

SCANDINAVIA TODAY: AN ECONOMIC MIRACLE?

1. Introduction

The recent European economic policy debate has frequently focussed on the Scandinavian countries of Denmark, Finland and Sweden. The “Scandinavian model” has been hailed as a role model for others to follow, as it seems able to generate high output growth and high employment as well as macroeconomic stability. Some even refer to a “Nordic miracle” (see, for example, Dutch Ministry of Finance 2005).

The Scandinavian countries are characterised by large government sectors, generous social insurance, a focus on active labour market policy, high tax rates, high degrees of unionisation, coordinated wage bargaining and low income inequality. This has led many observers to view the Scandinavian model as a successful way of combining equity and efficiency. The model is often regarded as an alternative to the Anglo-Saxon model, which seems to attain efficiency only at the cost of low equity. This point has been made forcefully by, for example, Sapir (2005), who contrasts the Scandinavian and Anglo-Saxon models with the Continental (high equity but low efficiency) and Mediterranean (both low equity and low efficiency) ones. This view also often holds that the combination of generous unemployment insurance and low employment protection is a good way of achieving both high employment and high social protection. Denmark’s so-called *flexicurity model* in particular is seen as a role model for others to follow (for example, The Economist 2006).

This chapter reviews the achievements of the Scandinavian model, seeking to supply a balanced assessment of its strengths and weaknesses. The aim is to draw conclusions on what there is for other countries to learn: both from successful policies that could be copied and from policy failures that should be avoided.

Some of the recent growth success of the Scandinavian countries is a recovery from earlier crises (recessions in the early 1990s in Finland and Sweden and high unemployment already in the 1980s in Denmark), although the recovery has been only partial in terms of employment. However, the recent Scandinavian experiences also show that other economic models than the Anglo-Saxon one can deliver growth and employment.

What are the causes of the Scandinavian successes? A key factor appears to be a well-educated workforce. But the improvements in economic developments in the Scandinavian countries over the last decade have also been associated with important – but moderate – steps in a market-liberal direction. This applies in particular to product and service markets where there have been substantial deregulations in all three Scandinavian countries. It applies also to labour market reforms in Denmark. So, the Scandinavian experiences certainly do not provide evidence that market incentives do not matter. On the contrary, the failure to restore employment to earlier levels in Sweden is clearly associated with the earlier lack of labour market reform. High total rates of benefit dependency in all three countries reflect serious incentive problems. Especially Sweden, with very high sickness absence, has been more successful in delivering what is labelled employment in the statistics than securing that the employed actually work.

The greatest achievement of the Scandinavian model may be the stable public finances, which stand in stark contrast to the developments in many other countries. The obvious explanation seems to be the magnitude of earlier fiscal crises, which has fostered a consensus on the need for fiscal discipline.

An analysis of the Scandinavian approach is important for the lessons that can be drawn for economic policy making. But it is also worthwhile to reflect on how various role models are used in the policy debate. One aspect of “internationalisation” is the increased importance attached to what is perceived as successful examples of policy making in other countries. Such international “benchmarking” has

great merits, as it helps identify successful policies. But there is also the risk that “the grass is always seen as greener somewhere else” because of insufficient knowledge of the performance – and the causes of the performance – of other countries. There is often a tendency wrongly to attribute economic performance associated with cyclical developments to more deep-rooted institutions.

There is a risk of overselling economic models that appear for a time to be very successful.¹ In countries with severe economic problems, people tend to look for contrasting examples. At the same time, policy makers in successful countries have strong incentives to “market” their own policies abroad, as a good international reputation gives prestige in the domestic policy debate. The use of the Scandinavian model as such a role model in much of the European economic debate reflects to some extent such overselling.

2. The anatomy of the Scandinavian model

The characteristic features of the Scandinavian model are a large government sector, generous social protection, high tax rates, an emphasis on active labour market policy, a high degree of unionisation, and highly coordinated wage bargaining (see Tables 4.1a–b for a summary).

Column 2 in Table 4.1a shows government expenditures as a share of GDP. Among the countries shown, Sweden has the highest government expenditure share with 56.2 percent, which is around 10 percentage points higher than the euro area average. Denmark and Finland, also with government expenditure shares above 50 percent, rank as number three and four, respectively.

