Copying the US or developing a New European Model – policy strategies of successful European countries in the nineties

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Abstract: In general, the economic performance of European countries was disappointing in the nineties. However, country differences increased, and in some European countries economic growth matched US rates. This paper uses a set of performance indicators to carve out a group of successful European countries and to compare their economic strategies to those of the more poorly performing, big continental economies. The analysis shows that the successful countries implemented a policy mixture of cost cutting, improving institutions, and investing in future growth. We consider the first two strategy elements to be preconditions, while investment in growth drivers such as research, education and technology diffusion is the sufficient condition for long-run growth. The difference between top and low performers is larger with respect to the dynamics of future investment than in cost cutting. In research expenditures, the top countries surpassed the big continental European countries in 1987, and have been increasing their lead steadily since that time. They are welfare states with a comprehensive social net, which they have maintained in principle, while improving institutions and incentive structures. The results are not in line with the usual twin hypotheses that high welfare costs and insufficient labour market flexibility are the main culprits in European underperformance.

JEL: E60, O11, O40
Keywords: Economic growth, country strategy, welfare reform

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1. Introduction and plan of the paper

It is now well documented that the nineties were a disappointing decade for Europe. Relative to the seventies and eighties, macroeconomic growth decelerated\(^1\). Productivity catching up versus the US came to a halt during the second half of the nineties: the gap between Europe and the US increased in per worker and per hour GDP. In Europe, the employment rate remained lower and unemployment was higher. The successful launch of the Euro, a persistent trade surplus and the catching up of the Accession Countries are bright spots for the European Union, yet they did not boost growth, productivity or employment to a significant extent.

Most international studies and specifically the OECD, the IMF and the European Commission explicitly or implicitly blame high welfare costs and low market flexibility for European underperformance. Welfare states are suspected to suffer from high labour costs and taxation. Comprehensive reforms of labour and product markets should be the first priority for European countries, if they are to regain economic growth\(^2\).

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2 The following examples support this assessment: For the OECD: "Key policies to raise labour utilization are well known: to reform the tax and benefit system, specifically unemployment support and tax wedges, to ease labour and product market regulation." (OECD Economic Outlook 2003, Chapter 5). For the Commission: "A coherent strategy with the goals of a non inflationary rate of growth...basically requires deep, comprehensive reforms of the product, capital and labour markets. .... Growth is sluggish since labour utilization is low in Europe" (Pichelmann, 2003.) To be fair, we have to acknowledge that extremely valuable empirical evidence has been gathered by the OECD, revealing that economic growth depends on research, human capital, and information and communication technologies (OECD, 2001C, Scarpetta et al., 2003), but the more the papers
We group the European countries according to their performances in the nineties. This is not an easy task since firstly, some countries experienced severe crises, and measured performance varies according to the exact time period and indicator chosen. Secondly, economic policy differed in its priorities focussing either on enhancing productivity or on spreading employment among a larger number of persons. Thirdly, the burden of past deficits, as well as the challenges raised by geographical position and industry structures differed from country to country. However, a broad set of indicators urges us to carve out Sweden, Finland and Denmark as countries that were successful in the nineties and to assess the performances of big continental economies such as Germany, France, and Italy as less impressive. This grouping is similar to that in other rankings such as the European Structural Indicators or the World Economic Forum.\(^3\)

If we look at the strategies of the successful countries, we see that all three countries combined a set of strategy elements from three fields, designed

- to reduce or contain private and public costs, specifically to balance wage dynamics and productivity as well as public expenditures and taxes
- to reform institutions, and to make labour and product markets more competitive, but not by means of a simple deregulation strategy, but by targeted reforms such as training, education, and increasing geographical mobility and incentives to work

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3 According to the rankings of the Structural Indicators of the European Commission in 2003 (88 indicators of growth, employment, social cohesion, economic reforms and the environment), Denmark, Sweden, the Netherlands and Finland are the leaders. According to the rankings of the Global Competitiveness Report of 2002-2003 (World Economic Forum), the top European Union member countries are Finland, Sweden and Denmark.
• to boost long-run growth and productivity by supporting and encouraging innovation, education and the diffusion of new technologies

We concentrate in this paper on differences between European countries. What explains the difference between Europe and the USA is summarised in Appendix 1 based on Aiginger (2004). Whether the strategies are indicating a New European Model and whether they imply a new policy agenda is discussed in appendices 2 and 3 respectively.

Table 1: Europe underperforms relative to the US

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth of real GDP EU</th>
<th>Growth of real GDP USA</th>
<th>Productivity growth per worker EU</th>
<th>Productivity growth per worker USA</th>
<th>Employment growth EU</th>
<th>Employment growth USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1995</td>
<td>1.62</td>
<td>3.15</td>
<td>2.03</td>
<td>0.75</td>
<td>-0.38</td>
<td>2.05</td>
</tr>
<tr>
<td>1996-2002</td>
<td>2.27</td>
<td>3.28</td>
<td>1.12</td>
<td>1.90</td>
<td>1.20</td>
<td>1.29</td>
</tr>
<tr>
<td>1993-2002</td>
<td>2.07</td>
<td>3.24</td>
<td>1.39</td>
<td>1.56</td>
<td>0.73</td>
<td>1.52</td>
</tr>
</tbody>
</table>

Source: WIFO calculations using AMECO.

2. Carving out a group of successful countries

2.1. Choosing indicators of performance

Measuring performance, welfare or the competitiveness of countries has been the subject of intensive and controversial discussion, including the question of whether any of these notions exists at the aggregate or country level. We pragmatically decided to measure economic performance by the dynamics of GDP, the ability to increase productivity, to create employment and to provide stability. The indicators include data on manufacturing, since output may be better measured in this sector than in services. It contains an indicator for correcting growth for cyclical
waves (potential output) and total factor productivity. Employment is measured by unemployment and employment rates, stability by the inflation rate and fiscal prudence (deficits, debts, and taxes). The period we chose covered the last 10 years up to 2002; the ranking does not change in substance if we start in 1990 instead of 1993. The 13 indicators presented in Table 2 are for 14 EU member countries; Luxembourg and new members (after the 2004 enlargement) are not reported. The second-to-last row ("superrank comprehensive") shows the average of the ranks of each country for the 13 indicators. The last row ("superrank final") ranks this "average" to determine the final position for each country.

2.2. Selection of best performers

The top performers according to Table 2 are Ireland, Finland, Denmark and Sweden. Sweden excels in productivity growth, the employment level and fiscal stability; per capita GDP fell below the European average following the devaluation. Denmark enjoys the highest level of GDP per capita income, and a very high employment rate. Finland excels in productivity growth, but still has a high unemployment rate. Ireland has the best ranking for growth in output and productivity, as well as the best overall rank, but ranks low in the categories employment rate and inflation rate.

We decided not to include Ireland into that group of countries which strategy we will investigate more closely. The main reason is that Ireland achieved its remarkable catching up partly through the implementation of a specific set of strategy elements, which would not be feasible for other countries. Countries with medium or high income levels were not the recipients of large amounts of European regional funds, were not allowed to differentiate between the taxation of national and international firms, and consequently cannot attract multinational firms to the same degree that Ireland did. Furthermore, wages and per capita national income are still low in Ireland, while
profits and GDP per capita are above the European average. Finally, a certain extent of the measured success of Ireland stems from transfer prices.

The low performers are the three big continental countries: Germany, France, and Italy. All have below average growth, high and rising unemployment and fiscal deficits at or beyond the limit allowed by the European Stability Pact.

