappearance of the basic uniformity of the Golden Age gave way to diverse evolution depending on the countries. That is why in terms of total employment, while countries like Finland and Denmark were suffering losses of 2% and 1% annually, others like Greece and Spain presented positive rates of 0.5% and the Netherlands came close to 2% annually, and the nine remaining countries showed rates of variation of scarcely a tenth. That diversity of performance was carried over to the relationship which existed between the dynamics of demand and productivity, in such a way that Spain and the Netherlands which had increases in domestic demand superior to the Nordic countries nevertheless obtained inferior increases in terms of productivity, above all the Netherlands whose extremely strong creation of employment hardly left any margin for an increase in productivity less than 1% a year.

Table 3. Salary evolution.

	1960-1973	1974-1983	1984-1993	1994-2004	1960-1973	1974-1983	1984-1993	1994-2004	Variation 1994/2004 compared to 1974/1983 (points)
	Real compensation per employee * (average rates per annual variation)				Proportion of Compensation per Employee in the GDP at market prices (%). Average for each period				
Austria	4.6	2.4	1.9	0.9	72.8	73.9	69.2	64.8	-9.1
Belgium	5.0	3.0	1.4	1.1	57.0	65.3	62.7	62.1	-3.2
Denmark	3.6	1.1	1.1	1.5	61.6	63.0	59.8	57.1	-5.9
Finland	4.1	2.4	2.3	1.4	67.0	65.4	63.7	55.9	-9.6
France	4.6	3.0	1.1	1.1	61.9	65.5	60.3	57.5	-8.1
Germany ^a	4.5	1.6	1.4	1.7	62.2	65.0	61.6	59.0	-6.0
Greece	5.5	2.3	-1.2	2.5	74.4	65.9	64.7	58.7	-7.2
Ireland	3.9	3.4	2.7	1.2	67.8	68.2	61.9	51.5	-16.7
Italy	5.7	1.9	1.1	0.0	65.9	67.6	62.5	54.9	-12.7
Netherlands	5.1	1.7	1.0	0.9	62.0	66.8	61.2	59.3	-7.5
Portugal	6.7	3.6	2.4	1.5	61.6	73.9	61.9	61.8	-12.6
Spain	7.0	3.1	1.4	-0.5	64.4	66.7	61.0	58.9	-7.8
Sweden	3.4	0.9	1.2	2.5	64.5	66.2	60.3	57.9	-8.3
U.Kingdom	3.0	1.2	2.0	1.7	65.7	67.1	65.5	63.6	-3.5

* Deflated according to the GDP deflator.

a) In order to guarantee the coherence of the data prior to and after reunification in 1990, the series of the period 1984-93 has been created from 1991 by applying the variation rates of the unified country to the FDR data. Drawn up from *Annual-Macroeconomic Database* (AMECO).

4.2. “Maastricht Treaty”: employment creation and productivity weakening

The erosion of that labour model became completely spent and the diversity of country situations gave way to the reconstruction of a certain uniformity in the labour market during the nineties, although the notable differences registered by the EU-14 in terms of the creation of employment would have important consequences for the evolution of labour productivity.

At the start of the decade, European leaders had to face a raw reality: the harshness of the labour adjustment of the sixties, followed by a weak capacity for employment creation – while the activity rate increased – had generated a growing structural unemployment which made the incorporation of inactive sections of society (young people, women) difficult, and the reentry to employment of a growing percentage of long-term unemployed, above all among less-qualified workers and older workers.

In those years, in the middle of a consolidation of financial predominance and of the orthodox policies in the fiscal and monetary sphere, a new labour model became accepted, one which was poles apart from the one built up during the Golden Age. From the European summits in Edinburgh in 1992 and in Essen in 1994, to the “Pact for Stability and Growth” in 1997 and the “Lisbon Strategy” in 2002, the triumph of the thesis which declared the “rigidities” of the continental European labour mar-

ket and the necessity to assimilate the market to the “flexible” working of the United States and the United Kingdom was gradually established.²⁴

The *Maastricht Strategy*, maintained afterwards by the *Brussels-Frankfurt Pact*, prepared to reform the labour market in order to promote employment, above all among the sections of society which were most affected by inactivity and unemployment.