Column 4 in Table 4.1a gives government employment as a share of working-age population. All three Scandinavian countries rank above the other countries in this respect. The share is highest in Denmark and

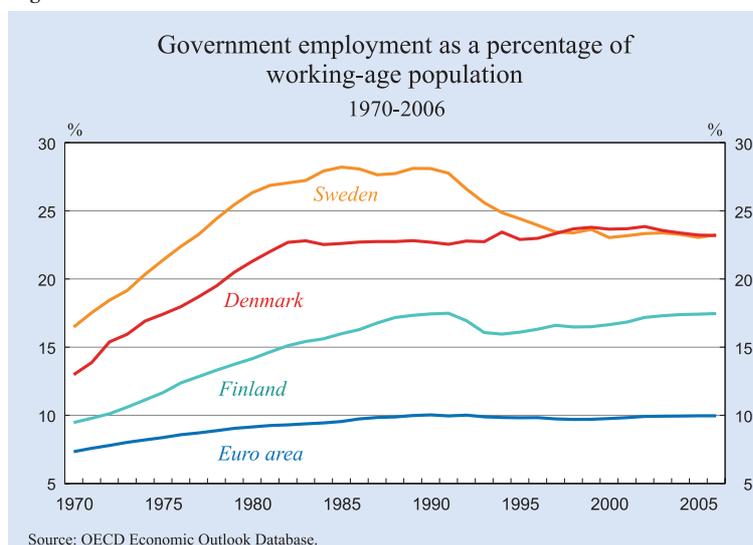
Sweden – around 12 percentage points higher than the euro area average – and somewhat lower in Finland – around 7 percentage points higher than the euro area average. However, government employment shares have not grown over the last fifteen years: as shown in Figure 4.1, the share has fallen substantially in Sweden, whereas it is now more or less the same in the other two countries as around 1990.

Column 6 in Table 4.1a illustrates the degree of social protection by showing a measure of the average net replacement rate (after taxes and transfers) of unemployment benefits for different types of wage-earners over a five-year period of unemployment. Among the countries shown, Denmark has the highest replacement rate with 70 percent. Finland (with 65 percent) and Sweden (with 63 percent) also rank high (as number five and seven, respectively).

Another aspect of social protection is employment regulation, which is shown in column 8 in Table 4.1a. Here the Scandinavian countries stand out less. Sweden is among the countries with the highest employment protection, although it is even higher in Portugal, Spain and France. Finland is ranked in the middle. Compared to most other EU countries, employment protection is low in Denmark, although it is not as low as in the Anglo-Saxon countries.

Columns 10 and 12 in Table 4.1a capture the importance of active labour market policy. Column 10 shows that Denmark is the country that devotes most resources to active labour market programmes (around 1.8 percent of GDP) with Sweden third (1.2 percent of GDP). Finland ranks as number five

Figure 4.1



¹ For example, in the 1980s, the US was considered as going through a crisis, while the Japanese model of lifetime employment and the German model of vocational training and worker participation in management were much praised. Perceptions changed when the latter two countries experienced protracted stagnation in the 1990s.

