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EDITORIAL

Productivity and Growth

Reports by Patrick Artus and Gilbert Cette

It is hardly necessary to underline the crucial nature of the relationship between growth, productivity and employment. Why does Europe lag behind the United States in terms of potential growth, actual growth, job creation and labour market reactivity?

Where does France stand in comparison with its European partners?

The reports by Gilbert Cette and Patrick Artus support each other. They show a high degree of convergence on questions of particular current interest: the role of the accumulation of capital in general and of investment in new technologies in particular; the impact of average working hours, the importance of activity and employment rates, the decisive nature of research and development, initial and vocational training and skills, etc.

I have no doubt that this report will fulfil its role by informing the debate and public choices about growth and employment in France and Europe and about how to meet the challenges of relocation and competition from the most dynamic emerging countries.

Christian de Boissieu
Executive Chairman of the CAE

The standard of living in France, and in the European Union as a whole, is about 25% lower than in the United States. So what has happened since the 'Trente glorieuses', the post-war boom years when Europe was catching up with the United States? Why did relative productivity and standard-of-living trends in the European Union and the United States diverge in the 1990s? Were new technologies the cause?

What reforms need to be introduced in France so that standards of living rise more rapidly? Can it be done without calling our social model into question or without causing our public finances to deteriorate? Do sectoral strategies exist?

Patrick Artus and Gilbert Cette, the authors of the two reports, consider these questions and draw their conclusions from a standpoint that is at once historical, international and sectoral.

The two reports were presented at the plenary session on 29 January 2004, then on 27 February 2004 in the presence of the Prime Minister. This newsletter, published under the responsibility of the Economic Advisory Council's permanent staff, summarises the authors' main conclusions.

The United States: at the technology frontier

Gilbert Cette starts by looking at the links between the standard of living, productivity and employment. In 2002, the standard of living in France and in the European Union as a whole, measured by GDP per capita at PPP, was 25% lower than in the United States. In accounting terms, GDP per capita can be broken down into the product of hourly labour productivity on the one hand and working hours, the employment rate and the working-age population as a proportion of the

population as a whole on the other hand. Which of these elements are responsible? In accounting terms, for France, Germany, the Netherlands and Belgium, the difference in GDP per capita compared with the United States seems mainly due to a low employment rate, since hourly productivity in those countries is similar to or higher than in the US. For Canada, the United Kingdom and Japan it is due to lower hourly productivity, since employment rates are similar to those in the US. For Spain, it is due to both lower hourly productivity and a lower employment rate (Table 1).

However, this explanation in purely accounting terms is not entirely satisfactory since hourly productivity is a decreasing function of working hours and the employment rate. The high level of hourly productivity in a number of European countries, especially France and Germany, is due both to the exclusion from the labour market of a substantial fraction of the least productive populations –the less skilled, young people, older employees– and to shorter working hours. Structurally, ie, after adjustment for the effects of differences in employment rates and working hours, the United States is still the country with the highest productivity, about 10% higher than France and 20% higher than the European Union as a whole, thus clearly defining the technology frontier.

Productivity: European countries have fallen back again after catching up between 1950 and the early 1990s

Productivity in the industrialised countries has increased at a fantastic pace since 1870: production per employee has increased by a factor of 12 in France and by a factor of 8.5

in the United States over the last 130 years.

The ‘*Trente glorieuses*’ between the end of the Second World War and the first oil shock was the 30-year boom period of rapid productivity growth. This was Gordon’s famous ‘One Big Wave’ of productivity that started to sweep through the United States in 1913. The golden years were followed by a sharp slowdown in the rate of productivity increase, beginning in the United States in the mid-1960s and spreading throughout the entire industrialised world after the first oil shock.

The European and Japanese economies began catching up with American productivity levels in the early 1950s, a trend which continued through into the early 1990s, uninterrupted by the first oil shock. A real break in relative productivity trends occurred during the 1990s as productivity accelerated in the United States and slowed down in Europe. Productivity gains in the United States have been one point a year higher than in France and the European Union since the mid-1990s. This gap, combined with higher employment rates, explains why GDP *per capita* is rising much faster in the United States than in Europe (Table 2).