Table 2: Economic performance across countries: 13 indicators

<table>
<thead>
<tr>
<th>Country</th>
<th>Belgium</th>
<th>Denmark</th>
<th>Germany</th>
<th>Greece</th>
<th>Spain</th>
<th>France</th>
<th>Ireland</th>
<th>Italy</th>
<th>Netherlands</th>
<th>Austria</th>
<th>Portugal</th>
<th>Finland</th>
<th>Sweden</th>
<th>United Kingdom</th>
<th>Top 5</th>
<th>Big 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real growth of GDP 1993/2002</td>
<td>2.0</td>
<td>2.5</td>
<td>1.3</td>
<td>2.8</td>
<td>2.8</td>
<td>1.9</td>
<td>7.8</td>
<td>1.6</td>
<td>2.7</td>
<td>2.8</td>
<td>2.5</td>
<td>3.3</td>
<td>2.9</td>
<td>2.6</td>
<td>2.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Macro productivity growth 1993/2002</td>
<td>1.4</td>
<td>1.9</td>
<td>1.1</td>
<td>2.1</td>
<td>1.0</td>
<td>1.3</td>
<td>3.4</td>
<td>1.3</td>
<td>1.1</td>
<td>1.7</td>
<td>1.7</td>
<td>2.5</td>
<td>2.7</td>
<td>1.9</td>
<td>2.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Manufacturing growth 1993/2002</td>
<td>1.7</td>
<td>2.2</td>
<td>1.2</td>
<td>1.7</td>
<td>2.4</td>
<td>1.8</td>
<td>13.5</td>
<td>1.4</td>
<td>1.5</td>
<td>4.2</td>
<td>2.5</td>
<td>6.1</td>
<td>1.8</td>
<td>0.9</td>
<td>4.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Productivity growth in manufacturing 1993-2002</td>
<td>3.1</td>
<td>3.4</td>
<td>3.2</td>
<td>3.7</td>
<td>3.4</td>
<td>0.6</td>
<td>14.1</td>
<td>0.2</td>
<td>1.9</td>
<td>4.7</td>
<td>3.6</td>
<td>7.2</td>
<td>2.8</td>
<td>1.4</td>
<td>4.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Potential output 1993/2002</td>
<td>3.1</td>
<td>2.2</td>
<td>1.7</td>
<td>2.6</td>
<td>2.0</td>
<td>1.6</td>
<td>7.5</td>
<td>2.0</td>
<td>2.2</td>
<td>2.8</td>
<td>2.7</td>
<td>2.4</td>
<td>2.5</td>
<td>2.4</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Total Factor Productivity 1993/2002</td>
<td>0.7</td>
<td>1.6</td>
<td>0.4</td>
<td>1.4</td>
<td>0.6</td>
<td>0.9</td>
<td>3.6</td>
<td>0.6</td>
<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>2.7</td>
<td>2.4</td>
<td>1.6</td>
<td>2.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Employment rate, average 1993-2002</td>
<td>57.5</td>
<td>76.2</td>
<td>67.7</td>
<td>54.2</td>
<td>54.2</td>
<td>61.4</td>
<td>61.6</td>
<td>55.1</td>
<td>71.2</td>
<td>72.9</td>
<td>40.0</td>
<td>65.2</td>
<td>73.2</td>
<td>74.8</td>
<td>78.6</td>
<td>61.9</td>
</tr>
<tr>
<td>Unemployment rate, average 1995-2002</td>
<td>8.6</td>
<td>5.8</td>
<td>6.4</td>
<td>10.8</td>
<td>15.4</td>
<td>10.7</td>
<td>8.6</td>
<td>10.6</td>
<td>4.5</td>
<td>4.1</td>
<td>5.7</td>
<td>12.5</td>
<td>7.7</td>
<td>7.1</td>
<td>8.7</td>
<td>8.9</td>
</tr>
<tr>
<td>Inflation rate, average 1995-2002</td>
<td>3.9</td>
<td>2.2</td>
<td>1.9</td>
<td>6.6</td>
<td>3.6</td>
<td>1.5</td>
<td>2.8</td>
<td>3.1</td>
<td>2.8</td>
<td>2.8</td>
<td>2.7</td>
<td>1.6</td>
<td>1.6</td>
<td>2.4</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Budget deficit as % of GDP 1992</td>
<td>-0.1</td>
<td>3.8</td>
<td>1.5</td>
<td>1.7</td>
<td>0.6</td>
<td>3.4</td>
<td>1.7</td>
<td>2.5</td>
<td>1.5</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Public debt as % of GDP 2002</td>
<td>105.3</td>
<td>60.8</td>
<td>87.8</td>
<td>54.0</td>
<td>55.5</td>
<td>106.7</td>
<td>52.6</td>
<td>67.6</td>
<td>56.1</td>
<td>62.7</td>
<td>52.4</td>
<td>36.4</td>
<td>46.8</td>
<td>75.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes as % of GDP 2002</td>
<td>50.1</td>
<td>57.1</td>
<td>45.3</td>
<td>44.7</td>
<td>39.3</td>
<td>50.6</td>
<td>22.6</td>
<td>45.2</td>
<td>45.9</td>
<td>51.3</td>
<td>43.2</td>
<td>50.1</td>
<td>39.4</td>
<td>36.6</td>
<td>47.4</td>
<td></td>
</tr>
<tr>
<td>GDP per capita at PPP 2002, 1000 Euro</td>
<td>20,104.0</td>
<td>27,264.0</td>
<td>26,634.9</td>
<td>25,920.2</td>
<td>24,524.5</td>
<td>28,126.8</td>
<td>28,317.1</td>
<td>24,661.6</td>
<td>16,664,243</td>
<td>26,725.3</td>
<td>24,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superrank comprehensive</td>
<td>9.0</td>
<td>5.6</td>
<td>10.0</td>
<td>8.7</td>
<td>8.8</td>
<td>9.8</td>
<td>3.6</td>
<td>11.2</td>
<td>7.2</td>
<td>6.0</td>
<td>7.7</td>
<td>5.0</td>
<td>5.8</td>
<td>6.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superrank final</td>
<td>11</td>
<td>5</td>
<td>13</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>1</td>
<td>14</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The countries are ranked first for all indicators (e.g. 1 = highest real growth of GDP in all countries); the superrank comprehensive is the unweighted average over the 13 indicators.

** The superrank final is the ranking of the superrank comprehensive to determine the final position.

Source: WIFO calculations using AMECO (April 2003).

The three southern periphery countries – Portugal, Greece and Spain – are ranked 8th, 9th and 10th, since the dynamics of catching up is combined with price and budgetary instability. The small continental countries – Austria, Belgium and the Netherlands – enjoy high income levels, but have lost their former growth advantage in output and productivity; with regard to dynamics, they seem to be somewhat "stuck in the middle". From now on, we will refer to Sweden, Finland and Denmark as the top 3 economies, and Germany, France and Italy as the big 3 (or more accurately the big 3 continental economies, big 3c).

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4 The fact that these are three large continental economies could suggest the formation of a group of "large countries" in contrast to the top three, which are all small economies. The fourth big economy, namely the United Kingdom, ranked 5th in the nineties. From a longer perspective, the United Kingdom lost its significant lead in per capita GDP over the past decades. A "productivity
Figure 1: Performance difference top 3 vs. big 3c vs. EU

Remark: Values outside the unit circle represent a better performance (e.g. lower inflation, a higher employment rate; lower tax rates and government shares) of the group relative to the EU. The top 3 countries had a budget surplus of 2.3 % in 2002, the EU a deficit of 2 %; for graphical reasons a value of 1.5 (which is not a full arithmetic equivalent, but does indicate the better performance of the top 3 countries vs. the big 3) was set for the top 3 countries.

2.3. A first comparison according to average performance

Figure 1 summarises the performances of the top 3 countries and the big 3c. The top three countries enjoyed average growth of 2.9 % (1993/2002), as compared to 1.6 % for the big three countries. Manufacturing growth in the top countries nearly tripled that of the big countries. The productivity difference is 1.2 points for the total economy, and 1.7 points for manufacturing. Per capita income is 25,300 EURO for the top 3 and 24,500 EURO for the big three. The employment rate was 71 % in the top economies and 62 % in the big countries. Logically, the gap has developed and in addition, the UK is now confronted with a fragile infrastructure; large tax increases are considered
reverse is true for unemployment (8.7% vs. 9.9% on average for 1993/2002). Inflation is slightly lower in the top 3 group.

3. Strategies in three successful countries (top 3 countries)

In this section we describe the strategies pursued in the three top economies. We structure our analysis according to cost strategies, strategies to change incentives and to enhance economic growth.

3.1. Denmark

Denmark experienced a particularly sluggish period of growth, amounting to only about 1.4% between 1985 and 1992, with unemployment tripling to 9.6% in 1993. The policy reaction to the crisis was a smooth and gradual reform of institutions in several policy areas, with a special form of cost moderation, an innovative reform of the labour market and a cluster oriented industrial policy

A mild version of cost management

In order to moderate wage increases, the automatic indexation of wages on inflation was suspended. Consequently, wages increased slowly between 1987 and 1994, but in the long run – due to recovering economic growth- wage dynamics proved to be stronger than the European average. Denmark did not devaluate but fixed its currency relative to its European partners. The government set a long-run expenditure ceiling and reduced government consumption and transfers (together by 4% of GDP, OECD, Denmark 1997, p. 48f). Controlling the growth of necessary compensation for past underinvestment.

5 Wage indexation had already been restricted to some degree in 1975; Plougmann, Madson, 2002, p. 16.
local government expenditures is important in Denmark, since local governments are responsible for education, health, and social services, and are allowed to raise taxes. The central government fixed a ceiling for the highest marginal tax rate on wages, and committed to reduce taxes if local authorities increased them.\textsuperscript{6} Denmark today enjoys a budget surplus, government expenditures in relation to GDP are 6 percentage points below their peak (1994), taxes now amount to 57% of GDP, as compared to 61% in 1993. The overall tax rate is still 11 points above the EU average; social expenditures relative to GDP have remained at about 29%, the fourth largest rate among EU countries.

*Innovative reform of labour market institutions*

Labour market reforms attempted on the one hand to spread existing work among more employees (as in sabbatical schemes), to upgrade qualifications and to activate the labour supply with some elements of the welfare to work concept. Labour market policy was decentralized, jobs were subsidized for people with a reduced ability to work (flexi jobs), specifically in the home service area (OECD, Denmark, 1994, p. 47 and 2002, p. 15).

Paid leave schemes were introduced for child care, education and non-specified purposes (sabbaticals). Payment continued to be between 60% and 100% - the latter for educational purposes - for a period of up to one year. For sabbaticals, the substitution of the person on leave was mandatory. A maximum of 140,000 persons utilized such schemes; more than one half of them used them for education, a very small share for sabbaticals. The average leave was for 200

\textsuperscript{6} Annual negotiations for expenditures, local taxes and bloc grants - from the central government to local authorities - constitute up to 15% of their revenues (OECD, Denmark, 1994, p. 47).

\textsuperscript{7} On the active side, the government stimulated growth in 1993/94 (“kick start”). The non-cyclical stimulus was assessed at between 1% and 2% of GDP in 1993 and 1994, with the largest share of the increase going to labour market initiatives and education and to growth stimulatory measures (OECD, 1994, p. 39).
Labour market policy was decentralized ("steering reform"). Regional labour market councils (composed of employer's representatives, trade unions and local authorities) should design

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8 Paid leave schemes are assessed to have reduced measured unemployment by 60,000 - 70,000. Subtracting the former unemployed who were on leave would provide a net effect of only 15,000 – 20,000 (Madson, 1999). The main effect of the paid
programmes in line with local need and implement a regional policy that complied with national goals. The "activation reform" created a two stage system of unemployment benefits, with unconditional support in the first phase and strong emphasis on activation in the second.\(^9\). The unemployed were not only granted the right, but were in turn obligated to education or job training during the activation period and had to recur to means tested social security if they refused or failed to obtain an unsubsidised job before the end of the maximum period. The maximum duration of unemployment benefits was reduced from 9 years to 5 years, passive support from 4 to 2 years and finally to one year and to 6 months for unemployed youth.