Table 4.1a

The anatomy of the Scandinavian model

	Government expenditure (percentage of GDP), 2005	Rank	Government employment (percentage of working age population), 2005	Rank	Average net unemployment benefit replacement rate, 2004	Rank	Employment protection, 2003	Rank	Expenditure on active labour market policy (percentage of GDP), 2004	Rank	Expenditure on active labour market policy (percentage of total expenditure on unemployment), 2004	Rank
Denmark	52.6	3	23.2	1	70	1	1.8	12	1.8	1	40.8	8
Finland	50.5	4	17.4	3	65	6	2.1	10	1.0	6	32.2	17
Sweden	56.2	1	23.0	2	63	8	2.6	4	1.2	3	48.4	2
Average Scandinavian countries	53.1		21.2		66.0		2.2		1.4		40.5	
Austria	49.5	6	-	10	57	10	2.2	9	0.6	12	30.0	19
Belgium	50.0	5	11.4	7	61	9	2.5	5	1.2	4	32.3	16
France	53.9	2	14.2	4	57	11	2.9	3	1.0	7	36.1	12
Germany	46.7	9	7.7	13	66	4	2.5	6	1.1	5	32.9	14
Greece	46.3	10	-	8	35	19	-	16	-	11	-	7
Ireland	34.5	16	9.6	10	64	7	1.3	7	0.6	13	41.1	5
Italy	48.1	7	9.2	12	22	20	2.4	8	0.6	2	43.7	9
Netherlands	45.7	11	8.6	6	66	3	2.3	1	1.4	10	39.2	13
Portugal	47.8	8	13.1	11	68	14	3.5	2	0.7	9	34.7	15
Spain	38.2	14	9.1	14	49	14	3.1	13	0.7	15	32.4	10
Average euro area except Finland	46.1		9.7		55		2.6		0.9		35.8	
Switzerland	-		-		69	2	1.6	14	0.8	8	43.1	6
UK	44.8	12	13.8	5	53	13	1.1	18	0.5	14	64.2	1
US	34.6	15	9.6	8	36	18	0.7	19	0.2	18	30.2	18
Australia	-		-		46	16	1.5	15	0.4	16	37.9	11
New Zealand	-		-		54	12	1.3	17	0.4	15	43.8	4
Average Anglo-Saxon countries	-		-		47.3		1.1		0.4		44.0	
Japan	39.5	13	6.5	14	48	15	1.8	13	0.3	17	38.4	10
South Korea	-		6.5	14	42	17	2.0	11	0.2	19	44.1	3

Table 4.1b

The anatomy of the Scandinavian model

	Average tax wedge on labour (at average worker earnings), 2004	Rank	Marginal tax rate on labour (at 167% of average wage)	Rank	Unionisation (percentage of employees), 2003	Rank	Coverage of collective agreements (percentage of employees), 2000	Rank	Coordination of wage bargaining, 1995-2000	Rank
Denmark	33.6	9	63.0	3	74.4	3	80	6	4	3
Finland	36.7	6	59.5	6	77.7	2	90	2	5	1
Sweden	42.0	1	67.2	2	78.0	1	90	2	3	12
Average Scandinavian countries	37.4		63.2		76.7		87		4	
Austria	31.0	11	41.9	16	34.3	6	95	1	4	3
Belgium	39.7	2	68.4	1	55.8	4	90	2	4.5	2
France	38.1	4	59.6	5	8.2	18	90	2	2	14
Germany	37.8	5	44.3	13	23.2	10	68	12	4	3
Greece	34.8	8	60.6	4	-		-		-	
Ireland	10.2	20	49.8	11	36.3	5	-		4	3
Italy	38.8	3	59.1	7	34.0	7	80	6	4	3
Netherlands	35.6	7	52.0	9	22.3	12	80	6	4	3
Portugal	24.3	13	55.6	8	23.4	9	80	6	3	12
Spain	33.5	10	37.0	18	13.8	16	80	6	4	3
Average euro area except Finland	32.4		52.8		27.9		83		3.7	
Switzerland	19.8	18	42.8	15	21.5	14	40	13	4	3
UK	20.7	15	47.7	12	30.5	8	30	14	1	16
US	20.3	16	43.3	14	12.2	17	14	17	1	16
Australia	20.9	14	51.4	10	22.8	11	80	6	2	14
New Zealand	20.2	17	39.0	17	22.1	13	25	15	1	16
Average Anglo-Saxon countries	20.5		45.4		21.9		37		1.3	

Table 4.1b (continued):

	Average tax wedge on labour (at average worker earnings), 2004	Rank	Marginal tax rate on labour (at 167% of average wage)	Rank	Unionisation (percentage of employees), 2003	Rank	Coverage of collective agreements (percentage of employees), 2000	Rank	Coordination of wage bargaining, 1995-2000	Rank
Japan	24.5	12	31.0	19	19.7	15	15	16	4	3
South Korea	15.8	19	23.3	20	-	15	10	18	1	16

Notes: The average tax wedge on labour is measured as the difference between total compensation paid by the employer and the net take-home pay of employees as a ratio of total labour compensation. The marginal tax rate on labour refers to the marginal rate of income tax plus employee and employer contributions less cash benefits as a percentage of the labour cost for a single person without children. VAT is not included in any of the tax measures. Coordination of wage bargaining is measured along a scale from 1 (firm-level wage bargaining) to 5 (nation-wide bargaining).

