# THE NEW EUROPEAN MODEL OF THE REFORMED WELFARE STATE (NEM-RWS)

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European Forum Working Paper 2/2002
Stanford University

December 9th, 2002

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Abstract: The economic performance of Europe was disappointing in the nineties. Growth was lower than in the eighties, as well as compared to the US. Unemployment remained persistently high, the employment ratio is still 10 % lower than in the US. The European productivity catching up versus the US - a robust stylized fact over decades - stopped or was reversed. The disappointment occurred in a period in which European Integration had successfully lowered transaction and border costs, encouraged liberalization and privatization, and where Europe became more similar to the US model. All these policies should theoretically have fostered growth of output and productivity.

The usual twin suspects for the disappointing nineties in Europe are firstly the costly welfare system and secondly the insufficient labor market flexibility. In contrast to the mainstream hypothesis, this paper claims that the most important issue is Europe's persistent underinvestment into the long run determinants of growth, like research, education and an innovation system specifically inferior in a period of an upcoming new general purpose technology (information and communication technology). This claim is underlined by the fact that the four European countries, which fare better according to productivity, output growth and employment are four countries which specifically emphasized research, education and diffusion of new technologies. All four are consensual based European Welfare States which tried hard to balance private and public costs with income and productivity, secondly reformed institutions and incentives. The third and most important strategy factor was to increase the growth path, in order to make feasible high wages and welfare costs for the long run. We tentatively put together these strategies and incentives under the notion of a reformed Welfare State.

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# THE NEW EUROPEAN MODEL OF THE REFORMED WELFARE STATE (NEM-RWS)

1. Introduction and plan of the paper
2. Performance measurement and European differences
3. Strategies in four successful countries
4. Documenting the main difference between top and large countries: investments into future growth
5. Towards a New European Model: a tentative generalization
6. Conclusions

# 1. Introduction and plan of the paper

The nineties were a disappointing decade for Europe. Macro economic growth decelerated to 2.1 % after 2.6 % in the eighties and 3.0 % in the seventies, productivity decelerated to 1.7 %. In the same period macro growth in the USA was higher by more than one percentage point, and labor productivity at least in the second half by the same amount (see table 1). After decades of productivity catch up, the productivity difference stopped to decline in the nineties and even widened according to most estimates [1]. There comes no consolidation from alternative indicators for economic success: European unemployment remained persistently high (at about 8 %, after peaking at 11 % in 1994), inflation was low, but still high relative to US and not low enough that the monetary authority dared to be as expansive as in the US. The budget deficits were reduced, however debts remained high and the relative mild downturn of 2001/02 lead to renewed deficits in more than half of the countries, four countries came dangerously close or passed the self imposed maximum tolerable 3 % mark. Even in the crisis of 2001/02 Europe's performance was inferior to that in the US, despite of the fact that the crisis had started in the US, it had been considered as overdue after the longest expansion in history, and since the stock market bubble and a technology hype had been stronger in the US. Nevertheless output growth declined faster in Europe and the productivity difference widened for two more years. The successful launch of the EURO, Europe's persistent trade account surplus and the relatively fast catching up in income and institutional reforms in the accession countries are the few bright spots for Europe.

Many international studies in growth performance (for example of OECD, European Commission and IMF) explicitly or implicitly conclude that Europe's inferior economic performance origins in the twin problem of high welfare costs and low market inflexibility. Inflexible labor and product markets, high wages and taxes, insufficient mobility and employment creation dampens growth and the expensive welfare system with all its direct and indirect costs prevents US style dynamics. While this mainstream view clearly addresses important aspects of Eurosclerosis, it does not contain the most important issue of slow growth and it is not consistent with the differences in economic performance across countries since the group of four European States which perform best according to the usual set of indicators are Welfare States with rather high taxes and comprehensive social systems. They all experience a major crisis of competitiveness, and tried hard to lower costs and to correct incentives structure, but most importantly they increased their investment into future growth. This is the sufficient condition for higher growth, if the necessary conditions of balancing costs are done. At the end of the decade these countries are close to the US in growth of output and productivity, and in research, education and application of new technologies. The

[1] This is true for the majority of indicators used, but depends on the specific indicators chosen to measure output and input, and on the time period analyzed. Not dependent on details is that the productivity gap, between the US and Europe, which tended to decline over decades, did not decline any further in the nineties. In general indicators calculating labor productivity from real growth and output data published in national statistics and indicators on manufacturing support a widening of the gap. Total factor productivity estimated also show a small increase of the US productivity lead, though some part of the growth difference is due to capital deepening and increasing working force

comprehensiveness of the welfare system by and large retained, relative to other European countries as well as to the US.

Table 1: Disappointing European growth in output and productivity

| | Total economy | | | | Manufacturing | | | |
|---|---|---|---|---|---|---|---|---|
| | Growth of real GDP | | Labour productivity | | Growth of output | | Labour productivity | |
| | EU | USA | EU | USA | EU | USA | EU | USA |
| | Growth p.a. in % | | | | | | | |
| 1970/1980 | 2.9 | 3.2 | 2.6 | 1.2 | 2.6 | 3.1 | 3.1 | 2.6 |
| 1980/1990 | 2.4 | 3.2 | 1.8 | 1.3 | 1.9 | 2.2 | 3.1 | 2.8 |
| 1990/2000 | 2.1 | 3.2 | 1.7 | 1.6 | 1.8 | 3.9 | 3.3 | 4.3 |
| Acceleration 80s - 70s | -0.5 | -0.1 | -0.8 | 0.1 | -0.7 | -0.9 | 0.0 | 0.2 |
| Acceleration 90s - 80s | -0.3 | 0.1 | -0.1 | 0.3 | -0.2 | 1.8 | 0.2 | 1.5 |
| 1970/1975 | 3.0 | 2.8 | 2.7 | 1.6 | 1.9 | 1.6 | 2.4 | 2.7 |
| 1975/1980 | 2.9 | 3.7 | 2.5 | 0.8 | 3.3 | 4.7 | 3.9 | 2.5 |
| 1980/1985 | 1.6 | 3.1 | 1.9 | 1.6 | 0.7 | 2.0 | 3.3 | 3.1 |
| 1985/1990 | 3.2 | 3.2 | 1.8 | 1.0 | 3.2 | 2.4 | 2.9 | 2.5 |
| 1990/1995 | 1.5 | 2.4 | 2.1 | 1.2 | 0.6 | 2.9 | 3.8 | 3.6 |
| 1995/2000 | 2.6 | 4.1 | 1.3 | 1.9 | 2.9 | 5.0 | 2.9 | 5.0 |
| Acceleration 2nd-1st half of the 90s | 1.1 | 1.7 | -0.7 | 0.7 | 2.2 | 2.0 | -0.9 | 1.4 |
| Acceleration 1st half of the 90s-2nd half of the 80s | -1.5 | -2.4 | -2.1 | -1.2 | -2.5 | 0.6 | 0.9 | 1.1 |

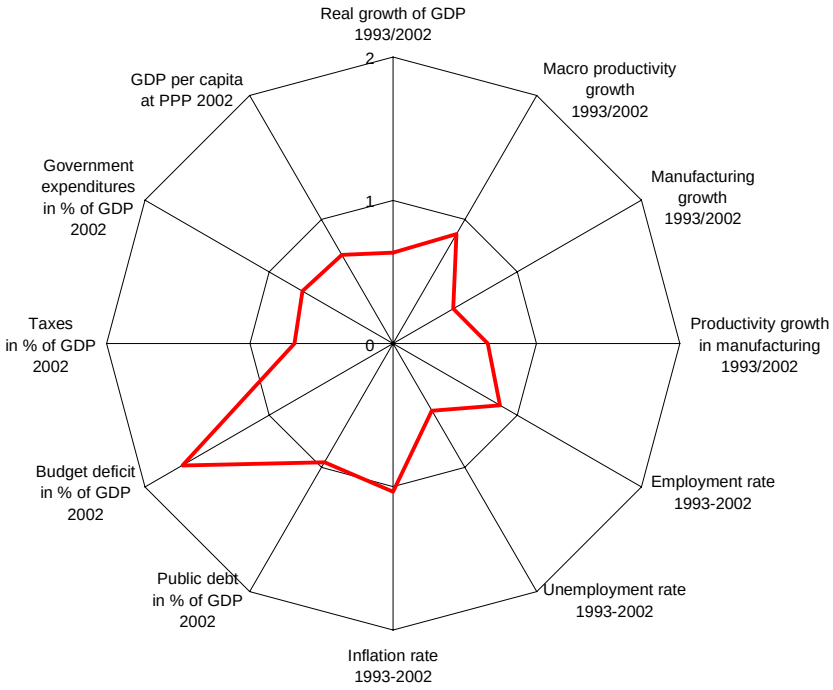
Remarks: Labor productivity is output per total employment.
Output of total economy = GDP, output of manufacturing = production index.
Source: WIFO calculations based on AMECO (November 2002).