The difference in productivity gains between Europe and the United States: the production and spread of ICT

The production and spread of information and communication technologies (ICT)⁽¹⁾ influence labour productivity gains in three ways:

- as processor speeds increase, the sharp fall in ICT prices amplifies the sharp rise in production by volume in these industries, generating total factor productivity gains in the sector and in the economy as a whole as their share of GDP increases;
- the spread of ICT also increases total factor productivity in non-ICT sectors that are major users of ICT, such as the insurance, finance, supermarket retailing and aerospace industries, thanks in large part to better coordination between the players in the production process;
- investment in ICT generates an increase in available ICT capital per employee (substitution of capital for labour) and faster equipment renewal and is likely to have a positive effect on labour productivity.

(1) ICT includes computer hardware and software and communications equipment.

Smaller labour productivity gains in Europe in the second half of the 1990s in comparison with the United States are mainly due to two factors:

- a greater accumulation of ICT capital in the United States;
- the deployment in Europe of employment policies favouring low-skilled work, especially by reducing social charges on low wages, which have contributed to slowdown the substitution of non-ICT capital for labour.

Deregulation of goods and labour markets: a significant impact on economic efficiency

Patrick Artus recapitulates the main conclusions in economic literature about the effects of deregulation on economic efficiency. The literature mentions the many beneficial effects of labour market deregulation: wage claims are more moderate, thus bringing the equilibrium wage closer to the full employment wage, trade unions take more account of the interests of outsiders, etc. However, some effects are ambiguous: while labour market deregulation favours innovation by enabling labour to be reallocated from one sector or firm to another, it may also harm innovative firms if it leads to high employee turnover.

Deregulation of the goods market also has many positive effects: by lowering both domestic and international barriers to entry or through privatisation, it reduces firms’ market power, favours an increase in the number of firms entering and leaving the market, which in turn favours employment, innovation and technological progress in the sectors concerned, and facilitates sectoral transfers of resources. It generally induces higher employment and productivity at a macroeconomic level.

Empirically, for the main OECD countries, it is apparent that:

- there is a link between the extent of deregulation on labour markets and goods markets. In this respect, France and Germany are at the opposite end of the spectrum to the United States and the United Kingdom;
- low levels of regulation on labour and goods markets are generally linked to stronger growth and employment and productivity gains;
- although the turnover rate for firms is not significantly higher in the United States than in European countries, and although the same applies to their survival rate, the growth rates of new firms that survive are much higher in the United States;
- there is a significant difference between the United States and France in productivity gains in the retail sector, probably due to the lower level of regulation in this sector in the United States.

The move up-market in emerging countries and sectoral strategies in Europe

After the shocks of 1974-1975 and 1980-1981, European countries gradually lost their production of unsophisticated goods such as clothing, footwear and low-level electronic goods to emerging countries, especially in Asia.

Competition from emerging countries, which had started as competition ‘from below’, gradually extended to encompass capital goods, vehicles, electronics and telecommunications equipment, ultimately

1. GDP per capita, productivity, working hours and employment rates in 2002

	GDP per capita	Hourly productivity	Productivity per employee	Average annual working hours of employees ^(a) In hours	Share of part-time working ^(b) As % of employment	Employment rate As % of the population aged...			
	As % of the level in the United States					15-64	15-24	25-54	55-64
France	77	103	88	1,545	13.7	61.1	23.3	78.3	34.2
United States	100	100	100	1,815	13.4	71.9	55.7	79.3	59.5
European Union	73	91	80		16.4	64.3	40.5	77.1	40.6
Japan	74	72	72	1,809 ^(c)	25.1	68.2	41.0	78.0	61.6
OECD	75	81	78		14.7	65.1	43.7	75.5	49.4
Germany	75	101	80	1,444	18.8	65.3	45.6	78.7	38.4
Belgium	78	111	95	1,559	17.2	59.7	28.5	76.6	25.8
Canada	85	84	82	1,778	18.7	71.5	57.3	80.2	50.4
Spain	62	74	73	1,807	7.6	59.5	36.6	70.1	39.7
Greece	49	59	63	1,934	5.6	56.9	27.0	71.5	39.2
Ireland	89	103	94	1,668	18.1	65.0	45.3	76.6	48.0
Italy	75	105	94	1,619	11.9	55.6	26.7	70.1	28.9
Norway	103	131	97	1,342	20.6	77.1	56.9	84.4	68.4
Netherlands	82	106	78	1,340	33.9	73.2	66.9	81.9	41.8
Portugal	50	51	48	1,719	9.6	68.1	41.9	81.5	50.9
United Kingdom	74	79	74	1,707	23.0	72.7	61.0	80.6	53.3

Notes: (a) 2000, except (*): 1999; (b) Part-time working is defined here as less than 30 hours per week on average.