The measures as a whole which were adopted can be classified as two types of actions²⁵. One type was directly aimed at the cheapening of company labour costs, through subsidies and tax breaks and cuts to social security quotas. Other measures were aimed at increasing employment turnover, conceding more measures to help dismissals, cutting employee rights, encouraging temporary contracts and part-time contracts, limiting overtime and other regulations with a tendency to reduce working time.

In some countries, where governments maintain a larger social commitment, measures tending to promote employment mobility and the loss of employment stability have been combined with active policies designed to increase professional training and to guarantee employee protection during periods when employees find themselves out of work. The clearest case of this in practice are the *flexisecurity* reforms applied in Denmark or the promotion of part-time work in the Netherlands since the eighties which has been carried out in conditions which fully guarantee employee rights. However, in the majority of cases, “structural” reforms of the labour market have directly supposed the dismantling of basic pillars, such as centralised negotiation, which facilitated the homogeneity of salaries and labour rights. The result has been a slow increase in wages, the weakening or disappearance of the mechanisms of employment protection, employment which is increasingly precarious, increasing contracts which are detrimental to full-time work stability and the weakening of unemployment benefits.

In this way, during the period 1994-2004, a radical transformation in labour conditions in European countries was promoted²⁶, which has had a large influence on the performance of labour productivity in European countries.

The objective of increasing employment was irrefutably reached in the EU-14. The employment level reached positive rates in the 14 countries, exceeding 1% annually in the United Kingdom, Finland and the Netherlands, coming close to 3% in Spain and exceeding 4% in Ireland. In terms of total employment in hours worked, 12 countries recorded positive rates even if the number of hours per occupied person only fell in a significant way in Ireland and France, falling very slightly in the other countries. Total employment grew strongly, by around 3% annually in Ireland and Spain; above 1% annually in the Netherlands and Finland; and among the other six countries, it was only in France where the rate did not exceed 0.5% annually (table 2). The only two countries where total employment

²⁴ Pisani-Ferry (2004) run through the elements contained in those theories, argued for many years by authors like those cited in note seven.

²⁵ Artus and Cette (2004) includes an annex in which the main measures are detailed (pp. 217 and ss), as they also are by successive editions of *Employment Outlook* published by the OECD.

²⁶ Changes to the labour market are analysed in Cette (2000), Aiginer (2004), Groot et al (2004), Stockhammer (2004), Buchele and Christiansen (1999), Mitchell et al (2006), Welters and Muysken (2002).

did not grow were Austria and Germany where the fall in the number of hours per person engaged was greater than the increase in the number of employed people.

Nevertheless, the goal of reducing unemployment was achieved in a more limited way. In some cases because the rate of job creation has not been quick and in other cases because that speed has been partially offset by an equally strong increase in the labour force participation rate, either for endogenous demographical reasons, because of the inflow of immigrants, or because of the expectations which have been created between inactive social groups attracted to the labour market²⁷. Almost all the countries, except Greece and Italy, managed to achieve a fall in the unemployment rate until the end of the decade, but several of them saw it rise again during the recession initiated in 2000. If the whole period is considered, one notes the largest falls in unemployment have been recorded in the three countries (Spain, Finland and Ireland) which initially showed very high rates – between 20% and 14% - as well as in the United Kingdom and Sweden (table 2). That said, at the end of those years, in 2004, half the countries in the EU-14 continued carrying unemployment above 8% of the active population.

In that process, the convergence of various phenomena occurred which have conspired against salaries. A large part of the jobs created have been low-skilled jobs, through part-time contracts and/or of a limited time duration, above all with the incorporation of women who previously remained inactive or unemployed²⁸, and in various countries (Spain, Ireland, Italy) with an important contribution from immigrants. Simultaneously, levels of unemployment have been maintained which continue to be significant, at the same time that the mechanisms of centralised negotiation have deteriorated or disappeared, as well as the frameworks which protected stable work and full-time work. Such a combination of elements has resulted in real compensation per employee barely growing 1.2% annually on average in the EU-14, with some countries with zero or negative average rates (Spain, Italy), or less than that average (the Netherlands, Austria).