The objective of this paper is, first to pin down the performance difference in Europe in the nineties, demonstrating the position of Sweden, Finland, Netherlands and Denmark as distinctly superior to other countries (with the exception of Ireland, which we consider a special case). Then we investigate the common elements of the policy strategy in these four countries in the nineties and contrast them to those of the large European countries, which comprise 80 % of the GDP and performance. We find that the strategies of the four successful countries - with important cross-country differences – relied on three pillars. The first pillar was to bring private and public costs in balance with income and revenues respectively. The second pillar was to reform institutions, for example by increasing the adaptability of firms to external change, while maintaining job security of employees for example by retraining, part time work, job offers. The reforms used the stick of welfare to work schemes and of reduced unemployment benefits and the carrots of new jobs and better training. Both pillars were necessary conditions for the success and are also conform to the mainstream policy recommendations based on the twin suspects hypothesis, where maybe the twin hypothesis put a greater emphasis on liberalization and flexibilization, these reforms put more emphasis on the active and supporting element (compulsory training, public jobs of the last resort). The third pillar was to boost investment into research, education, and technology diffusion. This is the most important element of long-term success, economists say it is the sufficient condition. The importance of the third condition lies in the fact, that balancing costs and increasing job

in the US. Data using purchase power parities are less conclusive. Emphasizing the second half of the nineties and

churning reduces costs but also reduces demand and investment opportunities. Investment into long term growth determinants and innovative capacity increases potential growth, permanent income and expected profits. The same amount of efforts in to bring public deficits down by discretionary measures, worked in those countries, which successfully improved long-term growth prospects, while it proved insufficient in those where growth did not pick up.

Figure 1: Performance Europe vs. USA




The paper proceeds as follows: In section 2 we present the evidence on the performance differences in the nineties selecting a group of four top performers and of four large rather rich countries with disappointing performance. In section 3 we describe the structural characteristics and the policy of the four best performing European countries claiming that the investment into future growth is the most important pillar. The section 4 describes differences between the top and the large countries specifically with respect to their growth. Section 5 investigates whether the policy strategies of the top countries constitute the blue print for a reformed welfare state model, section 6 concludes.

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including the most recent data (up to 2002) increases the evidence for the widening of the productivity difference.

# 2. Performance measurement and European differences

## Choosing indicators for performance measurement

Many indicators can measure economic performance. Performance evaluations usually start by comparing macroeconomic growth or productivity increase (for example growth in some form of per capita GDP, sometime called macro labor productivity). Even for these two key variables, a large variety of measures and indicators are available[2],

For the empirical interpretation of the nineties at least two additional issues are relevant:

- Many studies focus not on growth but on the *acceleration* of output and productivity. Productivity growth had declined nearly from decade to decade leading to the discussion as to the sources of "productivity slowdown". In the nineties is rebounded, specifically in the second half, but the rebound did not occur in all countries. The increasing performance differences and their relation to the new information and communication technology are the center of current research.
- Secondly countries experienced different demand conditions. Some countries had a mild recession in the very early nineties with 10 years of good business conditions following. Others experiences a severe recession, were hit by external shocks with consequences for example in unemployment at least to 1994. In order to abstract from this, many studies emphasize the second half of the nineties in their analysis. This however has also a backdraw since growth can also be higher, if the recession had been deeper. Theoretically there are methods to exclude cyclical effects, like decomposing actual growth in input growth, cyclical effects and a trend total factor productivity (TFP) or to calculate potential rates of output and productivity growth (Coen, Hickman, 2002). These methods however all face the problem that the calculations at the interesting recent end of the data is very difficult, and have often to be revised ex post, specifically in periods of important technological or political changes. If productivity of capital changes, specifically of one type of capital, it is difficult to calculate potential output with given production functions, the same hold if prices for one type of capital plunges down.

We try to overcome the ambivalence in the choice of timing and indicators by the following methods. We first calculate growth for the last 10 years (1993-2002) and then the acceleration of these ten years vs. the 10 years before. Taking the last to years into account, mitigates the problem that the analysis rests on a five years period only and that these five years may have been a short lived technology hype or that the results are only the mirror image to the severity of the crisis in the first half. Having used the nineties (1990-2000) and the second half of the nineties (1995-2000) in other papers (Aiginger, Landesmann, 2002, Aiginger, 2000) we know that this change does not change the substance of the results. Additionally

[2] Choices are which sector to include in growth calculation (all or exclusive agriculture or exclusion of non market sectors), how to calculate real figures (from national data, taking inflation into account or from international comparisons of purchasing power parity), how to calculate inflation (including quality assessments by the use of hedonic prices etc). For more see Aiginger, Landesmann, 2002.

we increase the robustness of the evidence by adding manufacturing growth to the data set. This infers a specific redundancy, but on the other hand the technical trends should be manifested here more strongly and this sector should be less influenced by demand management and policies to stabilize demand or to spread employment among more workers (which reduced measured per head productivity). Thirdly we perform robustness test, presenting TFP data, and potential output data where available.

A fair assessment of European performance cannot be restricted to output and productivity growth, since other goals had been high on the policy agenda. Some countries gave the reduction of unemployment a high priority, which had surpassed the 10 % threshold. Germany and countries indirectly or directly pegged to the DM gave a high priority to keep inflation down, the newly created Central Bank wanted to establish a tough reputation for price stability and was established with the mission to combat inflation rather than to optimize a conflicting set of goals. The Maastricht criteria demanded that all countries tried to regain balanced budgets and to reduce debt. Competitiveness forced government to try to reduce taxes, specifically those relevant for firms and direct investments.

This leads to a set of variables to measure economic performance, containing four indicators on dynamics of output and productivity, three indicators on employment and price stability, and four indicators on fiscal prudence, the set is complemented by the absolute GDP per capita (at PPP) to indicate the level of performance.

- Growth of real GDP 1993 - 2002 and acceleration (1993 – 2002 minus 1984 - 1993)
- Growth of productivity total economy and acceleration
- Growth in manufacturing and acceleration
- Growth of productivity in manufacturing and acceleration
- Employment rate: average 1993 - 2002 and its absolute change 2002 minus 1993
- Unemployment rate: average 1993 - 2002 and its absolute change 2002 minus 1993
- Inflation rate: average 1993 - 2002 and its absolute change 2002 minus 1993
- Share of public debt in GDP 2002 and its absolute change 2002 - 1993
- Share of budget deficit in GDP 2002 and its absolute change 2002 - 1993
- Share of taxes in GDP 2002 and its absolute change 2002 - 1993
- Share of government expenditures in GDP 2002 and its absolute change 2002 - 1993
- GDP per capita at PPP 2002