Source: OECD (2003).

2. Trends in productivity per employee (GDP per employee) over the last thirty years

Average annual growth rate in %

	1970-1973	1973-1982	1982-1990	1990-2003	1990-1995	1995-2003
France	4.02	2.09	2.11	1.08	1.14	1.04
Germany	3.28	1.65	1.61	1.35	2.03	1.01
Canada	2.52	0.25	1.18	1.35	1.30	1.38
Spain	5.93	6.09	3.97	0.63	2.21	-0.35
United States	2.27	0.25	1.51	1.73	1.35	1.97
Italy	4.01	2.18	1.97	1.15	2.45	0.34
Japan	5.83	2.52	3.04	1.26	0.83	1.53
Netherlands	4.20	1.85	1.83	0.98	1.15	0.88
United Kingdom	3.72	1.35	1.70	1.97	2.49	1.65
Euro Zone	4.11	1.93	1.94	1.17	1.88	0.81

Notes: West Germany until 1990 and unified Germany after.

Source: Calculations based on OECD and National accounts data (2003).

becoming competition 'from above' in advanced sectors like aerospace, special intermediate goods and electronics. Production of new technologies in emerging countries is often rising faster than in the euro zone, especially in China, where it has increased by a factor of 160 in ten years (see chart).

There are many reasons for the emerging countries' move up-market, such as the scale of domestic and inward investment, the increase in human capital, low production costs and growing domestic demand for sophisticated products (internet, mobile phones, etc.). At the same time, Europe's technology industries have been experiencing difficulties such as high levels of debt and insufficient research.

Faced with this situation, three strategies may be envisaged:

- continuing to move the manufacturing sector up-market and seeking an international specialisation that can take advantage of high levels of growth in emerging countries. This strategy appears to have been adopted with success by Germany and Japan;
- developing sophisticated services for which a monopoly position can be secured. This is the strategy adopted by the United Kingdom, which has specialised in financial services;

- falling back on protected services, like personal services, retailing, construction and tourism. This is the strategy adopted de facto by Spain.

Objectives, constraints and recommendations for France

For Patrick Artus and Gilbert Cette, the chief objective is to increase output per capita in the context of an ageing population. This implies increasing the employment rate and total factor productivity (TFP). Increasing TFP calls for greater investment in productivity and expanding the sector which produces ICT. The authors also set certain constraints: avoiding to weaken the economy in the short term, not causing a deterioration of public finances in the short term, being fair.

The authors first recommend introducing more competition in the goods market so as to ensure that inefficient firms are replaced by efficient new firms using the most modern technologies. This could be helped, for example, by making business creation easier, by bankruptcy rules that do not keep inefficient firms on life-support and by taking more effective action against dominant positions.

The authors also point out that labour market regulation, especially job protection, is a less serious handicap than some have claimed. The job security extended to employees on open-

ended employment contracts in France is too often circumvented by employers using temporary staff. However, they suggest to make the labour market more flexible while at the same time reduce insecurity, which would be both more economically efficient and fairer. A possible way to achieve this could be:

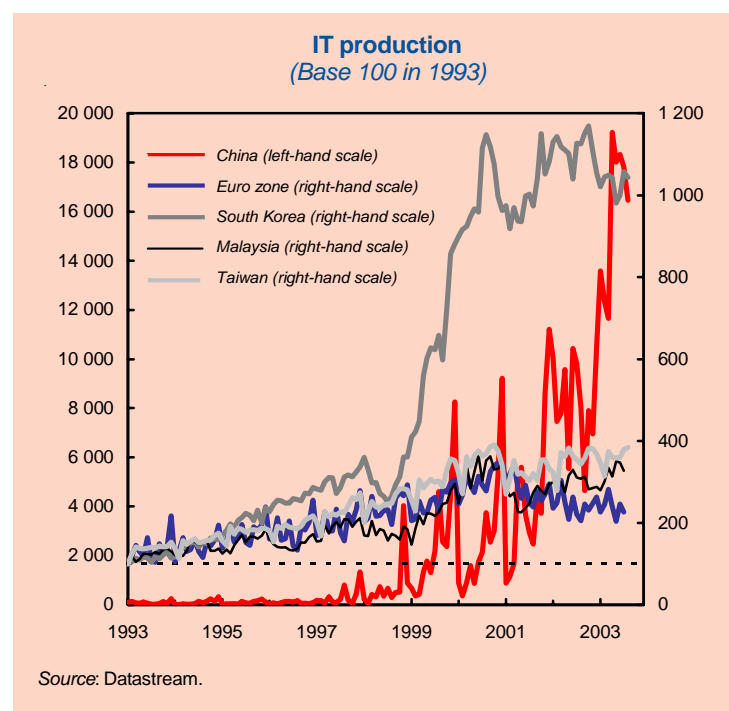
- re-internalising the externalities of job insecurity by taxing the use of fixed-term employment contracts and temporary workers;
- in compensation, creating a new, longer employment contract (4-5 years) for cases where firms can demonstrate projects that