Formal labour market regulation had historically been low, well below the EU average for fixed contracts even in 1990 (1.8 vs. 2.7)\(^{10}\). Replacement ratios\(^{11}\) had been high, particularly for low wage jobs, and were reduced parallel to the shortening of the length of benefits reported above. Nearly all restrictions on temporary contracts were removed in the nineties; the number of renewals, and the maximum duration of succeeding contracts was increased. The deregulation of restrictions on temporary contracts, combined with the already low amount of regulation on fixed contracts, made Denmark the country with the steepest decline in labour market regulation (-35 \%) and the third least-regulated labour market in 1998 (1.5 vs. 2.4 in EU average).\(^{12}\).

leave schemes therefore might be more flexibility in time worked over the individual life cycle (Madson, p. 64).

\(^9\) The rule that permitted unemployment benefits to be resumed in the case that a person again became unemployed following a training period was introduced, but later cancelled.

\(^{10}\) OECD Regulatory Database. Countries are ranked for a set of indicators between 0 and 6 according to the degree of regulation of the product and labour markets (see Nicoletti et al., 2001). Formal job protection is low in Denmark, but people are rather optimistic that they will find a new job, if the current one is lost (Madson, 2002).

\(^{11}\) The replacement ratio is defined as relation of the unemployment benefit relative to the wages rate during employment.

\(^{12}\) A measure of increasing regulation was that the notice period for collective dismissals in firms with more than 100 employees which plan to lay off more than 50 \% of the employees was increased from 30 days to 11 weeks, following an EU directive (OECD, Sweden, 1994, p. 46).
Cluster policy and information technology

On the technology front, Denmark emphasized diffusion and cluster policies. A ministry for Business Policy Coordination was created to provide a favourable environment for "national strongholds", introducing a cluster type industrial policy in a country with traditionally low public support and a low share of technology intensive industries (OECD, Denmark, 1994, p. 84). The diffusion of information and communication technology was encouraged in an ICT Growth Strategy\textsuperscript{13}. Existing strengths stemming from high health and food safety standards were used to create a medical cluster. Biotechnology was embraced, start ups and venture capital encouraged. Denmark is leading in lifelong learning, offering adult educational centres for persons above 25 years of age, adult vocational education and post graduate part-time PHD programmes (OECD, Denmark, 1997, p. 15). Denmark had been a laggard in research expenditures with a level of about 1 % of GDP in 1980; it crossed the EU average in 1995 and its rate is now 2.1 %. Taking all 16 indicators of research, education and the diffusion of new technologies (growth drivers) into consideration, Denmark ranked 4\textsuperscript{th} at the start of the nineties and 3\textsuperscript{rd} at the end.

In summary, Denmark did implement a moderate version of limiting the dynamics of wages and government expenditures, with few general cuts and no devaluation. Fiscal, as well as labour market institutions were reformed, not through an ideological deregulation program, but by the use of decentralization, innovative experiments, and better incentives, offering personal assistance. Welfare to work elements were introduced with the true and accepted intention of supporting and upgrading qualifications, without the offending rhetoric often used in US reforms. Flexibility for firms was combined with security for employees ("flexicurity"). Research was

\textsuperscript{13} Ministry of Business and Industry, Denmark's Strategy for Growth, December 1998. Denmark provides growth centres for IT and favours stock options. It created public spearhead programmes and enforced e-government. A virtual IT bridge to Sweden
promoted, education upgraded, and information technology embraced. Cluster policy not only in health, ICT, and biotechnology, but also in toys, entertainment and food helped to increase productivity

3.2 Sweden

As a result of its underperformance in growth over the largest part of the post World War II period, Sweden gradually lost its position as one of the leading countries in per capita GDP. In the early nineties, exports, GDP and employment decreased dramatically, leading to a "recession ... comparable in depth to that of the 1930s" (OECD, Sweden, 1994). There were several reasons for the particularly severe crisis: the Russian crisis effected Sweden more strongly than the continental countries, Sweden suffered a specific crisis in its financial sectors (following deregulation without regard for high risk loans and a tax system which favoured borrowing), Swedish industry had maintained its specialisation in capital intensive basic goods under strong price competition, as in steel and paper.  

Restoring balances

The short run policy reaction was to bring costs into balance. The first step was yet another devaluation of the Swedish Krona, namely by 18 % vs. the Euro. Secondly, a fiscal stability package amounting to 7.5 % of GDP was negotiated between the government and the Socialist party, which was in opposition at that time. The package included tax increases as well as

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14 See Lindbeck et al. (1994) for the responsibility of the welfare state from cradle to grave as the cause of Swedish problems.

15 Wage moderation was first tried unsuccessfully as a centralised bargaining outcome for two years (Rehmberg moderation), that subsequently looked moderate as it was negotiated in 1991, but proved to be excessive in the second year. The next two-year contract for 1993-95 also proved to be moderate, leading to the first fall in unit labour costs in post World War II history (OECD, Sweden, 1994, p. 39).
moderate cuts in social benefits and transfers, but did not change the welfare system in principle: higher incomes carried a greater burden, in order to inspire the willingness of the opposition and the trade unions to accept the package. The government committed itself to long-term expenditure limits, with different targets for 27 expenditure categories (Brandner, 2003). The fiscal stability package, the expenditure ceilings, the declining costs of bailing out the banks and a strong cyclical element inherent to Swedish budgets led to a switch from a deficit of nearly 10% in 1993 to a surplus of about 1% in 2002. The present policy goal of the government is to achieve a surplus of 2% for a full business cycle.

**Changing incentives**

Institutional reforms redesigned competition and monetary authority with the goal that tough “after care” would this time ensure the long term success of the devaluation. For temporary labour contracts, existing tight regulation was suspended, resulting in one of the least regulated frameworks. The overall index for labour market regulation dropped from 3.4 in 1990 to 2.4 in 1998, the fourth lowest rank. Aside the UK, Sweden has the most deregulated product market.

Welfare to work elements were introduced. An active labour market policy and low corporate taxes had long been constituent elements of the Swedish system (Marterbauer, 2000). The responsibility of financing the first two weeks of sick leave was transferred to the employers, whose contribution to social security was in turn reduced. Compensation for the first day of sick leave was cancelled. Sickness compensation which had been as high as 100% of past wages was reduced to between 65% and 90% depending on the length of insurance and supplementary insurance (OECD, Sweden, 1994, p. 95). The replacement ratios for the unemployed were reduced from 90% to 80%, with the first five days uncompensated. Transfers from the central to local governments were reduced if local authorities increased taxes. Government agencies
enforced competition by contracting out and providing vouchers for private schools. General practitioners were allowed to compete with public services in the health sector (OECD, Sweden 1994, p. 91)\textsuperscript{16}.

\textit{Figure 3: Swedish policy strategies in a nutshell}

\textsuperscript{16} Municipalities took full responsibility for schools and care for elderly, receiving lump sum transfers from the central government, which were not directed towards specific services, thus increasing cost consciousness, as well as increasing their ability to meet demand.
Leader in research and ICT

Sweden developed the most pervasive and comprehensive programmes to increase medium term growth, with a consistent long-run government assisted innovation strategy, which was prudently maintained even during the big crisis. In order to promote information technology, PCs for private use were made attractive by tax deductions, while support was provided for educational expenses\(^1\), and the use of ICT by the government was made compulsory. Sweden is today the European leader in information technology, having surpassed the US according to many indicators. Expenditures on education are now the highest in Europe. Expenditures on research and development have increased from 2\(\%\) in 1981 to 3.8\(\%\). Sweden is ranked first in the set of 16 growth drivers presented in Table 4. It is among the top 3 countries in 15 indicators and leads in seven.

In summary, Sweden implemented effective tools to cut costs, including a significant devaluation and a large discretionary package of tax increases and expenditure cuts. It improved incentives and labour market institutions, on top of the existing elements of active labour market policy. Sweden deregulated temporary contracts, and now has one of the least regulated systems of labour and product markets. The most impressive part of the strategy was the acceleration of research, and the promotion of information technology, making Sweden a leading country in all long run growth determinants. Growth rebounded in the second half of the nineties and continued throughout the following years, in contrast to other countries and despite specialisation in the crisis stricken telecommunications sector (in which Ericsson, as the largest Swedish firm, suffered a severe crisis). The budget deficit has been eliminated – with a key factor being the acceleration of economic growth - encouraging the government to set a 2\(\%\) surplus target for the
full cycle. The main institutions of the welfare state were maintained, with government expenditures, as well as taxes, still significantly higher than in other countries. The echo of the past devaluation is reflected in the level of real GDP per capita, which is below that in Europe.

3.3 Finland

Finland has incurred the most radical change in its industrial structure over the past 10 years. It was hit severely in the early nineties by the double breakdown of its regional markets (in the Soviet Union) and of its product market (resource-intensive products such as textiles, wood, and paper).18

*Devaluation, fiscal rules and the convergence programme*

Finland regained its price competitiveness in a similar manner as Sweden, through a steep devaluation of the markka in 1992/93 (by 15 %). Nominal wages were frozen by a two year contract in 1991, which implied a decrease in real wages in 1992 and 1993.19 The government tried to reduce its budget deficit, first by committing to expenditure ceilings. Secondly, the central government changed the system of grants to local authorities from one based on historical costs to a problem-oriented system (demographic, geographic, and health criteria). A "convergence programme" to pave the way for EU membership (this included a package of additional cuts totalling 3.9 % of GDP) was also introduced. Taxes on capital income, environmental taxes, and indirect taxes were raised, while employers and employees’ contributions to occupational pensions were decreased (OECD, Finland, 1996).