## Table 2: Economic performance across countries and in triad

| | Belgium | Den-mark | Germany | Greece | Spain | France | Ireland | Italy | Nether-lands | Austria | Portugal | Finland | Sweden | United Kingdom | Top 4 | Large 4 | EU | Japan | USA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real growth of GDP | | | | | | | | | | | | | | | | | | | |
| Growth 1993/2002 | 2.0 | 2.4 | 1.3 | 2.7 | 2.8 | 1.9 | 7.6 | 1.6 | 2.6 | 2.0 | 2.4 | 3.4 | 2.3 | 2.8 | 2.7 | 1.9 | 2.0 | 0.9 | 3.2 |
| Acceleration[1] | -0.2 | 0.9 | -1.5 | 1.4 | -0.1 | -0.2 | 3.8 | -0.5 | -0.1 | -0.5 | -0.8 | 2.3 | 0.9 | 0.4 | 1.0 | -0.5 | -0.3 | -2.8 | 0.0 |
| Macro productivity growth | | | | | | | | | | | | | | | | | | | |
| Growth 1993/2002 | 1.4 | 1.7 | 1.1 | 2.0 | 1.0 | 1.3 | 3.3 | 1.3 | 1.0 | 1.7 | 1.6 | 2.7 | 2.3 | 1.9 | 1.9 | 1.4 | 1.4 | 1.1 | 1.5 |
| Acceleration[1] | -0.4 | 0.4 | -0.9 | 1.3 | -0.8 | -0.8 | -0.2 | -0.6 | -0.3 | -0.4 | -1.3 | -0.2 | 0.4 | 0.1 | 0.0 | -0.6 | -0.5 | -1.7 | 0.2 |
| Manufacturing growth | | | | | | | | | | | | | | | | | | | |
| Growth 1993/2002 | 1.7 | 3.2 | 1.2 | 1.8 | 2.3 | 1.8 | 12.9 | 1.4 | 1.5 | 4.2 | 2.5 | 6.1 | 3.8 | 0.9 | 3.6 | 1.3 | 1.8 | -0.1 | 3.7 |
| Acceleration[1] | -0.1 | -0.9 | -0.6 | 0.7 | 0.0 | -0.1 | -5.9 | -1.3 | -0.9 | -1.8 | -1.4 | -0.8 | -0.7 | -0.7 | -0.8 | -0.7 | -0.7 | -1.7 | -1.7 |
| Productivity growth in manufacturing | | | | | | | | | | | | | | | | | | | |
| Growth 1993/2002 | 3.0 | 3.6 | 3.3 | 2.8 | 1.1 | 2.7 | 10.7 | 1.5 | 2.2 | 5.3 | 3.7 | 5.0 | 4.1 | 2.1 | 3.7 | 2.4 | 2.7 | 2.2 | 4.1 |
| Acceleration[1] | -1.2 | -1.2 | -1.4 | -1.3 | -0.3 | -2.0 | -6.0 | -3.0 | -0.7 | -3.0 | -2.6 | -4.7 | -3.4 | -3.5 | -2.5 | -2.5 | -2.1 | -0.6 | -1.9 |
| Employment rate | | | | | | | | | | | | | | | | | | | |
| Average 1993-2002 | 57.5 | 75.4 | 67.4 | 54.4 | 54.3 | 61.2 | 60.1 | 56.7 | 71.5 | 72.7 | 71.4 | 62.8 | 73.2 | 69.9 | 70.7 | 63.8 | 63.7 | 76.9 | 74.0 |
| Absolute change 1993-2002 | 3.4 | 4.1 | 1.4 | 2.5 | 8.4 | 3.2 | 13.1 | 2.9 | 9.6 | 0.1 | -0.5 | 6.6 | 2.3 | 3.7 | 5.7 | 2.8 | 3.7 | -0.4 | 1.0 |
| Unemployment rate | | | | | | | | | | | | | | | | | | | |
| Average 1993-2002 | 8.7 | 6.2 | 8.5 | 10.0 | 18.8 | 11.1 | 8.9 | 10.9 | 4.8 | 4.1 | 5.6 | 12.6 | 7.9 | 7.2 | 7.9 | 9.4 | 9.7 | 4.0 | 5.2 |
| Absolute change 1993/2002 | -1.8 | -5.5 | 0.3 | 1.5 | -9.7 | -2.5 | -11.1 | -0.6 | -3.4 | 0.4 | -1.4 | -7.0 | -3.5 | -5.1 | -4.9 | -2.0 | -2.7 | 4.0 | -1.0 |
| Inflation rate | | | | | | | | | | | | | | | | | | | |
| Average 1993-2002 | 1.9 | 2.2 | 1.9 | 6.6 | 3.4 | 1.5 | 2.9 | 3.1 | 2.6 | 2.0 | 3.7 | 1.6 | 1.7 | 2.4 | 2.0 | 2.2 | 2.4 | 0.2 | 2.5 |
| Absolute change 1993/2002 | -1.1 | 1.2 | -2.2 | -10.8 | -1.0 | -0.2 | 3.2 | -2.0 | 0.8 | -1.8 | -2.9 | -0.6 | -2.3 | -0.2 | -0.2 | -1.1 | -1.3 | -2.3 | -1.3 |
| Public debt in % of GDP | | | | | | | | | | | | | | | | | | | |
| 2002 | 105.6 | 44.0 | 60.9 | 97.8 | 55.0 | 58.6 | 35.3 | 110.3 | 51.0 | 63.2 | 57.5 | 42.4 | 53.8 | 38.5 | 47.8 | 67.1 | 63.0 | 103.0 | 60.3 |
| Absolute change 1993/2002 | -32.5 | -34.0 | 14.0 | -4.4 | -3.4 | 13.3 | -61.0 | -7.8 | -28.0 | 1.3 | -1.6 | -13.6 | -19.7 | -6.8 | -23.8 | 3.2 | -1.6 | 34.0 | -16.2 |
| Budget deficit in % of GDP | | | | | | | | | | | | | | | | | | | |
| 2002 | 0.1 | -2.0 | 3.8 | 1.3 | 0.0 | 2.7 | 1.0 | 2.4 | 0.8 | 1.8 | 3.4 | -3.6 | -1.4 | 1.1 | -1.6 | 2.5 | 1.9 | 8.0 | 3.2 |
| Absolute change 1993/2002 | -7.3 | -4.9 | 0.7 | -11.9 | -6.4 | -3.3 | -1.7 | -7.9 | -2.1 | -2.5 | -3.6 | -10.9 | -13.3 | -6.8 | -7.8 | -4.3 | -4.5 | 5.6 | -1.8 |
| Taxes in % of GDP | | | | | | | | | | | | | | | | | | | |
| 2002 | 49.3 | 56.0 | 44.8 | 46.5 | 39.8 | 51.1 | 34.1 | 46.0 | 46.2 | 51.0 | 43.2 | 54.0 | 58.9 | 39.9 | 53.8 | 45.5 | 45.8 | 33.0 | 31.6 |
| Absolute change 1993/2002 | 1.0 | -2.9 | -1.3 | -5.9 | 3.1 | 1.8 | -8.2 | -1.4 | -6.8 | -2.7 | 0.2 | -3.8 | -2.2 | 2.2 | -3.9 | 0.3 | -0.3 | 0.1 | 0.4 |
| Government expenditures in % of GDP | | | | | | | | | | | | | | | | | | | |
| 2002 | 49.3 | 53.9 | 48.6 | 47.7 | 39.8 | 53.7 | 35.2 | 48.4 | 47.0 | 52.8 | 46.6 | 50.4 | 57.6 | 41.0 | 52.2 | 47.9 | 47.6 | 41.0 | 34.8 |
| Absolute change 1993/2002 | -6.3 | -7.8 | -0.6 | -17.8 | -3.3 | -1.5 | -10.0 | -9.3 | -8.8 | -5.1 | 1.6 | -14.7 | -15.5 | -4.7 | -11.7 | -4.0 | -4.9 | 5.7 | -1.5 |
| GDP per capita at PPP 2002 | | | | | | | | | | | | | | | | | | | |
| 1000 EURO | 25.1 | 28.3 | 24.9 | 16.5 | 19.9 | 23.9 | 28.4 | 25.0 | 26.6 | 26.7 | 17.3 | 24.6 | 23.8 | 24.2 | 25.8 | 24.5 | 23.8 | 24.7 | 33.3 |

[1] Acceleration: growth p.a. 1993/2002 minus growth p.a. 1984/1993
[2] Acceleration: growth p.a. 1993/1999 minus growth p.a. 1986/1993
Source: WIFO calculations based on AMECO (November 2002).

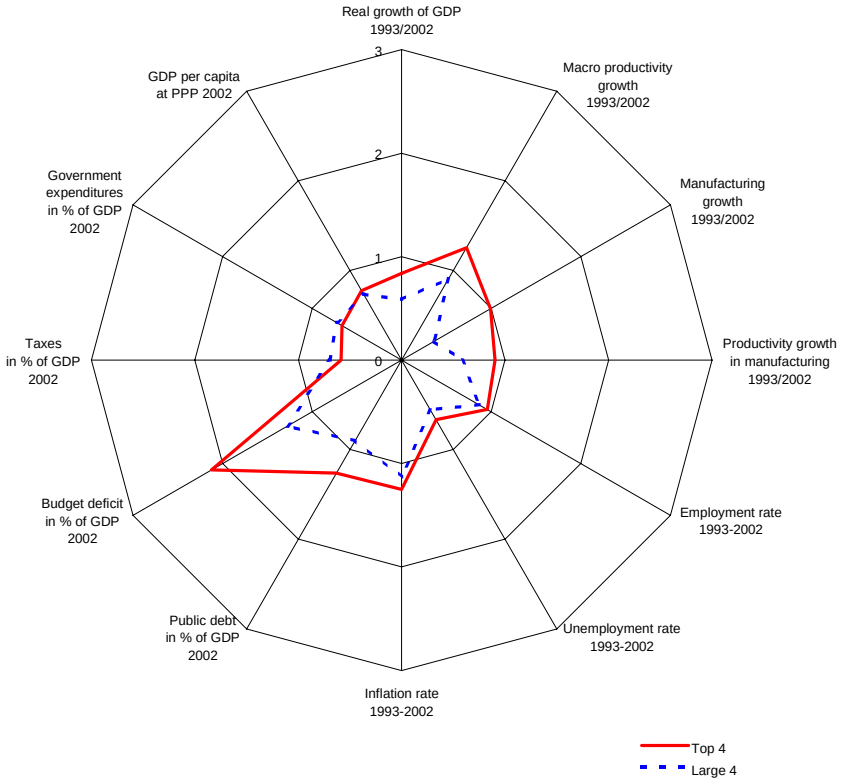
## Table 3: Ranking of performance of EU countries