As a consequence, when what has happened to salaries since the eighties is observed, we can see that an economic scenario characterised by financial supremacy and orthodox economic policies (including the employment policies) has led to a sharp distribution of income which is contrary to the salaries perceived by workers. Table 3 shows how, during these last two decades, various countries suffered losses of 12 to 15 points on GDP, in Ireland, Italy and Portugal; of seven to 10 points in

²⁷ The activity rate increased by more than 1% annually in Spain, Ireland, the Netherlands and Greece; while the occupation rate did so by 1% only in Ireland and Finland (table 2). As an average for the period, only in Ireland was the activity rate less than 60%, being between 61-63% in Belgium, Greece and Spain, 66-68% in Germany and Ireland, 71-74% in Austria, Portugal, Finland and the United Kingdom, reaching maximums of 77-78% in Denmark and Sweden. Source: AMECO.

²⁸ The activity rate of women has experienced strong increases which have exceeded 12 percentage points in Ireland (45% to 58%), Spain (41% to 53%) and the Netherlands (56% to 68%), it did so 6-8 points in Greece (42% to 50%), Italy (42% to 48%), Belgium (50% to 56%) and Portugal (59% to 65%). Precisely it has done so less intensely in those countries which already had higher female activity rates: four points in Germany (60% to 64%), France (59% to 63%), Austria (61% to 65%), Finland (69% to 73%), one or two points in Sweden (75% to 76%) and the United Kingdom (66% to 68%), falling slightly in Denmark (77% to 76%). Source: AMECO.

Finland, Austria, France, Spain, Greece, the Netherlands and Sweden. Only in four countries were the losses between three to five points of GDP.

Aside from that regressive redistribution of income, the greatest “paradox” caused by the labour reform undertaken in the name of employment creation, flexibility and labour market efficiency has been its negative impact on labour productivity. The anomalies which were detected at the end of the third section between the dynamic of domestic demand and the performance of productivity in the period 1994-2004 are precisely explained by the evolution of the labour market and its effect on employment creation.

The most significant case is that of Spain whose domestic demand is the one which grows most in the EU (3.9% annually) – leaving aside Ireland – but its productivity only increases 0.7% annually. The same lack of connection is observed in Finland, Denmark and the United Kingdom while the weak increase in productivity in the Netherlands remains striking. All of them are countries which have achieved major increases in employment according to the conditions mentioned above. At the other extreme is Austria, whose demand has weakened its growth while productivity increased it, so that it has recorded a falling back in its level of total employment.

We find ourselves therefore looking at the inverse situation to the one generated in 1974-1983. The economic crisis imposed a harsh labour adjustment, with a strong attack on employment, in such a way that productivity slowed its pace of growth rather less than domestic demand. In 1994-2004, the mediocre growth in demand led to a substantially lower increase in labour productivity with shortfalls which expanded according to the amount of employment creation which the abovementioned countries had achieved. A large part of that employment is low-skilled, frequently substituted work which previously demanded more skills, is weakly paid, and is found in construction, service and low value-added manufacturing, which means its contribution to the overall efficiency of the economy is limited. To put it another way, within the limitation which operates on demand, that increase in employment breaks the rise in capital intensity and is concentrated in activities where the capital-output ratio falls little or even increases, so that both aspects limit the capacity for productivity growth [$\Delta Y/L \equiv \Delta K/L - \Delta K/Y$].

5. GROWTH STYLES: EMPLOYMENT AND PRODUCTIVITY.

Analysis of the empirical evidence leads to the hypothesis that an important change in the style of economic growth in European countries has been taking place since the nineties which can be observed in a crystal-clear way through the data in table 4 and graphic 2. The table presents the significance of new employment to economic growth expressed by employment-GDP elasticity, in other words, the variation in employment (total people engaged and total hours worked) compared to the GDP variation. We can see here that during the decade of the Golden Age the economic growth of the 14 countries gives rise to a weak sensitivity in terms of employment level which becomes slightly

negative in the case of total employment. In fact, only three countries (Denmark, the Netherlands and Spain) reach positive values and those are less than 0.15.

During the following decades we see an impoverishment in the significance of work in a slowing economic growth. In 1974-1983, except in three countries, the elasticity between employment and GDP becomes more negative and in spite of the fact that that tendency is attenuated in 1984-1993, in terms of total employment, six countries continue with negative values, another two have a null value and another three have positive values lower than 0.10; only Portugal, Greece and, above all, the Netherlands, give higher values, in other words, employment has played a larger role in their economic growth.