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17 High-tech schools and universities were spread over the country.
18 Over three years, GDP declined cumulatively by almost 15 %, and unemployment approached 20 % (OECD, Finland, 1995).
Figure 4: Finnish policy strategies in a nutshell

Latecomer in welfare spending

Finland is a latecomer among the welfare states of the northern type, developing several of its characteristic elements as late as in the eighties. At 25% in 1990, social expenditures in relation to GDP were below the EU average, and far below those of Sweden or Denmark; they were kept constant through the nineties, remaining 2 percentage points below the EU average. Replacement

19 In October 1993, the government decided to disengage itself from the wage formation process in an effort to encourage labour
rates for unemployment were increased in the nineties, and means tested labour market support scheme was created in 1994, as the number of people who had exhausted their 500 working days limit for benefits increased. Nevertheless, Finland is also one of the few European countries which waived some of the regulations for permanent contracts. It never had comprehensive regulations for temporary contracts. Finland liberalised network industries, but retained some state-owned firms.

**The decision to promote new technologies**

An active technology policy was enacted in the early eighties "when the Finns came to realise the strategic importance of research and development as a requirement for the country's economy.... National objectives were set for research inputs" (Pohjola, 2003, p. 1). A milestone was the establishment of Tekes in 1983, which is a government agency providing financing and expert services for R&D in Finland. Complementary institutions supporting cooperative networks, training, and the exploitation of inventions were created. Start up companies and internationalization were encouraged, venture capital provided. Defining innovation as the key figure of success and sticking to this strategy was one decisive factor in Finland’s success at regaining growth while facing such a severe crisis, and then forging ahead in productivity and output dynamics. The second decisive factor was the early embrace of information technology, as seen by Finnish concepts in the telecommunication society in the early nineties. The technology strategy was comprehensive, consistent and consensual. Technology parks were created, universities and technical schools were upgraded, and new sites in disadvantaged regions

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20 The lapse in time to the start of notice, as well as the notice period itself, were shortened.

21 “The focus was not completely on high tech industries, but also on the use of ICT in traditional sectors such as wood and paper (Saarnivara, 2003, p. 2).
were founded. Education in general, and language skills in specific, was promoted. Industry experts estimated that half of the new employees should be academically trained and the other half should have completed a vocational education (Pohjola, 2003, p. 2). Outlays for education had always been high; the quality was upgraded, pushing Finland into first place in international evaluations of educational performance. Today, Finland has the highest share of workers with tertiary educations. In the overall set of indicators for the determinants of future growth, Finland is ranked second; it has made the fastest leap forward in the nineties. What is specifically impressive is the share of research and development in GDP: this ratio had been at about 1.2% in 1980, well below the EU average; it increased steadily, even during the period of crisis, reaching 3.4% of GDP in 2000, nearly double the EU rate. Finland is a leader in many indicators of ICT use, even though expenditures are not as high as in Sweden.

Summing up, Finland has partly regained competitiveness through the devaluation of its currency and moderation in wage increases. Government expenditures were contained by changing the financing of lower level government, by setting expenditure limits and implementing a cost cutting package. Government expenditures in relation to GDP have now returned to the EU average. The budget is in surplus, debt is relatively low. Product market regulation fell below the EU average, as is also the case for labour market regulation. Finland invests efficiently in all three types of growth drivers. Research expenditures boomed and Finland has twice as many patents per capita exist than the EU average. Education outlays are high, as is the quality of

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22 The role played by Nokia in creating a new image for the information society also should be acknowledged. However, this role is certainly related to the environment in which it evolved, as well as to economic policy. Fifteen years ago, Nokia was a diversified company producing textiles, boots and paper. As a market leader in a high tech segment, it relies on qualified personnel, complementary research facilities and an innovative climate, supported if not created by policy. Growth in output and productivity is similar in strength and structure to that of Sweden, with high growth in manufacturing and high tech sectors, and productivity acceleration in the second half of the nineties. Unemployment is higher than in Sweden and in the EU, since development issued forth from larger, unused reserves, and a bigger agricultural sector. But the change in industrial structure from capital intensive sectors to technology driven industries is even more impressive.
education, which is reflected in the OECD's Pisa ratings. The share of workers with tertiary educations is the highest in Europe. The ICT share in manufacturing is large, as is Internet use. Finnish success in information policy is not only the success of Nokia, but also of a carefully designed innovation policy and a set of institutions created in the eighties. Policy adhered to this strategy and enforced it even during the severe crisis in the nineties.

4. **Strategy differences between the top 3 and the big 3 continental countries and their relation to performance**

In this section we analyse the differences between the strategies of the top 3 countries and the big 3 continental countries and relate the strategies used to the performance rankings as developed in Section 2.

*Differences in cost reduction strategies*

The leading countries applied cost reduction strategies to a wider extent in the private and public sectors than the big continental economies, but the differences within each group were considerable. Sweden and Finland strongly devaluated their currencies; Denmark did not. Among the big countries, Italy devaluated; France and Germany did not. Wage moderation was applied in all top countries, yielding an absolute decline in wages and unit labour costs during the period of crisis. After that, wages increased faster in the top countries, while surging productivity limited the increase in unit labour costs. The largest difference between the top and big countries was in public expenditures. Government expenditures relative to GDP dropped from 66 % in the top countries in 1993 to 54 % in 2002, or by 12 percentage points, but decreased only moderately (from 54 % to 50 %) in the big countries. In the top countries, debt in % of GDP fell down to 47 %, far below the peak of 68 % in 1993, but still higher than in 1990 (38 %). In the big
continental countries, the debt ratio increased from 57% (1990) to 76% in 2002. The top countries enjoyed a budget surplus in 2002/2003. In Germany, France and Italy, deficits are at the brink of or outside the range defined by the stability pact criteria.

Figure 5: Policy strategies in the top 3 vs. the big 3 continental European countries in a nutshell

23 We have to keep in mind however, that government expenditures are still higher in the top countries, and that to a certain extent government expenditures follow a cyclical pattern.
Differences in incentives and welfare institutions

The top countries are welfare economies of the Nordic type. The welfare system was kept in principle, but costs were reduced, markets and institutions were made more efficient and for workers, the burden of flexibility was reduced by innovative arrangements, additional assistance and the extension of social coverage to part time work.24 The decentralisation of labour market agencies, activation strategies, increasing geographical mobility, sabbaticals, and welfare to work are all elements of this reform agenda. In the top countries, social outlays in percent of GDP amounted to 29 % in 1990, and have marginally decreased to 28.8 %. The big countries spent 26 % and increased their share by 2 percentage points to 28.1 %. The top countries had and still have high replacement ratios (specifically unemployment benefits for low incomes), which were decreased only marginally. The index of labour market regulation published by the OECD indicated less regulation in the top countries as early as 1990. This gap increased, due mainly to the deregulation of temporary contracts. However, we must acknowledge that some rules important to the protection of temporary workers against marginalisation (pro rata social benefits, priority in switching to full-time contracts etc.) are not incorporated in the OECD regulatory database. Regulations for regular contracts were reduced marginally in the top countries. The top countries deregulated product markets, and liberalised network industries. Summing up, even if the top countries now have less regulated product and labour markets, they did not follow a "low

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24 This is in line with Simonazzi (2003, p. 666), who argues that "radical deregulation is not the answer", but "regulation can be adapted to suit the growth of a high-technology industry". For a more general assessment of the link between economic performance and labor market regulation see for example Nicoletti, Scarpetta (2002), Nicoletti et al. (2001), Martin (2000) or OECD (1999). The later summarizes the results as follows: (i) there appears little or no association between employment protection legislation and overall employment, (ii) it may be stronger for employment, (iii) legislation may raise employment for prime age men but lower it for youth and women, (iv) these associations are weaker or entirely absent when multivariate techniques are used (with controls for other factors influencing employment and unemployment. See Elmeskov, Martin, Scarpetta (1998) for a somewhat stronger influence of benefits and regulation on unemployment, Schettkat (2003) for a more sceptical reference.
road labour flexibility practice”. The reforms were targeted, enforced activation strategies, applied innovations and were understood as assistance in regaining employment.

**Table 3: Regulation in product and labour markets**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>4.68</td>
<td>2.95</td>
<td>-1.73</td>
<td>2.4</td>
<td>1.5</td>
<td>-37.5</td>
<td>1.8</td>
<td>1.7</td>
<td>-5.6</td>
<td>3.1</td>
<td>1.2</td>
<td>-61.3</td>
</tr>
<tr>
<td>Germany</td>
<td>4.13</td>
<td>2.59</td>
<td>-1.54</td>
<td>3.6</td>
<td>2.8</td>
<td>-22.2</td>
<td>2.9</td>
<td>3.0</td>
<td>3.4</td>
<td>4.2</td>
<td>2.5</td>
<td>-40.5</td>
</tr>
<tr>
<td>France</td>
<td>5.01</td>
<td>3.92</td>
<td>-1.09</td>
<td>2.7</td>
<td>3.1</td>
<td>14.8</td>
<td>2.4</td>
<td>2.5</td>
<td>4.2</td>
<td>3.0</td>
<td>3.7</td>
<td>23.3</td>
</tr>
<tr>
<td>Italy</td>
<td>5.78</td>
<td>4.32</td>
<td>-1.45</td>
<td>4.2</td>
<td>3.3</td>
<td>-21.4</td>
<td>3.0</td>
<td>3.0</td>
<td>0.0</td>
<td>5.3</td>
<td>3.6</td>
<td>-32.1</td>
</tr>
<tr>
<td>Finland</td>
<td>4.59</td>
<td>2.59</td>
<td>-1.99</td>
<td>2.2</td>
<td>2.1</td>
<td>-5.5</td>
<td>2.5</td>
<td>2.3</td>
<td>0.2</td>
<td>1.9</td>
<td>1.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Sweden</td>
<td>4.08</td>
<td>2.19</td>
<td>-1.89</td>
<td>3.4</td>
<td>2.4</td>
<td>-29.4</td>
<td>3.1</td>
<td>3.0</td>
<td>-3.2</td>
<td>3.8</td>
<td>1.8</td>
<td>-52.6</td>
</tr>
<tr>
<td>EU</td>
<td>4.73</td>
<td>3.26</td>
<td>-1.46</td>
<td>2.9</td>
<td>2.4</td>
<td>-15.0</td>
<td>2.7</td>
<td>2.5</td>
<td>-5.4</td>
<td>3.1</td>
<td>2.3</td>
<td>-23.4</td>
</tr>
<tr>
<td>Top 3</td>
<td>4.45</td>
<td>2.58</td>
<td>-1.87</td>
<td>2.7</td>
<td>2.0</td>
<td>-25.0</td>
<td>2.5</td>
<td>2.3</td>
<td>-5.4</td>
<td>2.9</td>
<td>1.6</td>
<td>-44.3</td>
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<tr>
<td>Large 3</td>
<td>4.97</td>
<td>3.61</td>
<td>-1.36</td>
<td>3.5</td>
<td>3.1</td>
<td>-12.4</td>
<td>2.8</td>
<td>2.8</td>
<td>2.4</td>
<td>4.2</td>
<td>3.3</td>
<td>-21.6</td>
</tr>
</tbody>
</table>