| | Belgium | Den-mark | Germany | Greece | Spain | France | Ireland | Italy | Nether-lands | Austria | Portugal | Finland | Sweden | United Kingdom |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real growth of GDP | | | | | | | | | | | | | | |
| Growth 1993/2002 | 10 | 8 | 14 | 6 | 4 | 12 | 1 | 13 | 5 | 11 | 7 | 2 | 9 | 3 |
| Acceleration[1] | 10 | 5 | 14 | 3 | 8 | 9 | 1 | 11 | 7 | 12 | 13 | 2 | 4 | 6 |
| Macro productivity growth | | | | | | | | | | | | | | |
| Growth 1993/2002 | 10 | 8 | 12 | 5 | 13 | 11 | 1 | 9 | 14 | 7 | 3 | 2 | 4 | 6 |
| Acceleration[1] | 10 | 3 | 13 | 1 | 14 | 12 | 5 | 11 | 7 | 8 | 9 | 6 | 2 | 4 |
| Manufacturing growth | | | | | | | | | | | | | | |
| Growth 1993/2002 | 8 | 5 | 13 | 10 | 7 | 9 | 1 | 12 | 11 | 4 | 6 | 2 | 3 | 14 |
| Acceleration[1] | 3 | 10 | 5 | 1 | 2 | 4 | 14 | 11 | 9 | 13 | 12 | 8 | 6 | 7 |
| Productivity growth in manufacturing | | | | | | | | | | | | | | |
| Growth 1993/2002 | 9 | 5 | 8 | 6 | 14 | 10 | 1 | 13 | 11 | 2 | 7 | 3 | 4 | 12 |
| Acceleration[1] | 3 | 6 | 5 | 4 | 1 | 7 | 14 | 10 | 2 | 9 | 8 | 13 | 11 | 12 |
| Employment rate | | | | | | | | | | | | | | |
| Average 1993-2002 | 11 | 1 | 7 | 13 | 14 | 9 | 10 | 12 | 4 | 3 | 5 | 8 | 2 | 6 |
| Absolute change 1993-2002 | 7 | 5 | 12 | 10 | 3 | 8 | 1 | 9 | 2 | 13 | 14 | 4 | 11 | 6 |
| Unemployment rate | | | | | | | | | | | | | | |
| Average 1993-2002 | 8 | 4 | 7 | 10 | 14 | 12 | 9 | 11 | 2 | 1 | 3 | 13 | 6 | 5 |
| Absolute change 1993/2002 | 9 | 4 | 12 | 14 | 2 | 8 | 1 | 11 | 7 | 13 | 10 | 3 | 6 | 5 |
| Inflation rate | | | | | | | | | | | | | | |
| Average 1993-2002 | 4 | 7 | 5 | 14 | 12 | 1 | 10 | 11 | 9 | 6 | 13 | 2 | 3 | 8 |
| Absolute change 1993/2002 | 8 | 13 | 3 | 1 | 7 | 9 | 14 | 5 | 12 | 6 | 2 | 10 | 4 | 11 |
| Public debt in % of GDP | | | | | | | | | | | | | | |
| Absolute change 1993/2002 | 3 | 2 | 14 | 7 | 11 | 13 | 1 | 8 | 4 | 12 | 10 | 6 | 5 | 9 |
| Budget deficit in % of GDP | | | | | | | | | | | | | | |
| Absolute change 1993/2002 | 6 | 8 | 14 | 2 | 7 | 10 | 11 | 4 | 12 | 9 | 13 | 3 | 1 | 5 |
| Taxes in % of GDP | | | | | | | | | | | | | | |
| Absolute change 1993/2002 | 10 | 4 | 9 | 14 | 7 | 11 | 2 | 6 | 1 | 8 | 12 | 3 | 5 | 13 |
| Government expenditures in % of GDP | | | | | | | | | | | | | | |
| Absolute change 1993/2002 | 8 | 7 | 12 | 13 | 6 | 11 | 5 | 4 | 3 | 9 | 14 | 2 | 1 | 10 |
| GDP per capita at PPP 2002 | | | | | | | | | | | | | | |
| 1000 EURO | 5 | 2 | 6 | 14 | 12 | 11 | 1 | 7 | 3 | 4 | 13 | 9 | 10 | 8 |
| Superrank | 7.5 | 5.6 | 9.7 | 7.8 | 8.3 | 9.3 | 5.4 | 9.4 | 6.6 | 7.9 | 9.2 | 5.3 | 5.1 | 7.9 |
| Superrank ranked | 6 | 4 | 14 | 7 | 10 | 12 | 3 | 13 | 5 | 8 | 11 | 2 | 1 | 8 |

[1] Acceleration: growth p.a. 1993/2002 minus growth p.a. 1984/1993
[2] Acceleration: growth p.a. 1993/1999 minus growth p.a. 1986/1993
Source: WIFO calculations based on AMECO (November 2002).

## Selecting four countries with top performance (top 4 countries)

Figure 2: Performance Top 4 and Large 4 in Europe vs. USA




Top 4: Denmark, Netherlands, Finland, Sweden; Large 4: Germany, France, Italy, United Kingdom

Remark: The top 4 countries have a budget surplus of 1.8 % in 2002,the large 4 of 2.5%, the US a deficit of 0.7 %; for graphical reasons for the top 4 countries a value of 1.5 was set (which is no full arithmetic equivalent but indicates the better performance of the top 4 countries vs. the large 4 as well as the US).

Three countries lead together with positions very similar, Sweden has an average rank of 5.1 , Finland follows with 5.3 and Ireland is third with 5.4. Then follow Denmark with 5.6 and then with a certain distance Netherlands with 6.6.We make the decision to build a group of top countries, including Netherlands (and of course Sweden, Finland, Denmark), but excluding Ireland. All the five countries chosen have above average growth and high employment ratios. They have increased employment ratio, decreased fiscal debt and have converted fiscal deficits into surpluses. Inflation is in three countries out of the four lower than in the EU (in Netherlands marginally higher), but did not decrease as much as in other countries. Unemployment sunk in all countries, but remained in Finland above the European average. There is a difference between Sweden and Finland on the one side, which increased productivity fast and had higher growth specifically in manufacturing, and Denmark and Netherlands on the other side with less growth in manufacturing but higher growth in service sectors. Both Denmark and Netherlands tried to spread growth among a larger number of employees, partly by encouraging part time work, partly by offering sabbaticals and retraining. Due to the consequently poorer productivity growth Netherlands gets an average score of 6.6, and its inclusion in the top 4 group is to some degree arbitrarily. We decided to include it, since the enforcement of part time work was a deliberate strategy and it happened at a very high degree of productivity. GDP per capita is still the third highest in Europe (after Denmark and Ireland).

Ireland – comes out in this assessment as third best performer according to the chosen criteria, specifically due to its growth in output and productivity. It gets some weak marks in level of the employment (however employment rate increased fastest among the EU countries) and in inflation. It has low taxes, low debt, even if the fiscal balance proved more cyclical that expected in the late crisis years. Its average ranking is 5.4, the third-best of the 14 countries. Despite of the excellent performance we will not treat Ireland as top 4 country, since its development had been a very prudent catching up strategy, using an amount of regional funds and a tax and incentive system for foreign direct investment, which is not available for countries with medium or high incomes.

From now own we call Sweden, Finland, Denmark, and Netherlands as top 4 countries. We acknowledge that the exclusion of Ireland from this group, and the inclusion of Netherlands were based not on the strict formal criteria, but on economic reasons and policy options and knowledge of policy issues in other studies.

## Performance of the large countries (big 4 countries)

The countries at the bottom of the table (#12-14) are Germany, France and Italy with average rankings from 9.3 to 9.7. The ranks of this trio are extremely close together and quite distant from the top 4 group with 5.7. All these countries are big countries; they suffer from slow economic growth, persistent unemployment and low employment rates as compared to the EU and even more the US. Fiscal debt remained high or increased, the budget deficits are hitting or transgressing the upper limit of the “European Stability Pact”. The fact that the three low performers are all large countries, suggest to create a group of large countries as contrast to the top 4, which are in fact unintentionally all small countries.

The fourth of the large EU economies, the United Kingdom, is performing slightly better than these three. United Kingdom had however underperformed decade by decade before, losing a 40 % lead in per capita income. Economic policy in the eighties relied heavily on privatization and liberalization, but also reduced investment into infrastructure in order to balance budgets up to 2000. For the nineties our set of indicators yield a medium position, leaning a bit to the positive side. However, the current policy discussion acknowledges that the deficit in infrastructure and the low productivity level is not sustainable and that taxes have to be increasing to allow absolutely necessary investments. This causes to take the data for the nineties at their face value for the UK. The fifth largest economy, Spain fairs worse according to the indicators. It is successfully catching up, but at a very slow pace and with high inflation and unemployment and low productivity. We are left with the choice, either to build a group including Spain; this would be more homogenous from the perspective of performance. We decided however to build the group of the big four countries including United Kingdom. The argument is that again policy strategies should be more homogenous in countries with similar development level.