Conditions are modified substantially in the period 1994-2004 when in a generalised way elasticity registers positive values rather higher than those previously registered. That is not the case in Austria, Germany and Greece where elasticity in terms of occupation level is positive but falling back while Greece also sees a fall in total employment terms and the other two countries record negative values. Another particular case is the Netherlands where the elasticity value diminishes but remains high, since in the previous period it had reached very high values. In the other 10 countries it can be clearly seen that production growth includes a larger contribution from labour, especially in Spain, but also in Finland, Denmark, Ireland, Italy, Belgium and the United Kingdom with values of around 0.30, below 0.20 in France, Portugal and Sweden.

Table 4. The relationship between variations in employment and GDP*

	1960- 1973	1974- 1983	1984- 1993	1994- 2004	1960- 1973	1974- 1983	1984- 1993	1994- 2004
	Total Employment (people engaged)				Total employment (hours worked)			
Austria	0.00	0.05	0.22	0.20	-0.11	-0.26	0.04	-0.15
Belgium	0.07	-0.20	0.25	0.31	-0.16	-0.56	0.01	0.28
Denmark	0.20	-0.03	0.08	0.25	0.12	-0.92	-0.53	0.32
Finland	0.07	0.12	-1.44	0.33	-0.01	-0.05	-1.75	0.32
France	0.09	0.08	0.08	0.38	0.00	-0.43	-0.06	0.13
Germany ^a	0.05	-0.05	0.38	0.19	-0.14	-0.58	0.00	-0.15
Greece	-0.03	0.57	0.44	0.21		0.19	0.37	0.16
Ireland	0.02	0.12	0.05	0.44	-0.08	-0.10	-0.04	0.32
Italy	-0.03	0.20	0.15	0.46	-0.17	0.04	0.00	0.34
Netherlands	0.23	-0.25	1.00	0.56	0.02	-0.85	0.66	0.47
Portugal	0.03	-0.13	0.08	0.31	-0.05	-0.35	-0.08	0.17
Spain	0.06	-0.62	0.36	0.81	0.08	-1.08	0.19	0.78
Sweden	0.11	0.46	-0.28	0.15	-0.08	0.02	-0.08	0.17
United Kingdom	0.08	-0.35	0.27	0.32	-0.10	-1.16	0.06	0.28

* $[(E_n - E_0) / E_0] / [(Y_n - Y_0) / Y_0]$

a) In order to guarantee the coherence of the data prior to and after reunification in 1990, the series of the period 1984-93 has been created from 1991 by applying the variation rates of the unified country to the FDR data. Drawn up from (AMECO) and GGDC.