Sources to Tables 4.1a-b: Government expenditure; European Commission (2006c). Government employment, expenditure on active labour market policy; OECD Economic Outlook Database. Average net unemployment benefit replacement rate, employment protection, and coordination of wage bargaining; OECD (2006c). Average tax wedge on labour; OECD (2006d). Marginal tax rate on labour; OECD (2006e). Unionisation: Underlying data to Bassanini and Duval (2006). Coverage of collective agreements; OECD (2004a).

with spending of around 1 percent of GDP. Column 12 gives the share of expenditures on active policies in total expenditures for the unemployed. With this measure, Sweden ranks second (after the UK!), but Denmark only eighth. And Finland turns out to be one of the countries with the least emphasis on active labour market policy if this metric is used.

High taxes are the other side of high government expenditure and high social protection. This is illustrated in column 2 in Table 4.1b, which gives the average tax wedge on labour. The average tax wedge is highest in Sweden with 42 percent, nearly 10 percentage points above the euro area average. Finland is also among the European countries with the highest tax wedges, whereas Denmark is close to the euro area average. Column 4 in Table 4.1b shows marginal labour tax rates for high-paid workers. With 60 to 70 percent marginal tax rates, the Scandinavian countries rank high (Sweden second, Denmark third and Finland sixth) among the countries shown.

Columns 6, 8 and 10 in Table 4.1b relate to wage setting. As can be seen in column 6, the three Scandinavian economies are the ones with the highest degrees of unionisation (70 to 80 percent). Column 8 shows the nearly universal coverage of collective agreements (90 percent in Sweden and Finland, 80 percent in Denmark).² Column 12 shows that wage bargaining is highly coordinated in especially Finland and Denmark. Finland stands out as the country with the highest coordination of all the countries shown. This reflects the importance of “social contracts” negotiated between the peak-level labour market organisations and the government. In Denmark and Sweden, the main locus of bargaining is the industry level, but with a substantial amount of informal coordination. In both countries, substantial changes in bargaining arrangements have occurred over time. This has involved a larger role for local bargaining in deciding how wage increases negotiated at the industry level are to be distributed among individual employees. In Denmark, the influence of local bargaining over aggregate wage increases seems also to have increased over time (Det økonomiske råd 2003; Andersen and Svarer 2006), whereas developments in Sweden have taken a U-turn. In the 1980s and in the first half of the 1990s, there was a trend towards more decentralised determination of aggregate wage increases in Sweden when the old centralised system of bargaining between peak-level organisations was

² See also Ch. 3 of EEAG (2004).

abandoned, but from the late 1990s the degree of coordination has increased again with more cooperation among formally independent bargaining units (Avtalsrörelsen och lönebildningen 2005). This development may not be fully captured by the data in the table, which refer to 1995 to 2000.

The three Scandinavian countries stand out as very equitable both in terms of gross earnings and household income, as shown in Table 4.2.³ In 2003, the gross earnings ratios between the 9th and 1st deciles were in the 2.3 to 2.6 range, whereas the averages for the euro area and the Anglo-Saxon countries were 3.2 and 3.5, respectively. Among the countries in the table, Sweden ranks first, Finland second and Denmark third. The corresponding average ratio for household income (after taxes and transfers) in the Scandinavian countries was 2.9 in 2001 against an average of 3.9 in the euro area and 4.1 and 5.5 for the UK and the US, respectively. Here, Denmark ranks first, Sweden second and Finland fifth.

However, income inequality in terms of both gross earnings and household income has increased in all three Scandinavian countries since 1994. Gross earnings dispersion in the Scandinavian countries has followed the same trend as in the Anglo-Saxon countries, although at a slower pace. This development reflects lower wage growth for unskilled than for skilled employees. Economists usually explain this by an increase in the relative demand for skilled labour, induced by technical change biased in its favour. However, the increases in household inequality in the Scandinavian countries during the 1994 to 2001 period has no counterpart in the UK and the US.

3. Recent growth experiences

Much of the recent discussion about the Scandinavian model has focused on its perceived ability to generate higher growth than in especially the large euro countries. As can be seen from Table 4.3, GDP per capita has grown fast in Finland and Sweden over the last decade. In 1995 to 1999, only Ireland of the countries shown had higher growth of GDP per capita than Finland. Also Sweden was considerably above

the euro area average. In 2000 to 2005, the Finnish and Swedish growth rates were exceeded or matched only by Greece, Ireland and the UK. In contrast, Denmark has grown more or less at par with the euro-zone.