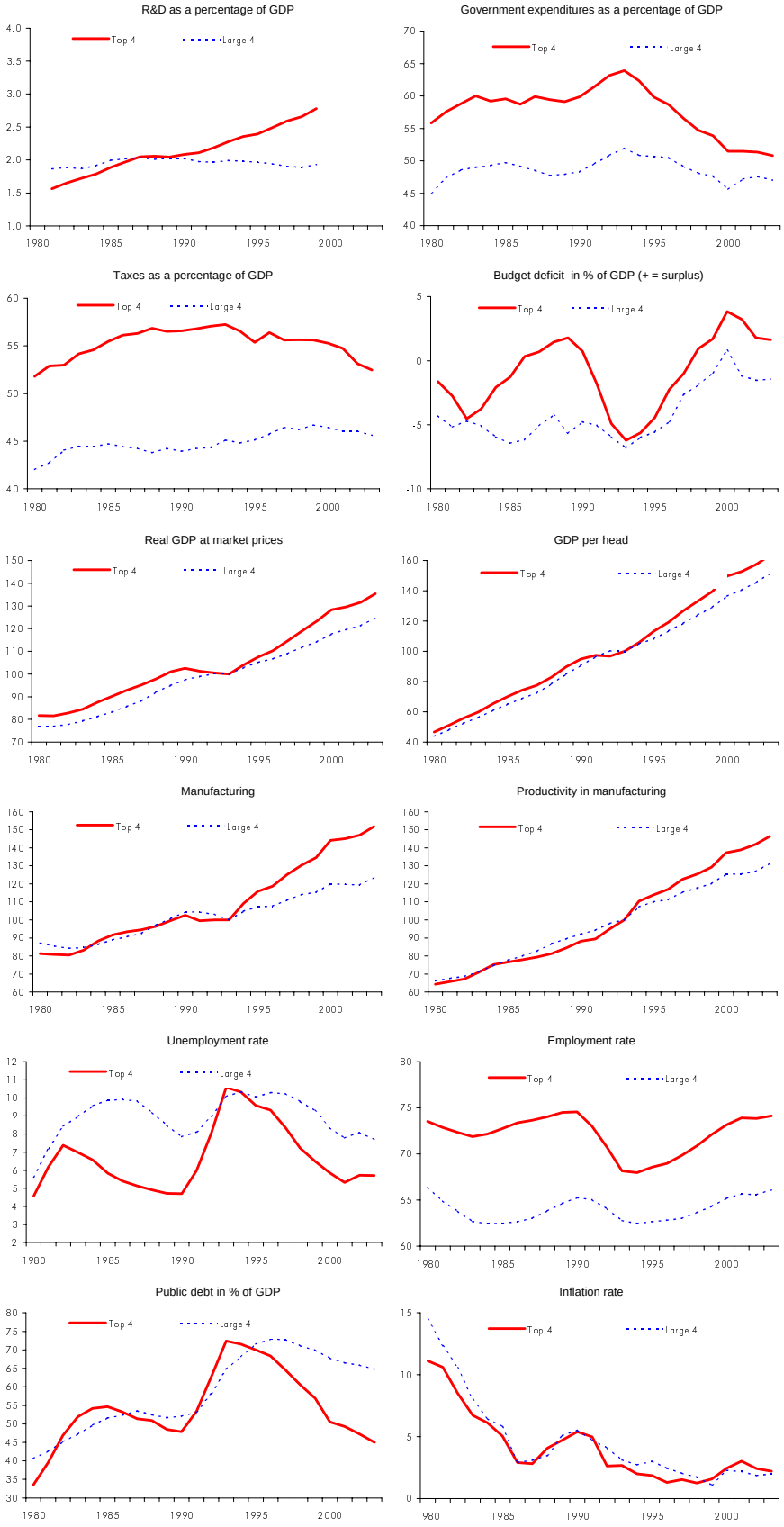
For the remaining six countries we could build a group of catching up countries containing Portugal, Greece and Ireland, which would however be inhomogeneous due to the excellence of Ireland which is ranked third, while Greece, Spain and Portugal are ranked 7$^{th}$, 10$^{th}$ and 11$^{th}$, very close together. Belgium and Austria have average ranks, but do not excel, so that they are ranked 6$^{th}$ and 8$^{th}$ with scores of 7.5 and 7.9. They have a good long-term performance and high per capita income, but a medium performance in the nineties.

## Top4 versus big four: a first comparison according to average performance

The performance indicators together with the choices lead us to a group of top four countries namely Finland, Sweden, Denmark and Netherlands, and a group of big four countries, which comprise Germany, France, United Kingdom and Italy.

The top four countries enjoy an average growth of 2.7 % (1993/2002), as compared to 1.9% for the large four countries. For manufacturing the difference is even wider, ranging from 3.6% in the top group to sluggish.1.3 % on the average of the large countries. The productivity difference is smaller, it amounts to half a point for total economy, one and a half point for manufacturing. The reason for this is that two of the top economies (Netherlands and Denmark) have intentionally tried to spread employment among more workers. Per capita income is 26.200 EURO for the top 4 and 24.500 for the large 4. The employment rate is 74 % (2003) in the top economies and had been increased by 2.5 points since 1993, the unemployment rate is 7.9 % vs. 9.4 % (1993-2002). The difference is narrowed since Finland has a high unemployment rate and United Kingdom a low one, each in contrast to the respective group average. Inflation is slightly less in the top 4 group.

Figure 3: Differences in average performance and in research expenditures



The most striking difference occurred in the public sector indicators. Public debt amounts today to 48 % of GDP in the top 4 group and to 67 % in the large 4. This had been the other way around in 1993 (72 % to 64 %). The top four are high tax/large government countries. The difference in government shares in GDP fell from 15 percentage points to 5 points, the difference in the tax rate narrowed but is still 10 % points contradicting all easy links from low taxation to high growth. The budget deficits which had been 5 % in both groups at the beginning of the nineties, have gone completely into different directions: the top 4 countries have in 2002 a budget surplus of 1.6 % of GDP, the large countries a deficit of 2.5 %, all but the United Kingdom dangerously near or above the penalty area of the fiscal stability pact. This reflects partly discretionary policy differences, but to a larger extent differences in growth.

## 3. Strategies in four successful countries (top 4)

The four top countries were selected according to their superior performance; we showed in section 2 already that this did not prevent differences in the indicators, which contributed to this assessment. Now we will describe the problems, structure and policy of the countries more in detail and then carve out the common strategy elements.

*Netherlands* had a severe economic crisis in the eighties[3]. An extremely open economy with the highest export and import ratios among EU members, lost its price competitiveness and suffered two years of declining GDP. Unemployment rose to 12 %, together with hidden unemployment maybe one forth of work force was unemployed; Netherlands had become a social welfare system without work read the critique (OECD, Visser, Hermerijck 1998 p 21). In this situation the trade unions, the employers and the government struck a double deal called Wasenaar agreement (1982). First to shorten the work time against the promise of decreasing taxes and social contribution and secondly to increase flexibility of wages in exchange for new job training. Real wages were reduced by 6 %. Minimum wages were decreased, as was the replacement ratio (unemployment benefits relative to wages). The responsibility for sickness was shifted to employees (first two days without compensation) and to entrepreneurs (which had to pay the first weeks after this). The currency was devaluated. Work to welfare measures were introduced (minimum employment period for highest benefit, new jobs were encouraged by lower social security contributions, private labor hiring institutions, premia for job for long term unemployed, government provided jobs of the last resort). Incentives for innovations and education were increased, a very courageous strategy in a period of overall budget cuts and decrease of government share in GDP. Firms got tax credits for education programs, the research expenditures in GDP increased from 1.8 % in 1981 to 2 % in 1999, new research institutions were financed. The expenditures in information and communication technologies were encouraged and Netherlands enjoys highest production as well as penetration rates in this technology in Europe today.

[3] For a more detailed description see Visser, Hemerijck 1997 and Visser 2002, EIU 2002 Country Report Netherlands

The reform had its intermediate crisis. In 1993 the number of disabled persons approached one million workers. Government brokered a new agreement, with the now all dominant goal of maximizing the employment rate. Exit rates from employment were reduced, partly by institutional reforms. Part time work was encouraged. Unemployment in today (2002) down to 3.1 % and employment is one of the highest in Europe with the 1½ worker model in the family as the new "norm". The greatest surprise is however that part time work did not lead to marginalisation and that it did not increase gender differences. On the contrary, an economy in which 20 years ago women had first formally and then implicitly to quit public jobs if they married (Becker 2000, Visser 2001), is today embracing part time work as strategy to adapt the work effort to the changing priorities during the life cycle and to promote gender equality .The number of female workers in part time increased from 25 % to 39 %; that of male jumped from 3 to 17 %. Today social benefits are extended to part time workers, including minimum wage and social security. There is a right to change to full time work after 2 years, and the right to reduce work to part time (with restrictions for very small firms.[4]

*Denmark* experienced a specifically sluggish growth between 1985 and 1992. The key reform elements were labor market reform, with elements of spreading work, but also with strong monitoring of unemployed and retraining, and secondly an ambitious technology diffusion and cluster policy. Labor market policy was decentralized, to encourage the direct adaptation of skills to the local need. Denmark tried to spread employment by allowing sabbaticals for child bearing, for retraining and for personal unspecified purposes. Labor dismissals were made still easier, replacement rates were reduced. Unemployment benefits were made dependant on conditions, which difference is according to the length of unemployment. After a starting period of own search, unemployed had to accept compulsory help and to participate in individually constructed training programs (activation period). The plans depended on the specific qualification and need of the unemployed and should guarantee that no one was unemployed longer than a specific period. The overall system was called flexicurity, since it combined rather high flexibility for firms, with high chances (security) for workers to become reemployed, if dismissed. It is a kind of welfare to work system, however with a much less offensive rhetoric and a real commitment to training as compared to the US.

On the technology front, Denmark emphasized diffusion and cluster policies. The diffusion of information and communication technology was encouraged, existing strength stemming from high health and food safety standards were used to create a medical cluster. Biotechnology was embraced, start ups and venture capital encouraged. A virtual IT bridged to Sweden encouraged transfer of techniques, capabilities and fostered cooperation, broadband and a real bridge over the Oresund did connect Denmark closer with the leading country in telecommunication. Denmark had overcome its sluggish growth and is now growing about European average with a higher emphasis on services than Finland and Sweden. Unemployment is

[4] The model is sometimes called Polder model, referring to that part of the sea converted into land by artificial docks, indicating working together of all constituencies in the Netherlands, this time against the "flood of unemployment".

low, Denmark enjoys the highest per capita GDP among European countries. The currency is pegged to the EURO, but Denmark is not member of the European Monetary Union.