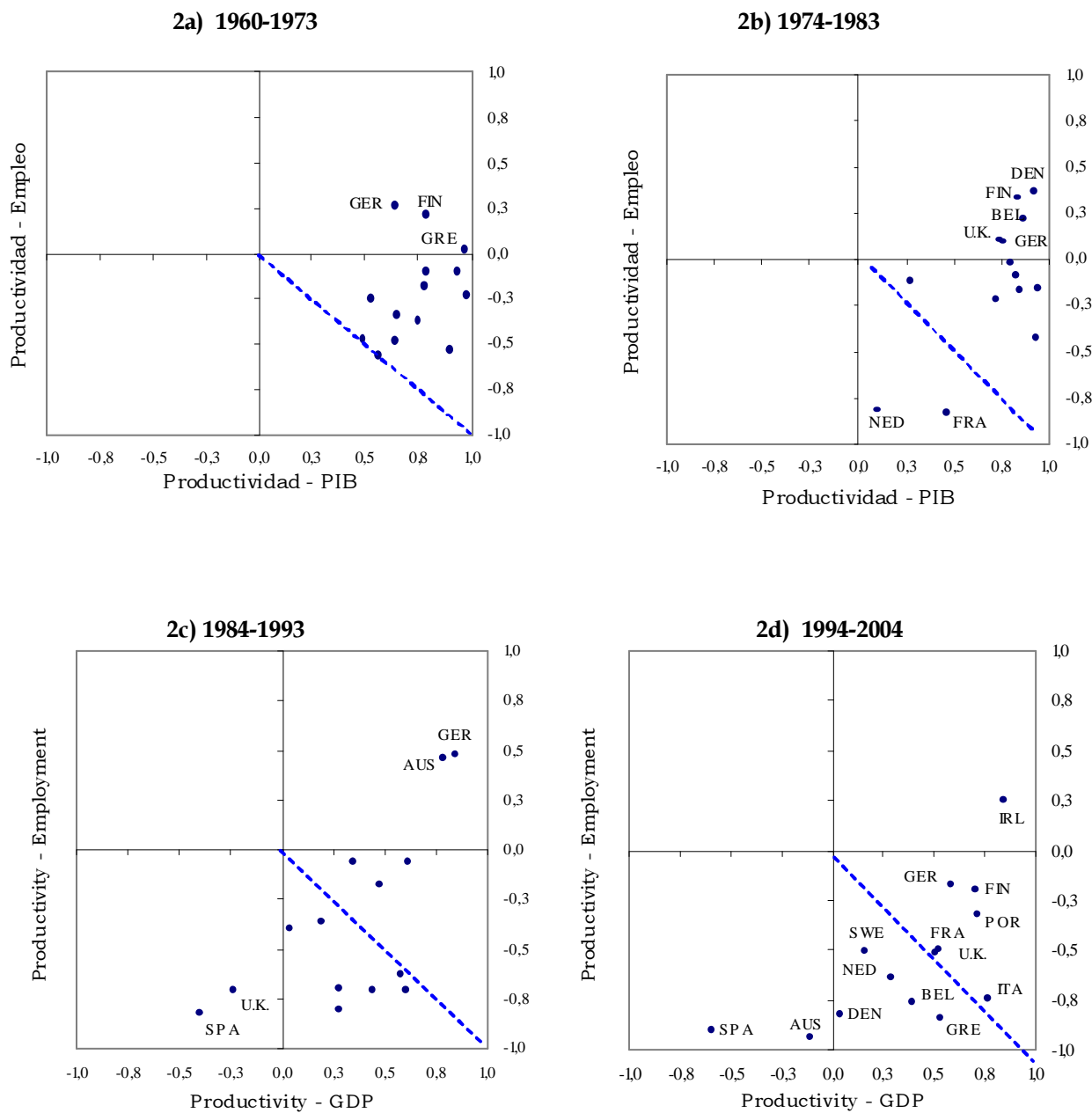
Equally, the transformation in the style of growth is captured clearly by analysing the correlation which exists between the annual variations in productivity and the annual variations in production and employment, respectively. Graphic 2 presents the sequence of both correlations throughout the four periods which span 1960-2004.

Firstly, in 1960-1973, almost all the countries are found in the upper right part of the fourth square whose coordinates are delimited by high values in the correlation between productivity and GDP and low negative values in the correlation between productivity and employment. Therefore, during that period of strong economic growth the strong connection is the one which relates the dynamics of productivity and production.

Following on, in 1974-1983, the high positive correlation between productivity and GDP is maintained and the low correlation between productivity and employment but with two new elements. There are more countries where the productivity-employment correlation, although low, is positive. In addition, three countries record a low productivity-GDP correlation, of which two, France and the Netherlands, record high negative correlations between variations in productivity and employment. Later, in 1984-1993, although 10 of the 14 countries are found in the fourth square, the sample become more spread out, combining a wide range of negative values in the productivity-employment correlation and positive values in the productivity-GDP correlation. The exceptions are Germany and Austria, with positive values in the case of employment, and the United Kingdom and Spain with negative values in the case of production.

Finally, in the period 1994-2000 most of the countries move to the lower part of the fourth square defined by coordinates which refer to medium and high negative values in the productivity-employment correlation (six exceed -0.75 and another four -0.5), with more disperse values in the productivity-GDP correlation where only five countries exceed the value -0.5 . Therefore, the graphic representation confirms the thesis that in the nineties an economic context was created in which a tight relationship between the variations in productivity and employment was consolidated, the extremes of which are the two countries situated in the third square, Spain (with strong employment creation and weak productivity creation) and Austria (with falling total employment and larger productivity creation).

Graphic 2. Correlations between the annual variations in productivity per hour of work and the variations in GDP and employment in hours worked.



Own creation.