would entail an increase in activity over such a period.

In addition, in order to reduce any short-term negative effect on the pursuit of structural reforms, the authors recommend that these measures should be backed up by a temporarily expansive macro-economic policy.

In order to increase the employment rate, which means both increasing participation rates and reducing structural unemployment, the authors recommend neutralising the disincentives to employment among certain populations (young people, the elderly and young mothers, mostly unskilled) and increasing the incentives, supplementing measures along these lines already introduced in recent years. In particular, they suggest:

- reducing social charges for both employees and employers in order to increase the supply of and demand for work among those aged over 55;
- for women, especially mothers of young children, ending policies that encourage withdrawal from the labour force (especially the APE childminding allowance) and promoting ambitious policies (choice of hours, childcare facilities, etc.) which make it easier to reconcile work and family life;
- for the less skilled, further development of the earned income tax credit.



In order to face up to fiercer international competition, the authors recommend a twin strategy:

- moving the most sophisticated parts of the manufacturing sector up-market and seeking an international specialisation in high-growth areas, as Germany and Japan are doing. Several conditions are necessary in order to achieve this aim: reallocating public finances to favour R&D budgets and the number of researchers in industry and improving the efficiency of public research institutions; increasing the highly skilled share of the labour force; increasing public spending on new technology firms;
- maintaining measures in favour of the unskilled (reduced charges, tax credits, etc.) so as to increase employment in protected sectors.

This twin strategy seems to be the only one capable of

accelerating the return to full employment, sustaining productivity growth despite the creation of low-skilled jobs and a higher employment rate, and raising GDP per capita.

Commentary

Olivier Garnier underlines the richness of reports which have the merit of putting the question of the sources of growth back at the heart of the economic policy debate. He points out that it would be wrong to think that nothing has been done to deregulate the goods market in Europe, especially under the impulse of Brussels, citing privatisation, deregulation of public services and restrictions on state aid, competition and control of dominant positions, etc. In his opinion, these reforms have had little visible effect on productivity and growth in Europe to date because the deregulation of markets for goods and services has been undertaken without allowing sufficient latitude for the processes of 'creative destruction' and the sectoral

reallocation of labour, so as to attenuate the negative short-term effects on employment. In other words, if deregulation of the goods market is to be effective it must go hand in hand with deregulation of the labour market.

Complements

The *Direction de la Prévision et de l'analyse économique* (Economic Analysis and Forecasting Directorate, Finance Ministry) reviews the steps taken to stimulate employment in France over the last fifteen years, from proactive management of the labour force to measures to reduce the tax wedge and the policy of reducing working hours.

Anne Saint-Martin compares the labour market reforms undertaken in five major European countries –France, Germany, Italy, the Netherlands and Spain– and in the United States since the mid-1990s. The reforms have generally included tax measures

designed to reduce the tax wedge⁽²⁾ so as to encourage the supply of unskilled labour (tax credit) and the demand for unskilled labour (lower social contributions).

Alessandra Colecchia, Johanna Melka and **Laurence Nayman**, as part of the debate on technological change biased in favour of skilled work, estimate the quality of work in France, Germany, Italy, the United Kingdom and the United States.

Nicolas Belorgey, Rémy Lecat, Tristan Maury and **Bertrand Pluyaud** consider the factors that determined productivity in the major industrialised nations in the last years of the 20th century.

(2) The tax wedge is the difference between workers' purchasing power net of tax and social security deductions and what it costs to employ them. The tax wedge includes employers' and employees' contributions, the CSG (levied on earned income), income tax (on earned income), VAT and the TIPP (domestic tax on oil products).

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