The earlier growth experiences of the Scandinavian countries differ substantially. Whereas GDP per capita in Finland grew by around three percent per year in 1970 to 1889, growth in Sweden and Denmark was around one percentage point lower. Finland and Sweden share a very weak growth performance in the first half of the 1990s, when both countries were exposed to severe recessions associated with large shortfalls of demand (see Section 4.1): output per capita then declined in both countries. Part of the fast growth in both countries over the last decade represents a cyclical recovery from the earlier deep recession. This aspect is often missed in other countries when Finland and Sweden are put forward as role models. For Denmark, the overall picture is not, however, affected by any such large cyclical swings: here growth developments have been more even.

A feature of growth in Finland and Sweden that is often overlooked concerns the difference between output and real income developments. These differences are small for most countries, but large for Finland and Sweden. The explanation is that the recent fast GDP growth has been accompanied by large terms of trade losses: these can be explained mainly by falling relative prices of ICT products, which make up a larger proportion of exports than imports for the two countries. Figure 4.2 shows how large adjustments should be made to arrive at a measure of real domestic income (“command GDP” according to OECD terminology). For Finland, average annual growth is revised downwards by 0.3 and 0.9 percentage points in 1995 to 1999 and 2000 to 2005, respectively. The downward adjustment for Sweden is 0.4 percentage points in both periods.⁴ In contrast, for Denmark, there are upward adjustments by 0.2 and 0.4 percentage points for the two periods.

Figure 4.3 shows that the performance of the Scandinavian countries is more “normal” in terms of command GDP growth than in terms of GDP growth. And Denmark fares much better relative to the two other Scandinavian countries.

³ Gross earnings inequality measures how different employees fare: it is a measure of wage inequality, which captures among other things firms’ willingness to pay for different skill categories. In contrast, household income inequality captures inequality in living standards. It not only reflects inequality in wages but also inequality in capital income as well as patterns of labour market participation and the way taxes and transfers affect those outcomes.

⁴ Such deteriorations in the terms of trade are one of the drawbacks of artificially stimulating high technology industries, as we point out in Chapter 6.

Table 4.2
Income distribution (earnings/income ratios between 9th and 1st decile)

	Gross earnings inequality ^a				Difference	Household income inequality ^b				Difference
	1994	Rank	2003	Rank		1994	Rank	2001	Rank	
Denmark	2.5	4	2.6	3	+0.1	2.6	2	2.7	1	+0.1
Finland	2.4	3	2.4	2	0.0	2.8	3	3.2	5	+0.4
Sweden	2.2	1	2.3	1	+0.1	2.5	1	2.8	2	+0.3
Average Scandinavian countries	2.3		2.5		+0.2	2.6		2.9		+0.3
Austria	-		-		-	3.2	5	3.2	6	0.0
Belgium	-		-		-	3.2	6	3.0	3	-0.2
France	3.1	10	3.1	8	0.0	3.4	7	3.6	7	+0.2
Germany	2.7	7	3.0	6	+0.3	3.5	8	3.6	8	+0.1
Greece	-		-		-	4.7	13	4.5	12	-0.2
Ireland	4.1	13	3.3	10	-0.8	4.2	10	4.2	11	0.0
Italy	-		-		-	4.8	14	4.8	13	0.0
Netherlands	2.6	5	2.9	4	+0.3	3.2	4	3.1	4	-0.1
Portugal	-		-		-	4.3	11	4.1	9	-0.2
Spain	4.2	14	3.5	12	-0.7	5.1	15	4.8	14	-0.3
Average euro area (except Finland)	3.3		3.2		-0.1	4.0		3.9		-0.1
Switzerland	2.7	6	3.2	9	+0.5	-		-		-
UK	3.4	11	3.5	11	+0.1	4.1	9	4.1	10	0.0
US	4.5	15	4.7	14	+0.2	6.0	16	5.5	16	-0.5
Australia	2.9	8	3.1	7	+0.2	-		-		-
New Zealand	2.3	2	2.9	3	+0.6	-		-		-
Average Anglo-Saxon countries	3.3		3.5		+0.2	-		-		-
Japan	3.0	9	3.0	5	0.0	4.4	12	5.0	15	+0.6
South Korea	3.6	12	4.0	13	+0.4	-		-		-

Notes: ^a Gross earnings refer to full-time workers. ^b Household incomes are after taxes and transfers and are adjusted for the number of persons in the household.