*Sweden* had lost its position as one of the leading European countries in per capita GDP by underperforming in growth over the largest part of the post World War II period. In the early nineties export and GDP decreased, partly in reaction to Russian crisis including a financial sector crisis, partly to an industry structure relying too much on resource based, non differentiated goods (steel, paper), partly due to high costs and inflation. The policy reaction included elements to bring costs into balance, inter alia by another devaluation, secondly a discretionary fiscal stability package was negotiated which amounted to 7.5 % of GDP. Partly taxes raised, partly government expenditures were cut. The budget cuts did include reductions of welfare benefits, since higher incomes had to take a higher burden; this was not much opposed by the strong trade unions. Some elements of welfare to work reforms were introduced. An active labor market policy and low capital taxes had been long constituent elements of the Swedish system (Marterbauer, Walterskirchen, 2000). Institutional reforms redesigned the competition and monetary authority with the goal that tough after care should make the devaluation to work fully this time. Parallel to the restrictive measures, Sweden developed the most pervasive and comprehensive programs to promote the information technology: the distribution of PC for private use was made attractive by tax deduction, education expenses were enforced, alliances for electronic commerce were created, the use of ICT in government became compulsory. High tech schools and universities were spread over the country. Expenses for research and development increased from 2 to 3.8 %. The research/GDP ratio is today among the highest in Europe and well above the US. Growth rebounded, and is in the second half of the nineties one of the highest in Europe. Specifically high is growth of output and productivity, with strongest results in manufacturing and here again specifically in telecom industries. Growth remained rather high in 2002 though the technology crisis could have hit the leading high tech country stronger and Ericsson suffered a severe crisis with massive layoffs. Sweden is today European leader in the information technology, having surpassed US according to many indicators. It achieved this position and its lead in research during a severe crisis in the first half of the nineties.

*Finland* is the country that has incurred the most radical change in its industrial structure over the past 10 years. It was severely hit in the early nineties by the double breakdown of its regional market (it was a close partner to the Soviet Union) and of its product market (resource based industries like textiles, wood, paper). Unemployment reached 17 %. GDP fell by 10 %. Finland regained its price competitiveness similar to Sweden by devaluation, and balanced its budget by increasing taxes as well as reducing outlays. An active technology policy - which already started in the eighties and was pushed by a semi governmental agency Tekes - was de decisive factor for the long term success: technology parks were created, universities and technical schools were upgraded, new sites in regionally disadvantages regions were founded. Education in general, language skills in specific was enforced getting Finland now highest grade in international evaluations (OECD, 2002). The role of Nokia for the new image as information society has to be acknowledged. However, first Nokia had been a diversified company producing textiles

and paper 15 years ago, and secondly it needs as a market leader in a high tech segment qualified personnel, complementary research facilities and an innovation climate supported if not created by policy. Growth of output and productivity is similar in strength and structure to Sweden with high growth in manufacturing and in high tech sectors, and productivity acceleration in the second half of the nineties. Finland is now among the top 3 countries in 15 out of 16 determinants in long term growth (Aiginger, 2001). Unemployment is higher than in Sweden and in the EU, since the development started from larger unused regional reserves, and a higher agricultural sector, but the change in industrial structure is even more impressive.

One common element is that all the four countries faced a remarkable deep crisis of competitiveness in the eighties or in the nineties. Searching for deeper, we might divide elements into structural ones and into strategic ones. As *common elements in structure* we find that all countries are small open economies with high export and import shares. Three of them are Nordic type welfare states with a rather egalitarian and inclusive approach, resulting in high taxes and government share. The Netherlands is a little bit the exception, belonging more to the continental model (with lower taxes, less gender equality and absence of redistributive goals). All have tripartite consensual decision processes, which were heavily applied for the reform strategy, to readjust but not abandon the welfare state. Government and experts are committed to economic reforms with the initiative changing from time to time.

The *common elements in strategies* are three*:*

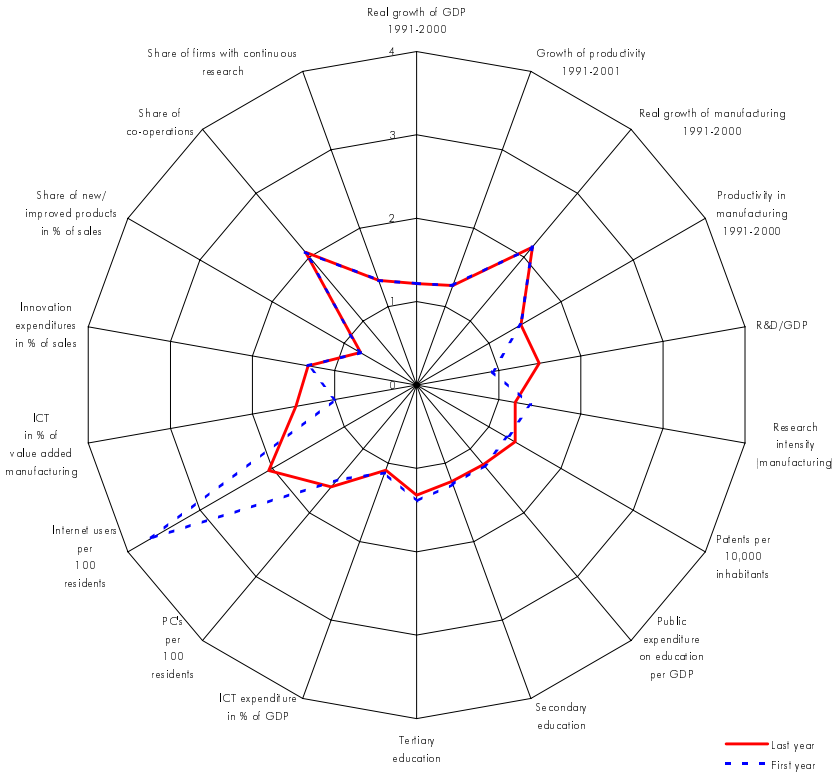
- The first pillar of the reform was to cut costs to bring costs and productivity in balance again. Additionally all countries tried to reduce their corporate tax rates, even if it had been below personal income tax. This was however only the necessary condition for success, not the sufficient one. Cost reduction, if the crisis is over, will prove unsustainable, since economies head for higher incomes again and people will forget restraints if the crisis is over.
- The second strategy element is to improve the incentive structure. Firms should know that people can be dismissed if this is absolutely necessary (but keep them in short run crises, since firm specific training and skills may be lost), but workers should have a high probability and true assistance if they look for a new job. Policies increasing the flexibility of firms, while retaining security for people are labeled as flexicurity (flexibility plus security).
- The third and all-important strategy element was to increase the long-term growth path. All these countries invested into growth drivers and new technologies. Denmark went more a strategy of diffusion of ICT and of supporting successful clusters (IT bridge, medical sector), Finland and Netherlands increased the research expenditures dramatically, even in a period where total government expenditures were reduced, Sweden enforced production and diffusion of telecom to become No 1 in most ratings of implementation of the information society.

The quantitative effects of first strategy are documented in the fiscal indicators, the second is the most difficult to assess quantitatively, but we tried to do this in the paragraphs on the country policy in this section. The third and probably most import element, is the active policy to promote economic growth. This will be documented in the next section, for the top four countries, for the big four and the other European countries.

# 4. Documenting the main difference between top and large countries: investments into future growth

We have argued that all top countries went a three-pillar strategy, amongst which the third and most important pillar was to boost economic growth. We will demonstrate this and the deficits of the large European economies by presenting evidence on investment into those factors, which are considered as most important for macroeconomic growth: in research, education and implementation of new technologies. In total we use 16 indicators which partly measure inputs, partly outputs of research and education, partly production and partly diffusion of telecommunication. The indicators are those widely used in cross-country researches of growth in developed economies (OECD, IMF, European Commission).

Figure 4: Growth drivers Top 4 vs. EU

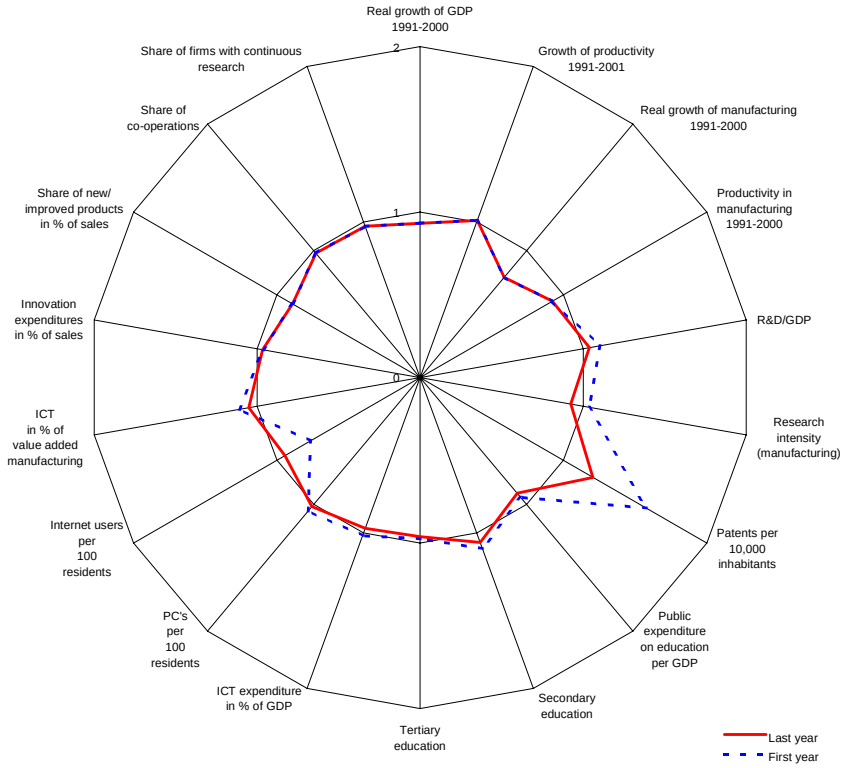



Top 4: Denmark, Netherlands, Finland, Sweden

We start with the indicator mostly used. R&D of the top four countries were 1.6 % of GDP in 1982, this was less than the 1.9 % of the large 4 countries. The top countries overtook the large ones in 1988 and increased their share without impact of the crisis in the early nineties continuously to 3 %. Sweden has with 3.8 % the highest share in the EU countries. The share in the large countries has peaked in 1987 and is decreasing slightly.

