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# Demand, employment, and labour productivity in the European economies☆

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ABSTRACT

This paper presents an explanation of the causes of the slowdown in growth in labour productivity in European economies in recent decades. In first instance, the weakness of domestic demand is what determines this slowdown in productivity. However, differences with the (mediocre) rates of growth of productivity between European countries are also related to the specific features of their respective labour markets because, in a context of weak domestic demand, there is a trade-off between employment and productivity.



This paper presents an alternative to the explanation offered by the neoclassical mainstream on the causes of the slowdown in growth in labour productivity in the European economies in recent decades. Its main thesis is that, above any other factor, the weakness of domestic demand is what determines this slowdown in productivity. However, the differences with the (mediocre) rates of productivity growth between European countries are also related to the specific features of their respective labour markets because, in a context of weak domestic demand, there is a trade-off between employment and productivity.

The paper is divided into five sections. The first lays out some of 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 that 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 those characteristics of labour markets which allow economic growth to generate employment, and it concludes presenting the different styles of economic growth in terms of employment 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 periods from 1960 to 2004 does not follow the conventional rounding-up to decades or half-decades, corresponding

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instead to the evolution of business cycles of European economies during the interval. 1960–1973 is the final leg of the strong expansion that characterised the Golden Age; this is followed by the crisis period of 1974–1983. Afterwards, each of the cyclical periods of 1984–1993 and 1994–2004 includes a phase of expansion and recession. The main source of statistical information used in this work is the *Annual-Macroeconomic Database* (AMECO), developed by the European Commission's Directorate General for Economic and Financial Affairs.

## 1. The distorted focus of the mainstream

Most studies on the behaviour of productivity respond to a supply approach that is characteristic of the neoclassical theory. Briefly summarised, the main features contained in those studies are six.[1] *First*, the analysis is conducted through aggregate production functions which define the economy's balance in the long-term. *Second*, productivity growth is split between variations in capital intensity (capital–labour ratio), expressing an accumulation dynamic, and the total productivity of factors, expressing the overall efficiency generated by technical progress.[2] *Third*, although long-term capital intensity in a static state is considered constant, the majority of work analysing productivity in the 1990s highlights new information and communication technologies (ICT) as the fundamental determinant, because these increase both the capital intensity around production of those technologies as well as total productivity throughout sectors which employ such technologies.[3]

*Fourth*, the strengthening of technological capital (through research and development efforts) and of human capital (through higher education) is found to be closely related to diffusion of ICT.[4] *Fifth*, macroeconomic stability and institutional flexibility also favour the diffusion of ICT and, in general, act as an important stimulus towards improvement of total factor productivity. Stability is guaranteed through orthodox economic policy aimed at controlling the public deficit and inflation. Flexibility is guaranteed through liberalisation of markets in order to establish a predictable economic framework facilitating both the creation of companies and the entry of foreign capital.[5] In particular, the absence of labour market regulation favours the generation and mobility of employment, redounding to greater efficiency of the labour market.[6]

*Sixth*, the favourable performance of productivity is exemplified in the evolution of the United States from the mid-1990s. The accelerated pace of US productivity growth is explained through the strong impulse of ICT, rooted in both the technological push and the improvement in human capital, in a context of macrostability and flexible markets. As Fred Bergsten, director of the Institute for International Economics, stated in 1997: "*[The American model] . . .is definitely better for everybody*".

Such an interpretation was developed in the U.S. during the late 1990s in academic and professional circles tied to the Federal Reserve and the National Bureau of Economic Research, and later adopted by international organisations like the IMF and the OECD to become the uniform discourse of a majority of institutes, research departments, and circles of political power. It is the same vision that runs through the European Pact for Stability and Growth (or "Lisbon Strategy") approved by the European Council in 2000, as well as through subsequent evaluations carried out by the Commission and Council of the European Union (the Sapir and Kok Reports).

Nevertheless, the presumed direct causal link between ICT, liberalisation of markets, and growth in labour productivity comes into conflict when confronted to the data. We will limit ourselves to underlining the three following points. First, when productivity levels are calculated per hour of work (in purchasing power parity dollars), the U.S. does not top the list but has in fact lagged behind three European countries (Belgium, the Netherlands, France) for decades, also falling behind Ireland in the last few years and maintaining levels similar to Germany and Austria. Therefore, the "technological frontier" is set by countries which do not stand out as models (even within Europe) for the generation and diffusion of ICT, nor for R&D efforts, nor higher education.

Second, the importance of foreign deficit to the growth dynamic stands out in any analysis of the US economy since the 1990s. The large deficit is frequently referred to as exceptional, due to the position the US occupies in the world economy and above all in international financial markets. In terms of macroeconomic dynamics, this deficit favours the expansion of domestic demand for investment (also consumption), beyond what could be achieved if there was a more severe foreign restriction. However, the role of this external disequilibrium is completely ignored when the evolution of American productivity is analysed, and when it is compared with that of the European economies, because of the theoretical limitations imposed by the supply focus (based on production functions).

Third, evident paradoxes spring up when one examines the growth of investment in new technologies (ICTI) and labour productivity during the second half of the 1990s. Finland registers ICTI increases which are double those of Greece (average annual rates of 16% and 8%), although both countries show similar growth in labour productivity. Still lower were the ICTI increases in Portugal and Austria (at 5–6% annually), while productivity growth in those

[1] Wolff (1997) includes an extensive selection of works by the main authors analysing productivity from a neoclassical perspective, such as Solow, Denison, Griliches, Abramovitz, Jorgenson, Baumol, and others.

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

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

[4] On the importance of human capital: Bassanini and Scarpetta (2001), Black and Lynch (1996), Nelson and Phelps (1966), and OECD (2004).

[5] On the influence of the macroeconomic context: Ahn and Hemmings (2000), Blanchard and Giavazzi (2003), and OECD (2004).

[6] 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).