Sources: Gross earnings inequality: OECD earnings database. Household income inequality: Förster and Mira d'Ercole (2005).

Table 4.3
GDP growth per capita (annual averages), percent, 1970-2005

	1970-79	1980-89	1990-94	1995-99	2000-05
Denmark	1.8	1.6	1.8	2.2	1.0
Finland	2.9	3.0	-2.5	4.1	2.0
Sweden	1.6	2.1	-0.8	2.8	1.8
Weighted average Scandinavian countries	2.0	2.2	-0.5	3.0	1.6
Austria	3.6	1.9	1.4	2.7	1.0
Belgium	3.0	1.7	1.0	2.1	1.0
France	2.8	1.6	0.5	2.1	0.9
Germany	2.8	1.9	4.7	1.5	0.6
Greece	4.0	0.3	0.4	2.6	3.9
Ireland	3.3	2.7	2.8	8.3	3.7
Italy	2.5	2.3	0.8	1.4	0.1
Netherlands	2.2	1.5	1.1	3.2	0.3
Portugal	3.5	2.9	1.1	3.7	0.1
Spain	2.7	2.4	1.0	3.5	1.6
Weighted average euro area	2.7	1.9	2.0	2.1	0.9
UK	2.3	2.7	1.1	2.7	2.0
US	2.5	2.4	1.1	3.0	1.5

Sources: OECD Economic Outlook and National Accounts Databases.

3.1 Productivity developments

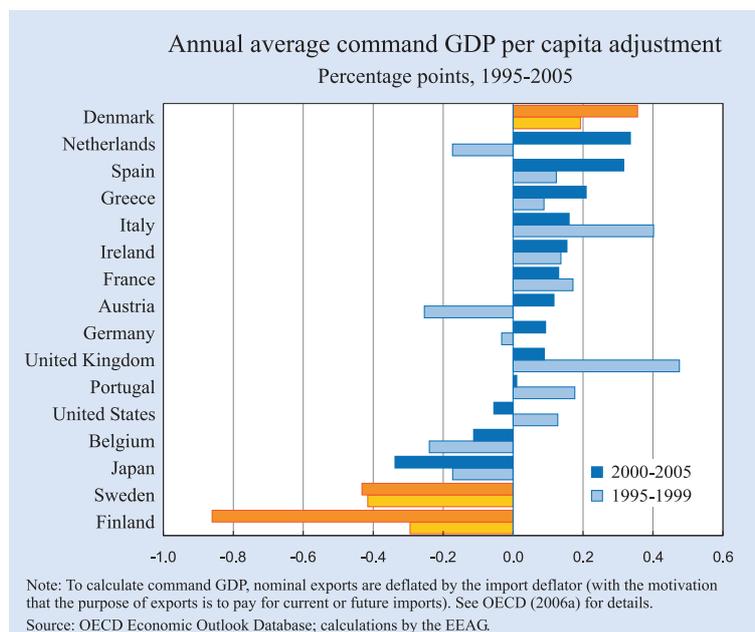
The recent higher GDP growth in Finland and Sweden than in the large euro countries is explained mainly by higher labour productivity growth (see Table 4.4). In 1970 to 1989, labour productivity growth in Sweden was substantially lower than the euro area average, whereas it reached almost the

same level in 1990 to 1994. Over the whole 1970 to 1994 period, productivity growth in Finland was more or less at par with that in the euro area. As is well-known, productivity growth in the euro area decreased after 1995, mainly driven by developments in the large euro economies.⁵ This has been the subject of an intensive debate at the European level (see, for example, EU 2004 and EEAG 2006). Developments in Denmark have more or less followed the general European trend. In contrast, productivity growth increased in both Finland and Sweden after 1995. Productivity developments in the two countries thus showed a pattern similar to the US. The fact that productivity increases in Finland and Sweden were even larger in

2000 to 2004 than in 1995 to 1999 suggests a shift in the growth trend on top of the temporary increase in growth associated with the cyclical recovery beginning around 1995.