PMRDyn = Product market regulation; dynamic indicator measuring competition for network industries;
EPL = Employment regulation

**Source:** OECD Regulatory Indicators.

**Differences in investment into future growth (growth drivers)**

The largest and most important difference is to be seen in the investments into future growth. The top countries are leading the big countries in 14 of 16 indicators for research, education and information technology (Table 4). The lead is specifically large for R&D expenditures, scientific publications per resident, educational attainment, and the diffusion of information technologies.

For most indicators, the difference widened in the nineties.²⁶

²⁵ This term was used in Michie, Sheenan (2003), who report that "functional flexibility" such as flexible work practices, human resource management and industrial relation systems are positively related to innovation while "external flexibility" (temporary contracts, for example) is negatively related to growth.

There are additional aspects of labor market institutions not investigated in this paper. For the importance of temporary contracts see OECD (1999). A higher share of temporary worker seems not to be a characteristics of the top countries. This share is higher than on EU average in Denmark in 1998, but lower in Sweden and Finland. This may also be the result of the better labor market performance since the share of temporary workers has declined in Denmark and Sweden between 1990 and 1998. For the degree of centralisation of wage bargaining the top countries are countries ranking high in centralisation, but Denmark and Sweden have reduced in centralization as well as in coordination (see the ranking of countries in OECD 2003c, p. 71).

²⁶ The two exceptions are the shares in production of technology driven industries and telecommunication expenditures (hardware investment).
Table 4: Investment into future growth

<table>
<thead>
<tr>
<th>Indicators on R&amp;D: input and output</th>
<th>First year</th>
<th>Last year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Top 3</td>
<td>Large 3</td>
</tr>
<tr>
<td>Total expenditure on R&amp;D in % of GDP 1992/98</td>
<td>2.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Business Enterprise Expenditure on R&amp;D (BERD) in % of GDP 1992/98</td>
<td>1.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Research intensity in manufacturing 1990/98</td>
<td>2.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Publications per inhabitant 1992/99</td>
<td>11.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Patents per resident 1990/97</td>
<td>3.5</td>
<td>2.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators on education system: input and output</th>
<th>First year</th>
<th>Last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of the population that has attained at least upper secondary education by age group (1998)</td>
<td>71.0</td>
<td>58.3</td>
</tr>
<tr>
<td>Percentage of the population that has attained at least tertiary education, by age group (1998)</td>
<td>27.7</td>
<td>17.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators on ICT: production and use</th>
<th>First year</th>
<th>Last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet users per inhabitant 1992/99</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Cellular Mobile Subscribers per 100 capita 1992/99</td>
<td>6.2</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators on share of &quot;progressive&quot; industries</th>
<th>First year</th>
<th>Last year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of technology driven industries in nominal value added 1990/98</td>
<td>14.8</td>
<td>23.7</td>
</tr>
<tr>
<td>Share of skill intensive industries in nominal value added 1990/98</td>
<td>17.9</td>
<td>18.2</td>
</tr>
<tr>
<td>Share of ICT industries in nominal value added 1990/98</td>
<td>6.3</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Remarks: First year (last year) means that year in the nineties for which the earliest (or latest data) are available (both are indicated after the name of the variable). For the percentage with secondary and tertiary educations, the older (45-54) and the younger (25-34) age groups are compared.

Big European countries: Germany, France, the United Kingdom, and Italy. Leading European countries: Sweden, Finland, Denmark, and the Netherlands.

For example, in the top three countries, R&D expenditures were 1.6% of GDP in 1982; they exceeded those of the big countries in 1987, and the lead increased continuously (despite the impact of the crisis) in the early nineties to 3%. With 3.8%, Sweden has the highest R&D share in GDP of all EU countries, Finland the second largest. In contrast to this trend, the share of the big countries peaked in 1987 and since then has been decreasing slightly. The top countries are also leading in business expenditures, patents, and publications; they have higher shares of secondary and tertiary education and are leading in all indicators for the production and the
diffusion of information technology. For a comparison of the top 3 and the big 3 continental countries with the EU average see Figure 6.\textsuperscript{27}

**Figure 6: Investment into future growth; top 3 and big 3 continental countries vs. EU**

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**The relation between strategies and performance**

Our claim is that cost cutting strategies and the decreasing regulation of product and labour markets were important preconditions, but that boosting investment into long-run growth was the

\textsuperscript{27} If we compare the top three European countries with the US, we see they have improved their positions relative to the US for thirteen of the 16 indicators (Aiginger, 2002). The leading European countries surpassed the US in publications per inhabitant and Internet users (in addition to mobile phones and telecom expenditures, for which Europe as a total entity is ahead). The only areas where the top three European countries are not improving their relative positions are patents, the share of IT expenditures, and the share of ICT industries in production. In contrast, the big three economies are lagging behind the US in 14 of 16 indicators and have improved their positions in only 4.
most significant and probably most important aspect. To attain some quantitative evidence of the
closeness of this relation, we plot the performance ratings of countries (as measured in Table 2
“performance indicators”) against the rankings for cost cutting, deregulation and the dynamics of
investment into the future. The fit between cost cutting and performance is positive, but
insignificant, inter alia since Italy and Spain rank high in cost cutting but not in performance, and
since Denmark and Ireland rank in the middle for cost cutting. The fit between regulatory change
and macroeconomic performance is closer, but still not significant. The reason is that on the one
hand, Ireland did change regulations moderately and secondly several low performers are ranked
in the middle with regard to changes in regulation (Italy, Germany). It looks as if levels as well as
changes in regulations might be important and as though some facets of regulatory change, such
as specific new rules for temporary workers, innovative measures of active labour market policy
and decentralisation were not covered in the data. The correlation between the performance
ranking and the ranking of the dynamics of investment is highly significant: Finland, Sweden,
Denmark and Ireland have boosted investments and Italy, Germany and France have
underinvested relative to other countries. These correlations are of course only indicative, they
cannot prove causality. However, they support the assumption that the third part of the strategy,
namely boosting investment into the future was the most important component of the three tier
strategy.\(^{28}\)

\(^{28}\) Neither correlations nor plots can prove an argument. There may be reversed causality, insofar as growth provides profits and
tax revenues, which makes it easier to increase research and training. The problem of reversed causality is somewhat mitigated,
since the performance ranking is for 1993/2002, while the growth drivers are calculated for 1990/2000. Correlations can be
spurious and are subject to the omitted variable bias, since they represent a bivariate analysis and do not provide a complete
explanation. Furthermore, without an elaborated model of growth, there is always the choice between different specifications; for
example, it is probable that the level as well as the change in research outlays will be important to performance.
Figure 7: Performance, cost cutting, regulatory change and investment into growth drivers
5. Conclusions

(1) The economic performance of Europe in the nineties was disappointing. Growth in output and productivity was lower than in the eighties, and also less than in the US. Unemployment was higher in Europe, and employment rates were lower.

(2) Analysing the reasons why Europe underperformed, many analysts refer to the twin hypotheses of the costly welfare state and insufficient labour market flexibility in Europe. If these hypotheses were correct, countries with a higher welfare burden or with higher taxes and government shares should have underperformed to a larger extent. The performance differences across European countries are not in line with this hypothesis.

(3) Evaluating economic performance in the nineties according to a set of indicators of output, productivity growth, employment and stability suggests that Sweden, Finland and Denmark are top performers. In contrast to these countries, the big continental European countries (Germany, France, and Italy) clearly underperformed. A purely statistical grouping would have suggested placing Ireland into the group of top performers, but Ireland's strategy could not have been applied by a country with a medium or high initial level of GDP per capita.

(4) We obtain a growth difference between the top 3 and the big 3 continental countries of 1.3 percentage points for GDP and of three percentage points for manufacturing. Productivity is accelerating for the top 3, and decelerating for the big 3. Employment is higher in the top 3 countries, unemployment lower. The most impressive differences can be observed in the fiscal indicators. The debt/GDP ratio which had been the same as in the big countries in 1993 is now 30 percentage points lower in the top economies. In each of the big continental economies, budget deficits are approaching the upper limit permitted by the European
Stability Pact, while the top 3 countries enjoyed surpluses in 2002/2003. The top countries improved their fiscal balances on the one hand by limiting expenditures, on the other hand, as a consequence of regaining growth.

(5) If we look for typical structural characteristics of these top 3 countries, we find that they are small open economies of the northern welfare type. Relatively high costs and taxes are combined with a consensual tripartite style of policy making. Additionally, all three countries were confronted with a severe crisis during the eighties or nineties.