6. CONCLUSIONS

This *paper* formulates an interpretative proposal which explains the dynamic of labour productivity through two levels of determination. In the first instance, aggregated demand determines effective production and mediates the performance of productivity through three channels or effects: scaling, capitalisation and modernisation. In the second instance, in the face of either an expansive or recessive context in demand, modifications in the labour market directly affect the role played by employment and, because of that, they affect productivity too.

The empirical evidence reveals two simultaneous facts in the European economies from 1974: on the one hand, the intense deceleration in domestic demand which affects all the EU-14 countries in a generalised way; on the other hand, the persistent fall in the rate of labour productivity. The only exception is Ireland where the massive inflow of foreign investment has managed to maintain a notable rate of growth in demand and productivity.

The linear adjustment in annual rates of growth in both variables, both in the period 1960-2004 as well as in the period of the Golden Age, is represented by straight lines with rather positive gradients and with acceptable determination coefficients. However, the adjustment loses statistical quality in the last periods, in other words when demand weakens and productivity slows down. Therefore, the analysis suggests a *structural conditioning* of domestic demand on productivity but that there is no direct causal and uniform relationship.

In that sense, the *Maastricht Strategy* has become a severe limitation on labour productivity growth in the way in which it places obstacles on salary growth, productive investment and public expenditure. The slowing down in domestic demand breaks the impact on the three expansive effects which productivity exercises, even in the presence of a new wealth of technological innovations as is the case in the nineties. The limitations on market expansion (scaling effect) limit the degree of use of installed capacity and, with it, the reduction in the capital-output ratio. The moderate increase in foreign investment breaks the increase in the capital-work ratio and the fall in the capital-output ratio in the way in which it limits the effects of capitalisation and modernisation.

Nevertheless, the empirical evidence centred on the period 1994-2004 also shows that there is not a direct and uniform causal relationship, but that a mediocre productivity growth rate has margins of variation which are not defined exclusively and directly by demand. If results from that period are compared with those recorded in the previous period, it can be noted that a certain improvement in the internal growth rate is accompanied by a similar evolution in productivity (Greece, Sweden, the Netherlands) while a worsening in the internal growth rate is matched by a falling back in the productivity rate (Portugal, France, Belgium, Germany, Italy), but the match between both variables is upset in the cases of Spain, Finland, Denmark and Austria.

The explanation for those *anomalies* is found in the changes promoted in the labour market which have led to a radical transformation in the labour model created during the Golden Age and which is

negatively affecting the performance of labour productivity in European countries. The aim of reducing high unemployment rates through labour policies based on the thesis which decried the “rigidities” of the labour market has made a notable increase in employment possible in parallel with the dismantling of centralised negotiation, the starving of salary rises, the reduction in company labour costs, the proliferation of low-skilled jobs, the weakening in employment protection, the multiplying of part-time and temporary contracts – at the cost of full-time work stability – and the reduction in unemployment benefits.

The analysis of the empirical evidence reveals that in 1994-2004 the style of economic growth in European countries has changed. The employment-GDP elasticity during the period 1994-2004 registers rising positive values. At the same time, the correlation between the variations in productivity and the respective variations in production and employment in the majority of countries presents a high (negative) correlation between the dynamics of productivity and employment.

Consequently, the countries where growth has incorporated a larger amount of employment (Spain, Finland, Denmark, the United Kingdom, the Netherlands) are the countries which present a larger deviation between domestic demand growth and productivity growth, which in a context of weakness in demand means that the increase in productivity is reduced the more employment increases because employment slows the increase in capital intensity and is concentrated in activities where the capital-output ratio reduces little and even rises. The opposite situation is observed in Austria where a fall in the rate of employment means an increase in productivity above the rise in domestic demand.

The appropriateness of this diagnosis of the situation in European countries can be projected onto a diagnosis of the policies which could be effective in increasing labour productivity. The only way of making the significant creation of employment compatible with a larger increase in labour productivity is through making domestic demand strongly dynamic, something which is evidently related to research efforts, educational training and investment in new technologies, but also related to a larger consumer capacity through salaries, the incentive given to productive investment and the recovery of economic and social commitments by governments. In other words, with the abandoning of the *Maas-tricht Strategy* and its substitution for another which is in keeping with the achievement of the objectives mentioned.

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