Table 4.5 shows that the main contributing factor to recent high growth in labour productivity in Finland and Sweden has been high growth in total factor productivity.⁶ In 2000 to 2004, Finland (together with Ireland) had the highest total factor productivity growth of the countries shown, whereas Sweden came in third. As with labour productiv-

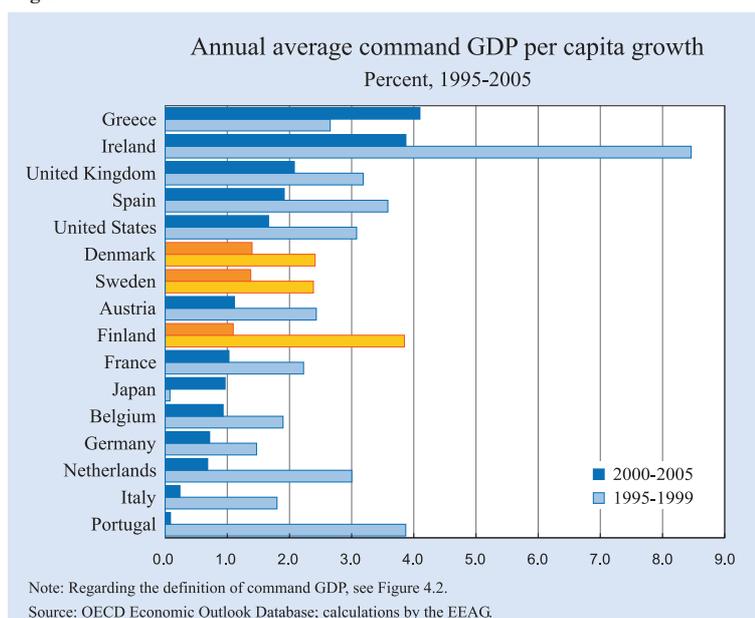
Figure 4.2



⁵ The pattern is clearest in Belgium, Germany, Italy and Spain. But in 2000-04, productivity growth also fell to low levels in Austria, France, the Netherlands and Portugal. Ireland and Greece, with high rates of productivity growth, deviate from this pattern.

⁶ Total factor productivity measures the efficiency with which both capital and labour are used. So-called *growth accounting* is used to decompose output growth into contributions from labour growth, capital growth (or as above from growth in different types of capital, such as ICT and non-ICT capital) and total factor productivity growth. In a similar way, one can decompose labour productivity growth into growth of the capital-labour ratio (capital deepening) and growth of total factor productivity. Capital deepening can in turn be decomposed into ICT and non-ICT capital deepening. See Chapter 3 of EEAG (2006) for a more detailed discussion.

Figure 4.3



ity growth, total factor productivity growth was faster in 2000 to 2004 than in 1995 to 1999 in Sweden, whereas it fell between the two periods in Finland.

Denmark, with recently only modest growth in total factor productivity, deviates from the two other Scandinavian countries. For Denmark, capital deepening, that is an increase in the capital stock

relative to employment, has been the most important driver of labour productivity. This applies to both ICT and non-ICT capital deepening. However, ICT capital deepening has also been important for both Sweden and Finland. Overall, the contributions to labour productivity growth from ICT capital deepening have been larger in the Scandinavian countries than in the eurozone.

Another way of decomposing labour productivity growth is to calculate the contributions from different sectors. Table 4.6 shows significantly higher contributions to aggregate productivity growth from ICT-producing sectors in both Sweden and Finland than in most eurozone countries in 1995 to 2003. This was the consequence of both higher productivity growth and a larger GDP share for these sectors. But higher productivity growth in ICT-using sectors also contributed to the higher overall productivity growth. In contrast, sectors classified as neither ICT-producing nor ICT-using contributed less to productivity growth in the Scandinavian countries than in the euro area.