The top countries are also leading in the other indicators on research (business expenditure, patents, publications), have a higher ratio of secondary and tertiary education and are leading in all indicators on the production and diffusion of information technology. The large economies have a slight lead in technology driven industries (replicating their strength in airline industries and in cars) and in skill intensive industries (reflecting the excellence of Germany and Italy in medium tech industries). Overall the top countries have today an advantage in 14 out of 16 indicators and improved its position in the nineties relative to the large economies. Remind that the indicators on the growth determinants were not relevant for grouping the countries.

Figure 5: Growth drivers Large 4 vs. EU




Large 4: Germany, France, Italy, United Kingdom

Not unexpectedly the catching up countries are lagging in the growth drivers chosen. In their stage of development the current set of indicators may not be the most relevant. Physical investment and infrastructure in transport, highways, trains are more important. Even Ireland with its catching up from

behind did perform on average, but is trying hard to switch from importing technologies via inward investment to small innovations and relies more on skill than on formal research.

Table 4: Differences in growth drivers between high and low performers

| | First year | | | | Last year | | | |
|---|---|---|---|---|---|---|---|---|
| | Top 4 | Large 4 | EU | USA | Top 4 | Large | EU | USA |
| *Indicators on R&D: input and output* | | | | | | | | |
| Total expenditure on R&D in % of GDP 1992/98 | 2.265 | 2.018 | 1.900 | 2.740 | 2.640 | 1.830 | 1.810 | 2.740 |
| Business Enterprise Expenditure on R&D (BERD) in % of GDP 1992/98 | 1.358 | 1.303 | 1.200 | 1.980 | 1.758 | 1.165 | 1.150 | 2.040 |
| Research intensity in manufacturing 1990/98 | 1.877 | 1.959 | 2.004 | 3.074 | 2.417 | 1.859 | 2.012 | 3.231 |
| Publications per inhabitant 1992/99 | 10.682 | 6.388 | 6.149 | 9.517 | 13.950 | 8.167 | 8.139 | 9.270 |
| Patents per resident 1990/97 | 3.038 | 3.490 | 2.240 | 3.630 | 3.385 | 2.992 | 2.480 | 4.480 |
| *Indicators on education system: input and output* | | | | | | | | |
| Percentage of the population that has attained at least upper secondary education by age group (1998) | 67.250 | 58.250 | 53.000 | 87.000 | 82.500 | 70.250 | 70.000 | 88.000 |
| Percentage of the population that has attained at least tertiary education, by age group (1998) | 26.500 | 18.500 | 19.000 | 37.000 | 30.250 | 22.250 | 25.000 | 36.000 |
| *Indicators on ICT: production and use* | | | | | | | | |
| ICT expenditure in % of GDP 1992/2000 | 4.140 | 3.758 | 3.693 | 5.650 | 6.960 | 6.205 | 6.397 | 8.750 |
| Information technology (IT) expenditure in % of GDP 1992/2000 | 2.125 | 1.825 | 1.688 | 2.970 | 3.640 | 2.918 | 2.711 | 5.500 |
| Telecommunication (TLC) expenditure in % of GDP 1992/2000 | 2.013 | 1.925 | 2.000 | 2.670 | 3.323 | 3.285 | 3.687 | 3.250 |
| PCs per inhabitant 1992/99 | 1.383 | 0.980 | 0.931 | 2.526 | 3.964 | 2.533 | 2.486 | 5.171 |
| Internet users per inhabitant 1992/99 | 0.115 | 0.024 | 0.031 | 0.176 | 3.251 | 1.498 | 1.587 | 2.717 |
| Cellular Mobile Subscribers per 100 capita 1992/99 | 4.934 | 1.488 | 1.516 | 4.253 | 53.742 | 39.142 | 39.586 | 31.156 |
| *Indicators on share of "progressive" industries (see Section 4)* | | | | | | | | |
| Share of technology driven industries in nominal value added 1990/98 | 15.510 | 23.581 | 21.854 | 26.460 | 20.389 | 23.868 | 22.923 | 30.269 |
| Share of skill intensive industries in nominal value added 1990/98 | 16.179 | 18.015 | 16.812 | 18.274 | 16.966 | 17.597 | 16.674 | 18.638 |
| Share of ICT industries in nominal value added 1990/98 | 7.364 | 8.037 | 7.283 | 10.071 | 9.991 | 7.150 | 6.804 | 14.315 |

Table 5: Top countries invest into growth drivers nearly as fast as the USA

| | Top 4 vs. USA First year | Top 4 vs. USA Last year | Large 4 vs. USA First year | Large 4 vs. USA Last year | EU vs. USA First year | EU vs. USA Last year |
|---|---|---|---|---|---|---|
| *Indicators on R&D: input and output* | | | | | | |
| Total expenditure on R&D in % of GDP 1992/98 | 0.827 | 0.964 | 0.736 | 0.668 | 0.693 | 0.661 |
| Business Enterprise Expenditure on R&D (BERD) in % of GDP 1992/98 | 0.686 | 0.862 | 0.658 | 0.571 | 0.606 | 0.564 |
| Research intensity in manufacturing 1990/98 | 0.611 | 0.748 | 0.637 | 0.575 | 0.652 | 0.623 |
| Publications per inhabitant 1992/99 | 1.122 | 1.505 | 0.671 | 0.881 | 0.646 | 0.878 |
| Patents per resident 1990/97 | 0.837 | 0.756 | 0.961 | 0.668 | 0.617 | 0.554 |
| *Indicators on education system: input and output* | | | | | | |
| Percentage of the population that has attained at least upper secondary education by age group (1998) | 0.773 | 0.938 | 0.670 | 0.798 | 0.609 | 0.795 |
| Percentage of the population that has attained at least tertiary education, by age group (1998) | 0.716 | 0.840 | 0.500 | 0.618 | 0.514 | 0.694 |
| *Indicators on ICT: production and use* | | | | | | |
| ICT expenditure in % of GDP 1992/2000 | 0.733 | 0.795 | 0.665 | 0.709 | 0.654 | 0.731 |
| Information technology (IT) expenditure in % of GDP 1992/2000 | 0.715 | 0.662 | 0.614 | 0.530 | 0.568 | 0.493 |
| Telecommunication (TLC) expenditure in % of GDP 1992/2000 | 0.754 | 1.022 | 0.721 | 1.011 | 0.749 | 1.135 |
| PCs per inhabitant 1992/99 | 0.548 | 0.767 | 0.388 | 0.490 | 0.369 | 0.481 |
| Internet users per inhabitant 1992/99 | 0.655 | 1.196 | 0.136 | 0.551 | 0.178 | 0.584 |
| Cellular Mobile Subscribers per 100 capita 1992/99 | 1.160 | 1.725 | 0.350 | 1.256 | 0.356 | 1.271 |
| *Indicators on share of "progressive" industries (see Section 4)* | | | | | | |
| Share of technology driven industries in nominal value added 1990/98 | 0.586 | 0.674 | 0.891 | 0.789 | 0.826 | 0.757 |
| Share of skill intensive industries in nominal value added 1990/98 | 0.885 | 0.910 | 0.986 | 0.944 | 0.920 | 0.895 |
| Share of ICT industries in nominal value added 1990/98 | 0.731 | 0.698 | 0.798 | 0.499 | 0.723 | 0.475 |

If we compare the top four European countries with the US they have improved their positions relative to the USA for thirteen out of the 16 indicators (see Table 4.1). The leading European countries surpassed the USA in publications per inhabitant and Internet users (in addition to mobile phones and telecom expenditures, where Europe as total entity is already ahead). The only areas where the top four European countries are not improving their relative positions are patents, the share of IT expenditures and the share of ICT industries in production.[5]. In contrast the top four economies are lagging the US in 14 out of 16 indicators and had improved their position in only 4.

## 5. Towards a new European Model: a tentative generalization

The relative unfavorable European performance has been analyzed in many studies, often referring to the twin hypothesis of high welfare costs and low labor flexibility. Our analysis put more emphasis on the insufficient European investment in growth drivers, which became specifically relevant in a period of commercialization of a new general-purpose technology (see European Commission, 2001 Aiginger, Landesmann, 2002). Stressing this point should not say that bringing costs and e-government expenditures had not been important preconditions. What however is really striking, is the interaction between labor and welfare reforms (and institutional reforms in general) with technology policy and that this combination happened specifically in classical welfare states.