(6) Looking at economic policy, we find three common strategy elements:

- The first pillar was the restoration of the balance between costs and productivity in the market sector and between taxes and expenditures in the public sector. Sweden and Finland devaluated their currencies; Denmark did not. Wage moderation was applied, leading to a small absolute decline in wages and the unit costs of labour during the first half of the nineties. After regaining competitiveness, wages increased faster, not least as a result of higher growth. A resurgence of unit labour costs was limited since productivity accelerated. Government expenditures were contained by expenditure limits and reduced by discrete and socially balanced reform packages. The main elements of the welfare state were kept intact: the government sector is still larger in the top countries, but the difference to other European countries has grown smaller.

- The second pillar was the improvement of the incentive systems. Product markets were opened further and competition in network industries was encouraged. Labour markets were deregulated; specifically, the regulation of temporary contracts was reduced. Limited regulation combined with an active labour market policy had been characteristic
of the Northern Welfare States before; in the nineties, this double strategy was accentuated. Active labour market policy promoted requalification, skill upgrading and innovative work practices, partly in public agencies and partly in competing private institutions or firms. These changes did not follow an ideologically-based deregulation strategy; the reforms were targeted, made use of activation strategies, applied innovations and were understood as assistance in regaining employment. Replacement rates were reduced where they were extremely high, benefit periods were shortened to some extent, and regional mobility supported. Training schemes were decentralized, personalized and made obligatory; sabbaticals were introduced and partly connected with education. Improving incentives, flexicurity, activation strategies or a "high commitment version" of welfare to work are better characterizations of this strategy element than "deregulation" or "hands off policy".

- The third and most important strategy element was the enhancement of long term growth in output and productivity by increasing research, education and the diffusion of technologies. This has been illustrated by a system of input and output indicators for research, education and technology diffusion. The top countries are leading the big countries in nearly all indicators and have increased their investments faster than other countries. R&D expenditures doubled from 1.6% in 1982 to 3% in 2000, already reaching the Lisbon target for 2010 and surpassing the US. Sweden is leading in ICT, Finland has upgraded its educational programmes, Denmark has promoted the diffusion of technology and industrial clusters in ICT and biotechnology. New growth theory stresses the impact of innovation, human capital and incentives for the creation and diffusion of new technologies. The top countries followed this recommendation even
during a period of deep crisis and government restructuring. The innovation strategy was partly shaped by an active government and partly by firms, experts and social partners.

(7) The fact that welfare countries performed rather well in the nineties does not indicate that costs and incentives are irrelevant to performance. In the aftermath of a severe crisis, these countries realised that costs should be in line with productivity and fiscal balances should be restored. Secondly, it was clear that incentives had to be corrected and institutions had to be reformed. But most importantly, they realised that (i) cost containment is a short term strategy, (ii) improving incentives does not mean indiscriminate deregulation, but may focus on training, mobility and re-qualification, including targeting, activation and decentralisation, and (iii) both strategies need to be complemented by an active policy to promote research, education and the diffusion of new technologies. Cutting costs and changing incentives is the necessary part of the strategy; investment in research, education and the diffusion of new technologies is the sufficient condition for long-term growth.
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Appendix 1  The reason behind disappointing European growth

Most international studies and specifically the OECD, the IMF and the European Commission explicitly or implicitly blame high welfare costs and low market flexibility for Europe’s underperformance. While it is true that welfare costs are higher and not only European labour, but also product markets are more regulated, there are some doubts as to whether market regulation and welfare costs are a sufficient explanation for low growth in the nineties. Firstly, differences in product market as well as labour market regulation were also present during decades of high European growth and catching up periods. Secondly, the difference in labour market regulation narrowed to some degree during the nineties (see table 2); markets in the United Kingdom are equally or even more deregulated than in the US. Thirdly, there is no robust relation between the degree of regulatory change during the nineties and economic performance (Aiginger, 2003B). And fourthly, the European countries which according to growth, employment and fiscal stability performed best during the nineties were Sweden, Finland and Denmark – all of which are high welfare countries (Aiginger, 2003A) with moderate regulation of regular contracts and high benefits.

Table 1: Differences between regulation in Europe and the USA

<table>
<thead>
<tr>
<th></th>
<th>PMRDYN</th>
<th>EPL total</th>
<th>EPL Regular contracts</th>
<th>EPL Temporary contracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>4.73</td>
<td>3.26</td>
<td>30.93</td>
<td>2.9</td>
</tr>
<tr>
<td>USA</td>
<td>2.21</td>
<td>1.36</td>
<td>38.54</td>
<td>0.2</td>
</tr>
</tbody>
</table>

PMRDYN:  product market regulation; dynamic indicator for network industries.
EPL: employment regulation.

Source: WIFO calculations using OECD database on Regulatory Indicators.

An alternative explanation of the growth difference is macroeconomic policy. US monetary policy during the nineties actively paid attention not only to price stability, but also assumed responsibility for economic growth and output stability. The US reduced interest rates early and courageously, in order to support economic growth, ultimately pushing the interest rate down to 1% in mid 2003. The strategy was enabled by the reputation of the monetary authority to be tough and inflation-minded, monetary policy was steered by a chairman, who enjoyed exerting his authority and accepted responsibility for the economic fate of his country. The European Central Bank began lowering its interest rate late and did not dare to decrease it to the US level.

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29 Of course this change may have not been strong enough as seen from the perspective of heavier external shocks


31 We must acknowledge that while maintaining the comprehensiveness of their welfare systems, these countries did a lot of fine-tuning to improve the effects of incentives and to make markets more flexible: deregulating part time work, combining obligations to the unemployed with training offers, shifting the responsibility for the first days of sick leave away from health insurance to firms and allowing workers to retain part of the benefits when they accept low paying jobs. These reforms were specifically enforced in welfare states and are summarised as flexicurity, welfare to work, and flexijobs.
The US fiscal deficits during the recession of 2001/2003 were not restricted by fiscal policy rules. During the recession, the budget balance tipped from a surplus of 2% of GDP to a deficit, initially as a result of automatic stabilisers, secondly through discrete expenditure hikes (inter alia for security and war) and thirdly due to the continuation of a generous long-term tax reduction plan. In mid-2003, the overall government deficit was approaching 5% of GDP in US, while it was 2.5% in the European Union.

Table 2: Indicators of macroeconomic policy in the European Union and the USA

<table>
<thead>
<tr>
<th>Year</th>
<th>Deficit in % of GDP</th>
<th>Government expenditures in % of GDP</th>
<th>Taxes in % of GDP</th>
<th>Nominal short-term interest rates</th>
<th>Real short-term interest rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>USA</td>
<td>EU</td>
<td>USA</td>
<td>EU</td>
<td>USA</td>
</tr>
<tr>
<td>1990</td>
<td>-4.77</td>
<td>-4.36</td>
<td>48.87</td>
<td>35.50</td>
<td>43.52</td>
</tr>
<tr>
<td>1991</td>
<td>-5.48</td>
<td>-5.05</td>
<td>50.07</td>
<td>36.21</td>
<td>44.66</td>
</tr>
<tr>
<td>1992</td>
<td>-5.83</td>
<td>-5.92</td>
<td>51.40</td>
<td>36.90</td>
<td>45.60</td>
</tr>
<tr>
<td>1993</td>
<td>-5.63</td>
<td>-5.02</td>
<td>52.41</td>
<td>36.23</td>
<td>46.77</td>
</tr>
<tr>
<td>1994</td>
<td>-5.27</td>
<td>-3.67</td>
<td>51.35</td>
<td>35.15</td>
<td>46.08</td>
</tr>
<tr>
<td>1995</td>
<td>-4.91</td>
<td>-3.09</td>
<td>51.22</td>
<td>35.01</td>
<td>46.31</td>
</tr>
<tr>
<td>Average 1990-1995</td>
<td>-5.32</td>
<td>-4.52</td>
<td>50.89</td>
<td>35.83</td>
<td>45.49</td>
</tr>
<tr>
<td>1996</td>
<td>-3.68</td>
<td>-2.22</td>
<td>50.90</td>
<td>34.56</td>
<td>47.22</td>
</tr>
<tr>
<td>1997</td>
<td>-2.12</td>
<td>-0.95</td>
<td>49.24</td>
<td>33.60</td>
<td>47.13</td>
</tr>
<tr>
<td>1998</td>
<td>-1.43</td>
<td>0.28</td>
<td>49.27</td>
<td>32.72</td>
<td>46.64</td>
</tr>
<tr>
<td>1999</td>
<td>-0.97</td>
<td>0.73</td>
<td>47.75</td>
<td>32.46</td>
<td>46.78</td>
</tr>
<tr>
<td>2000</td>
<td>-1.13</td>
<td>1.46</td>
<td>47.07</td>
<td>32.33</td>
<td>45.94</td>
</tr>
<tr>
<td>Average 1996-2000</td>
<td>-1.91</td>
<td>-0.14</td>
<td>48.65</td>
<td>33.13</td>
<td>46.74</td>
</tr>
<tr>
<td>2001</td>
<td>-1.48</td>
<td>-0.47</td>
<td>47.22</td>
<td>33.41</td>
<td>45.74</td>
</tr>
<tr>
<td>2002</td>
<td>-1.95</td>
<td>-3.18</td>
<td>47.43</td>
<td>34.78</td>
<td>45.48</td>
</tr>
<tr>
<td>Average 2001-2002</td>
<td>-1.72</td>
<td>-1.83</td>
<td>47.33</td>
<td>34.09</td>
<td>45.61</td>
</tr>
<tr>
<td>Average 1990-2002</td>
<td>-3.45</td>
<td>-2.42</td>
<td>49.48</td>
<td>34.53</td>
<td>45.99</td>
</tr>
<tr>
<td>Average 1996-2002</td>
<td>-1.85</td>
<td>-0.62</td>
<td>48.27</td>
<td>33.41</td>
<td>46.42</td>
</tr>
<tr>
<td>Difference 2002-1998</td>
<td>-0.32</td>
<td>-3.46</td>
<td>-0.84</td>
<td>2.06</td>
<td>-1.16</td>
</tr>
</tbody>
</table>

Source: WIFO calculations using AMECO.