Five to ten years of successful growth – with large differences between the countries as to the indicators – may not be enough for the final verdict and the exact specification of a successful model. But the tentative hypothesis comes up, that those countries which had a high welfare will, did realize quicker that they could continue their welfare policy only if they brought private costs in balance with productivity and if government reestablished fiscal discipline. And exactly these countries realized that any short run policy would work and would be accepted only in the long run, if it were complemented with an active policy. The active policy was to booster education research and new technologies with the final aim to increase productivity matching with high wages and high welfare costs. A growth and productivity oriented policy is inherently necessary for a Welfare State.

The New Welfare State as represented by the policy strategy in the leading European countries look different from the old welfare state.

- The social system remains rather inclusive and tight, but the social benefits may depend on the individual inputs, they may be conditioned on certain obligations and replacement rates are lower than they used to be to provide better incentives to work.
- Taxes are relatively high, but in line with expenditures, even in the demanding sense of showing active balances to take care of future pensions or to repay current debt.

[5] The top four European countries are falling back marginally in their shares of skill intensive industries.

- Wages are high, but the individual position is not guaranteed as business condition varies. However the persons loosing the jobs get assistance and training opportunities, even personalized, less bureaucratic and centralized.
- Welfare to work elements are introduced, usually on a decentralized, sometimes even private basis, conditions differ according to problem size and class, the background philosophy is one of help not of monitoring laziness.
- Part time work and adaptation of work to life cycle is encouraged, not prevented, social benefits are pro rata extended to part time work, which becomes an individual right and a measure voluntary taken even to enforce that to prevent gender equality.
- Technology policy and active embracement of new technologies is a precondition for the survival of the Welfare State and lead to more challenging and interesting work, than subsidizing old industries.

Synoptic Box: 4.1: Old Model versus New European Model of a Reformed Welfare State?

| *Old model of European Welfare* | *The new model of leading four countries* |
|---|---|
| | *Welfare pillar* |
| High value of security in existing jobs | No right to keep existing jobs |
| High replacement ratios (unemployed income/employment, pensions/incomes) | Right to get assistance to get a new job |
| | Training, requalification |
| | Flexibility for firms and as a right for employees |
| Structural change in existing firms (often large firms) | Coverage with personal obligations |
| Comprehensive coverage health, pensions, education | Willingness to work may depend on life cycle position |
| Leisure, environment, equality positively valued in objective function | |
| | *Policy pillar* |
| Industrial policy for large firms | Efficiency and growth are absolutely necessary |
| Encouraging of cooperation or mergers | Fiscal orthodoxy, restraint is necessary |
| Subsidies for ailing firms | Research, education, new technologies are the basis |
| | Enforce current strengths (cluster and regional policies) |
| | Start ups, venture capital, services |
| | *Examples* |
| Steel cartel | Part time work as a right in Netherlands |
| Shipbuilding subsidies | IT Bridge and medical cluster in Denmark |
| Textile/paper industry support | Telecom sectors and IT government in SF and S |

The characteristics of the old vs. the New Welfare State are summarized in Box 4.1.The reforms are too young, and the country models and experiences are too diverse for a final judgement. But it looks as if the New European Model of the Reformed Welfare State (NEM-RWS) has following three constitutive elements:

- Social responsiveness
- Openness
- Efficiency and technology orientation

# 6. Conclusions

(1) Though not the uncontested result in all studies and though not reflected in all indictors, it has become a stylized fact, that Europe underperformed in the nineties. Growth of output and productivity was lower than in the eighties, both were also below the estimates for its potential and lower than in the US. Unemployment is higher, fiscal problems seem deeper and inflation is still considered too high to allow an expansionary monetary policy to the extent of the US.

(2) As to the reasons why this happens, the majority of the studies refer to the twin hypothesis of the costly welfare state and the insufficient labor market flexibility in Europe. If this hypothesis was correct, countries with a higher welfare burden or with higher taxes and government shares, should have underperformed strongly, while those with lower shares should grow fastest. This is however not the case. We therefor have to look for other determinants of the increasing performance differences across European countries.

(3) We evaluate economic performance in the nineties by differences in growth of output and productivity, including data on acceleration trends. We add indicators in inflation, employment, unemployment and fiscal responsibility to allow for different policy priorities. These indicators split the countries into a group of four countries, which we call top four countries, namely Sweden, Finland, Denmark and Netherlands. We also get set of low performers containing Germany, France, and Italy. To this we add the United Kingdom to get a homogenous group of large and developed countries (large four countries). The inclusion of United Kingdom is not justified without a look back to the eighties and forward to unsoved problems (e.g. low productivity and the deficit in infrastructure). Similarly, the inclusion of the Netherlands which had foregone productivity growth for increasing employment contains an element of personal choice. A purely statistical clustering would have proposed Ireland, but this is a story of successfully catching up. If we accept these choices we get a growth difference between top 4 and large 4 of half a percentage point for GDP and of 1 ½ percentage points for manufacturing. Productivity accelerates for the top 4, and decelerates for the large 4. Employment is higher in the top 4, unemployment lower. The most impressive differences occur in the fiscal indicators. The debt/GNP ratio had used to be higher in the top 4 and is now 20 percentage points lower. Budget deficits which had been 5 % of GDP in each, now three of the four large countries approach the upper limits allow in the European Stability Pact, the to p enjoy surpluses or balanced budgets even in 2002. These differences are on the one hand a consistence test (since we choose the groups according to these criterias) on the other hand they constitute stylized facts for differences between large economies and the top 4 countries which had successfully pushed up growth.

(4) If we look for structural characteristics of these top 4 we find them to be:

Small open economies,

Northern type Welfare State Models with high costs and taxes

Dominance of tripartite consensual policy making

All experiences a crisis in the early nineties (loss of competitiveness, breakdown of markets)

(5) The common elements in the policy strategies were three

- The first pillar of the reform was to cut costs to bring costs and productivity in balance again. Additionally all countries tried to reduce the corporate tax rate, which itself had been below personal income tax.
- The second strategy element is to improve the incentive structure. Firms should know that people can be dismissed if this is absolutely necessary (but keep them in short run crises, since firm specific training and skills may be lost). Workers in these countries have a high probability and true assistance if they look for a new job. Policies increasing the flexibility of firms, while retaining security for people are labeled as flexicurity (flexibility plus security).
- The third and all-important strategy element was to increase the long-term growth path. All these countries invested into growth drivers and new technologies. Denmark went more a strategy of diffusion of ICT and of supporting successful clusters (IT bridge, medical sector), Finland and Netherlands increased the research expenditures dramatically, even in a period where total government expenditures were reduced, Sweden enforced production and diffusion of telecom to become No 1 in most ratings for the information society.

(6) We claim that the most important of these elements was the third, namely the active investment into future growth. The first two pillars were the short run (or necessary) conditions to solve a major problem in competitiveness or in market breakdown. The third active pillar enforced growth and allowed the other strategies to hold in the long run. Without it, each discretionary cut in wages and in spending would have proven too small, as had been US budget cuts in the eighties and those of the large European countries. Passive strategies tend to decrease demand and to start a vicious circle, if not an active element (or some lucky external shocks) pushes up growth.

(7) The top four countries outperform the large four according to 16 drivers in growth. Specifically telling is the dynamics in the research input. The large countries had a research ratio of 1.9 % GDP in 1981, the top 4 lagged at that time with 1.6 %. These lines crossed in about 1988 and today the top countries have a research ratio of 2.8 % practically even with the US. The large countries increased the research expenditures up to 1993, since then they are slightly decreasing and are 2.3 %, one fifth lower than in the top group. The top four lead the large four today in 14 out of the 16 indicators on future growth. In four they surpass the US (telecom expenditures, publications, internet and cellular phone use). The high performers in GDP, productivity and fiscal discipline have also invested strongly in the growth drivers. A

significant correlation is no final prove of causality, it could be that high growth enables research and low growth limits investment into future growth. The analyses of the discrete policies in Sweden, Finland, Denmark and Netherlands for education, research, clusters and information technology started I the late eighties, growth accelerated in the middle of the nineties. This indicate that the reverse causation may not be the more important.

(8) The fact that welfare countries performed rather well in the nineties does not indicate that costs are irrelevant for performance. These countries realized after severe crisis, that costs had to be cut and fiscal balances to be stabilized, secondly that incentives had to be corrected and institutions had to be reformed. But most importantly they realized also that cost cuts represent a short term strategy, which had to be complemented by an active policy to promote research, education and the diffusion of new technologies. We want to establish the tentative hypothesis that there is an upcoming New European Model of Welfare States, with emphasis on cost balance, institutional flexibility and technology orientation.. Even in the trough of 2001/02 the budgets in all four countries are balanced. The firms are more flexible with regard to the use of labor, workers get efficient assistance in finding a job. Replacement ratios are reduced, and benefits are conditional on search and training efforts. The New European Model of the Reformed Welfare State (NEM-RWS) has therefor three constitutive elements: social responsiveness, openness and technology orientation.

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