While differences in market regulation and macroeconomic policy may explain some of the growth difference, both can not explain the increasing differences in long term growth or in potential output. A widely overlooked explanation for the deceleration of growth in Europe during the nineties is that Europe did not invest enough in the factors responsible for long run growth. Taking a look into economic theory reveals that there are three main determinants of long run growth in high income countries: research and innovation, human capital, and the speed at which new technologies are diffused. Aiginger (2002A) developed a system of 16 indicators to measure the investments of countries into those variables which theory and empirical studies have shown to be important to long run growth. The set comprises indicators of research input and research output, education expenditures and educational attainment, and the ICT share in production and in consumption (as a proxy for the diffusion of new technologies).
The astonishing result is that in 1990, the US was leading in all 16 indicators. At the end of the nineties, the European Union was catching up in five of the indicators, and had surpassed the US in two; the difference was increasing for the other 11 indicators. In light of this evidence, it is no surprise that growth rates have been higher in the US since the nineties.\textsuperscript{32} Figure 3 illustrates European performance and expenditures on determinants of future growth in comparison to the US: the dotted line indicates the situation at the beginning of the nineties, the continuous line, the situation at the end of the decade. Each value inside of the unit circle indicates underinvestment in Europe relative to the US.

\textsuperscript{32} Some of the advantages of investment into future components of growth were already evident during previous decades, when Europe did grow faster than the US. Two explanations are available as to why insufficient investments in Europe did not hamper growth earlier: first of all, per capita GDP as well as productivity were initially much lower in Europe, so that the higher levels of European growth include an element of catching up; secondly, it is argued that the European system of innovation may have been adequate during periods of imitation and diffusion, while the US system of innovation is better fitting to periods marked by the emergence of new general purpose technologies such as ICT. As a new general purpose technology emerged – the information and communication technology - the extent of a country’s own research and close connections between universities and firms became more important. In the words of growth theory, the catching up of Europe had been conditional catching up, the condition being a set of technologies that were present before the emergence of ICT (Aiginger, Landesmann, 2002).
Figure 2: Growth drivers in Europe vs. USA

Remark: Each indicator outside the unit circle shows superior performance vs. the USA.

Source: WIFO calculations.

Table 3: Investment in future growth

<table>
<thead>
<tr>
<th>Indicators on R&amp;D: input and output</th>
<th>1990 EU</th>
<th>1990 USA</th>
<th>1999 EU</th>
<th>1999 USA</th>
<th>Change in favour of US (+) resp. EU (-) 1990/1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total expenditure on R&amp;D in % of GDP 1992/98</td>
<td>1.88</td>
<td>2.65</td>
<td>1.86</td>
<td>2.66</td>
<td>+</td>
</tr>
<tr>
<td>Business Enterprise Expenditure on R&amp;D (BERD) in % of GDP 1992/98</td>
<td>1.20</td>
<td>1.98</td>
<td>1.15</td>
<td>2.04</td>
<td>+</td>
</tr>
<tr>
<td>Research intensity in manufacturing 1990/98</td>
<td>2.00</td>
<td>3.07</td>
<td>2.01</td>
<td>3.23</td>
<td>+</td>
</tr>
<tr>
<td>Patents per resident 1990/97</td>
<td>2.24</td>
<td>3.63</td>
<td>2.48</td>
<td>4.48</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators on education system: input and output</th>
<th>1990 EU</th>
<th>1990 USA</th>
<th>1999 EU</th>
<th>1999 USA</th>
<th>Change in favour of US (+) resp. EU (-) 1990/1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of the population that has attained at least upper secondary education by age group (1998)</td>
<td>53.00</td>
<td>87.00</td>
<td>70.00</td>
<td>88.00</td>
<td>+</td>
</tr>
<tr>
<td>Percentage of the population that has attained at least tertiary education, by age group (1998)</td>
<td>19.00</td>
<td>37.00</td>
<td>25.00</td>
<td>36.00</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT expenditure in % of GDP</td>
<td>3.69</td>
<td>5.65</td>
<td>3.40</td>
<td>8.75</td>
<td>+</td>
</tr>
<tr>
<td>Information technology [IT] expenditure in % of GDP 1992/2000</td>
<td>1.69</td>
<td>2.97</td>
<td>2.71</td>
<td>3.50</td>
<td>+</td>
</tr>
<tr>
<td>Telecommunication (TLC) expenditure in % of GDP 1992/2000</td>
<td>2.00</td>
<td>2.67</td>
<td>3.69</td>
<td>3.25</td>
<td>+</td>
</tr>
<tr>
<td>PCs per 1000 inhabitants 1992/99</td>
<td>0.93</td>
<td>2.53</td>
<td>2.49</td>
<td>5.17</td>
<td>+</td>
</tr>
<tr>
<td>Internet users per 1000 inhabitants 1992/99</td>
<td>0.03</td>
<td>0.18</td>
<td>1.59</td>
<td>2.72</td>
<td>+</td>
</tr>
<tr>
<td>Cellular Mobile Subscribers per 100 capita 1992/99</td>
<td>1.52</td>
<td>4.25</td>
<td>39.59</td>
<td>31.16</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators on share of &quot;progressive&quot; industries</th>
<th>1990 EU</th>
<th>1990 USA</th>
<th>1990 EU</th>
<th>1990 USA</th>
<th>Change in favour of US (+) resp. EU (-) 1990/1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of technology driven industries in nominal value added 1990/98</td>
<td>21.85</td>
<td>26.46</td>
<td>22.92</td>
<td>30.27</td>
<td>+</td>
</tr>
<tr>
<td>Share of skill intensive industries in nominal value added 1990/98</td>
<td>16.81</td>
<td>18.27</td>
<td>16.67</td>
<td>18.64</td>
<td>+</td>
</tr>
<tr>
<td>Share of ICT industries in nominal value added 1990/98</td>
<td>7.28</td>
<td>10.07</td>
<td>6.80</td>
<td>14.31</td>
<td>+</td>
</tr>
</tbody>
</table>

Remarks: 1990 (1999) means that year in the nineties for which the earliest (or latest) data are available (both are indicated following the name of the variable).
For the percentage with secondary and tertiary educations, the older (45-54) and the younger (25-34) age groups are compared.

Source: WIFO calculations.
Appendix 2 Towards a new European model of a reformed welfare state?

The fact that the three most successful European countries in the nineties are Welfare States of together with the fact that they pursued a three tier reform reform strategy encourages to investigate whether this strategy could be the basis for a road to maintain the core of the Welfare State, while decreasing its costs and the negative inventive structure usually criticized in teh literature. It is much too early to decide this, but we try in table 5 to list differences in the traditional European Welfare Model with changes analysed in this paper.

Table 4: Old European model versus new European model

<table>
<thead>
<tr>
<th>Old European welfare model</th>
<th>New model of the reformed welfare state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welfare pillar</td>
<td></td>
</tr>
<tr>
<td>Security in existing jobs</td>
<td>Assistance in finding a new job</td>
</tr>
<tr>
<td>High replacement ratios</td>
<td>Incentives to accept new jobs (return to labour force)</td>
</tr>
<tr>
<td>Structural change in existing firms (often large firms)</td>
<td>Job creation in new firms, service, self employment</td>
</tr>
<tr>
<td>Comprehensive health coverage, pensions, education</td>
<td>Coverage dependent on personal obligations</td>
</tr>
<tr>
<td>Regulation of labour &amp; product markets</td>
<td>Flexibility as a strategy for firms and as a right for employees</td>
</tr>
<tr>
<td>Focus on stable, full-time jobs</td>
<td>Part-time work as individual choice (softened by some rules)</td>
</tr>
<tr>
<td>Policy pillar</td>
<td></td>
</tr>
<tr>
<td>Focus on (price) stability</td>
<td>Focus on growth and new technologies</td>
</tr>
<tr>
<td>Asymmetric fiscal policy (deficits)</td>
<td>Fiscal prudence (but flexible in crisis)</td>
</tr>
<tr>
<td>Incentives for physical investment</td>
<td>Research, education, and new technologies are the basis</td>
</tr>
<tr>
<td>Subsidies for ailing firms (public ownership)</td>
<td>Industrial areas, university nexus</td>
</tr>
<tr>
<td>Industrial policy for large firms</td>
<td>Start ups, venture capital, services</td>
</tr>
<tr>
<td>Local champions, permissive competition policy</td>
<td>Enforce current strengths (cluster and regional policy) and competition</td>
</tr>
</tbody>
</table>

In contrast to the traditional European welfare model, the balance between costs and productivity is of high priority. The budgets in all three countries are balanced or in surplus, despite the trough of 2001/2003. Firms are more flexible with regard to their use of labour, workers receive efficient assistance in their efforts to find jobs (active labour market policy). Replacement ratios have been somewhat reduced from their very high levels, but remain way above the European average. Benefits are conditional to search efforts. Some of these measures resemble US rules of workfare, but unlike their US counterparts, they are administered by labour offices and trained personal sincerely engaged in helping the unemployed and without the rhetoric that the unemployed may be too lazy to work. Labour markets, as well as product markets, are less regulated than in the big 3 continental economies, but much more strongly than in the US. For a synopsis of the
differences between the old and new models see table 5, for a more thorough discussion see Aiginger (2002 and 2004).

Appendix 3   A tentative European agenda

_Growth is essential_

Europe’s top priority should be to increase economic growth. Although income and income growth are only two components in a utility function, they facilitate the realisation of other economic goals (employment, the financing of social and old age systems, redistribution, and environmental costs) and help to eliminate policy blockers (debt, deficits, uncertainty, conflicts). We have to acknowledge that European policy has lately and reluctantly acknowledged the importance of growth: at the Lisbon Summit 2000, the European Union set the target of achieving 3% growth, and defined its commitment to become the most competitive knowledge based area. The policy instrument used to attain this goal is however the softest one implemented in all of the European Union; it is known as the method of "open co-ordination". This means that each country can go its own way; the Commission only provides a set of policy guidelines. The performances of countries are evaluated according to these annual guidelines, against the background of a set of structural indicators. Such a benchmarking process should enable countries to learn from each other. Sub-goals are defined for total employment, for the employment of young people and elder workers, and for expenditures on research and education.

The problem with this soft policy approach is that it is not tremendously effective. In contrast to the Stability and Growth Pact, sanctions are not possible and if no country is meeting a target, the deficiency will not even be reflected in the ranking.

_Growth needs investment into growth drivers_

The second priority should be to increase investment into determinants of future growth. This may not be a second objective, but rather a means of achieving the first. It is surprising that the importance of investment into growth drivers is presently so very low on the European agenda and practically absent from the economic discussion in the big continental economies. While France was very concerned about losing technological competitiveness to the US after WWII, and while in the seventies, Germany had well realised its problem of being strong only in medium technologies, and weak in high technology, these discussions were totally overshadowed by other current problems (unemployment, migration, German unification). Research expenditures were at best stagnant in the nineties, decreasing in relation to GDP in France (1990: 2.4%, 2000: 2.2%) and in Germany (1990: 2.8%, 2000: 2.5%), and remaining far below the European average in Italy. The big three continental economies are investing less than the US in 15 of 16 growth drivers (2000) and now differences have also increased for 10 other indicators. Expenditures on information technology are lower than in the US, as is the speed of diffusion of

33 Economic policy in general lies in the competence of the individual member countries in the European Union, the European Community can set only general goals and coordinate activities.
internet and PCs. Expenditures on tertiary education and the share of workers with university degrees are lower. These deficits are explicitly for the large European economies, and not for some of the smaller ones.

**Labour market reforms are needed, but will not boost growth in the short run**

One reason why Europe has neglected to stimulate growth is that many analysts, including those from the IMF, the OECD and the European Commission, believe that rigidities in the European labour market are responsible for unemployment and the insufficient generation of employment. These conclusions come from corresponding the high degree of regulation on European markets with low employment dynamics. While there is some evidence that specific features of the European labour market are detrimental to employment (like high and infinite benefits without obligations, and high unionisation without sufficient co-ordination between unions or employees), and while the large continental countries did not reform their labour markets, the overall evidence that labour market institutions depress economic growth is not completely convincing. We have to keep in mind that the same institutions enabled Europe to grow faster, to catch up with the US in productivity, and to attain full employment in the decades before. It is plausible that flexible labour markets are more important in times of external shocks and economic turbulence, and the importance of flexibility increases in a globalised world where information technology has decreased transportation costs. On the other hand, policy which increases wage flexibility may at least have a negative demand effect (via higher lay-offs or reduced wages) in the short run. Later, this effect should be more than compensated by an increase in supply, which may come sooner, if firms and consumers are confident about the long run consequences. Some smaller European countries, most notably Denmark, Sweden and Finland, showed that the fine tuning of incentives results in higher medium term growth (higher obligations for benefits are coupled with true assistance and training), when it is coupled with boosting investment into long term growth. These countries also show us that returning to full employment from high unemployment is much easier if the economy is growing. In a period of declining demand, expensive exits into disability or pension schemes even had to be used in Sweden and the Netherlands.

**A proactive policy in research and education is important in Europe**

Both government expenditures and public institutions are important throughout Europe. The government is currently financing between one third and one half of research and development expenditures in Europe directly, and is intervening in the private sector through research grants, tax incentives and procurement. Ninety percent of education expenditures in Europe come from public sources; the development of ICT has its roots in public institutions, in universities and in telecom firms which have not yet, or have just been privatised. Common standards were developed at a European level (e.g. the GSM technology for mobile phones). European research projects are extremely important in the fragmented and immobile research landscape. The current trend is to reduce the influence of public funds; the European Commission has set the goal that two thirds of research should be done in the private sector. Private schools and universities increasingly complement the public education system, although about 90% of education is provided by public schools. Given the historic share of the public institutions, a proactive role of government will be indispensable in the short run, if research and education expenditures are to
increase. Even a shift from the public sector to the private sector will have to be monitored and accelerated with incentives and stimuli.

**Public sector reforms**

Rethinking the public sector should be another policy priority. Public expenditures relative to GDP have surpassed 50% in many countries, as compared to 35% for the US. One main category is social or welfare costs. The extent of the difference depends on several measurement issues, but the fact that welfare costs are higher in Europe is not dependent on the indicator used. Most European countries pursue strategies to reduce government expenditures or to enable them to grow more slowly than GDP. As far as taxation is concerned, Europe is trying to reduce taxes, specifically those relevant to competitiveness or the decisions of multinational firms regarding their locations. More aggressive reductions are limited by the political strength of public workers or by conditions in the labour market (a reduction in the public workforce would increase excess supply). New management techniques will be necessary for the restructuring of the public sector, and for increasing competition within the public sector and between public provision and outside options.

**An ageing society needs money to finance pensions and health**

The final reason why government expenditures will remain higher in Europe in the future is the ageing of its society. This problem is now well understood, and reforms are underway at different speeds across countries. An ageing society relying primarily on public pension and health systems will require increasing expenditures in these two categories. If economic growth is high, this will be a solvable problem; for slow growth economies, expenditures will increase dramatically (with the uncomfortable options of either reducing benefits or accepting higher taxes).

**The acceptance of the market system depends on fairness and sustainability**

Distributional issues are low on the current European agenda, but they will come up again sooner or later. In general, income and wealth distribution is more equal in Europe than in the US, with great differences between Scandinavian and other European countries. Income differences increased in the nineties and many countries reduced or abolished property taxes, driven by the argument that capital is mobile and would go to low tax countries. The increasing income differences will not be sustainable over the long run. If governments continue to reduce corporate and income tax rates in the highest bracket, fairness will dictate that property taxes be used to attain the contributions of the wealthy for the needs of society. Environmental taxes will have to be increased to bring pollution back into the cost calculation. Last but not least, the tax burden should be shifted from labour to resources.

Ecological issues are more important in Europe than in the US. The taxation of energy is expected to rise and emissions will also be taxed – on the one hand in order to comply with the Kyoto rules, on the other hand to reduce tax wedges on labour. Limiting genetically modified food (GM-food) and the compulsory labelling of GM inputs are high on the European agenda. This objective will be difficult to pursue in a world in which other players are convinced about the safety of GM-food or for strategic reasons eliminate non-manipulated crops.
Europe is currently shifting from a system of agricultural subsidies, which previously favoured production and excess supply, to a system which guarantees (a decreasing number of) farmers a certain level of income. But the amount paid to farmers is still very high and is not really targeted at environmental contributions or obligations for alternative employment opportunities. Subsidies are too high by any economic rationale.

**The stability pacts and the re-emergence of macroeconomic policy**

A policy agenda for Europe cannot be closed without reference to the Stability and Growth Pact (SGP) and the need for rethinking macroeconomic policy. The European SGP, which limits deficits to 3%, and sets the goal "close to zero", was the answer to a permissive European fiscal policy, which produced fiscal deficits during recessions, without eliminating them during growth. Public deficits as a percent of GDP soared to two digit figures, with public debt surpassing GDP in several countries. The initial reaction of the European Union was to set targets for fiscal deficits and government debts (the so called convergence criteria) as a precondition for membership in the Monetary Union. After the start of the European Monetary Union, the SGP postulated that budget deficits should be close to zero, and were not allowed to rise above 3% in any single year. A monitoring mechanism was created, with an admonition first, and then the final threat of penalties, if the warning did not result in lower deficits. In 2003/2004 Germany and France will be dangerously close to a fine, with Italy and Portugal not far behind. A more flexible interpretation of the pact has been discussed, with proposals ranging from taking specific expenditure items out of the calculation, or defining specific circumstances under which higher deficits can be allowed, or setting different limits for countries dependant on the existing debt. In connection with the GSP, but also with respect to the more growth-oriented monetary policy in the US, Europeans deplore the fact that fiscal policy as well as monetary policy was more effectively used in the US to maintain growth and to counteract the private business cycle throughout the crisis of 2001/2003. The US, once the country whose economists preached the end of anti-cyclical policy and the importance of predetermined rules, returned in the nineties to the fine-tuning of cyclical demand. Europe will reinstate anti-cyclical and growth promoting policy, once its new monetary authority has gained a reputation of inflation awareness and fiscal deficits have moved close to zero over a full business cycle. For example, Sweden and the UK, feeling safely distant from the deficit ceiling of 3%, already started to boost growth via public expenditures in 2003.

**Regional policy and EU enlargement**

For a long time, regional policy has tried to reduce regional variations, specifically income differences between the core and the periphery. It has been successful at the national level, insofar as Ireland has not only caught up, but even surpassed the EU average in per capita GDP (not in income per capita) and the southern countries – Greece, Portugal, and Spain - are also catching up, albeit slowly. The success has not been the same for intra country differences, such as the regional divergence which has proved very persistent in Spain and Italy. With the upcoming European enlargement, new countries with much lower incomes will be entering an area in which the free movement of goods and persons is guaranteed. Regional differences are large within the new member countries; areas which border the current European Union are the richer regions. The importance of regional policy is therefore increasing with the size of the European Union.