Table 4.4
Growth in GDP per hour (annual averages), percent, 1970–2004

	1970–79	1980–89	1990–94	1995–99	2000–04
Denmark	3.6	2.4	2.4	1.8	1.4
Finland	3.8	2.9	2.1	2.7	2.8
Sweden	2.4	1.5	2.0	2.4	2.6
Weighted average Scandinavian countries	3.1	2.1	2.1	2.3	2.3
Austria	4.4	1.4	0.9	3.2	1.4
Belgium	4.0	2.1	2.9	2.7	0.6
France	4.0	3.0	1.5	2.1	1.5
Germany	4.0	2.2	3.0	1.9	1.2
Greece	4.9	0.1	0.1	2.2	2.9
Ireland	4.8	3.6	3.2	6.3	4.2
Italy	4.0	2.1	2.0	1.2	-0.4
Netherlands	3.7	2.2	1.0	1.7	0.7
Portugal	3.7	2.0	3.9	2.1	0.5
Spain	6.0	3.2	2.7	0.1	0.1
Weighted average euro area	4.3	2.4	2.2	1.7	0.8
UK	3.1	2.4	3.2	1.9	2.0
US	1.7	1.5	1.4	2.3	2.8

Sources: Groningen Growth and Development Centre, Total Economy Growth Accounting Database and Total Economy Database.

Recent empirical research has found ICT investment to have been a major determinant of the acceleration of productivity growth in the US (for example, Oliner and Sichel 2000). Other work has pointed to a relationship between ICT investment and productivity growth among OECD countries (Nicoletti and Scarpetta 2005a; Annenkov and Madaschi 2005). Since ICT investment has been relatively more important in Sweden and Finland than in most Continental Western European countries, this offers one potential explanation of the higher productivity growth in the two Scandinavian countries.

Table 4.5

Contributions to average annual growth in GDP per hour, percentage points, 1990–2004

	Growth in GDP per hour	Contribution from ICT capital deepening	Contribution from non-ICT capital deepening	Total factor productivity growth
Denmark				
1990–94	2.4	0.6	0.5	1.3
1995–99	1.8	1.0	0.5	0.3
2000–04	1.4	0.5	1.0	–0.1
Finland				
1990–94	2.1	0.5	1.1	0.5
1995–99	2.7	0.5	–0.7	2.8
2000–04	2.8	0.6	0.2	2.0
Sweden				
1990–94	2.0	0.5	0.7	0.7
1995–99	2.4	1.0	0.2	1.2
2000–04	2.6	0.4	0.3	1.9
Average Scandinavian countries				
1990–94	2.2	0.5	0.8	0.9
1995–99	2.3	0.9	0.0	1.4
2000–04	2.3	0.5	0.5	1.3
Austria				
1990–94	0.9	0.3	0.6	0.0
1995–99	3.2	0.6	0.8	1.8
2000–04	1.4	0.4	0.8	0.2
Belgium				
1990–94	2.9	0.5	0.9	1.6
1995–99	2.7	0.9	0.2	1.5
2000–04	0.6	0.4	–0.1	0.3
France				
1990–94	1.5	0.2	1.3	0.0
1995–99	2.1	0.4	0.6	1.1
2000–04	1.5	0.2	0.9	0.5
Germany				
1990–94	3.0	0.4	0.9	1.8
1995–99	1.9	0.5	0.4	1.0
2000–04	1.2	0.3	0.3	0.6
Greece				
1990–94	0.1	0.2	0.3	–0.3
1995–99	2.2	0.4	0.4	1.4
2000–04	2.9	0.3	0.8	1.8
Ireland				
1990–94	3.2	0.1	0.7	2.4
1995–99	6.3	0.6	0.9	4.8
2000–04	4.2	0.3	1.8	2.0
Italy				
1990–94	2.0	0.3	1.0	0.7
1995–99	1.2	0.5	0.6	0.1
2000–04	–0.4	0.3	0.4	–1.2
Netherlands				
1990–94	1.0	0.3	0.3	0.3
1995–99	1.7	0.6	–0.1	1.3
2000–04	0.7	0.2	0.3	0.2
Portugal				
1990–94	3.9	0.3	2.1	1.6
1995–99	2.1	0.6	0.6	0.8
2000–04	0.5	0.3	0.6	–0.3
Spain				
1990–94	2.7	0.3	1.3	1.1
1995–99	0.1	0.3	0.0	–0.2
2000–04	0.1	0.2	0.4	–0.5

Table 4.5 (continued)

	Growth in GDP per hour	Contribution from ICT capital deepening	Contribution from non-ICT capital deepening	Total factor productivity growth
Average euro area				
1990–94	2.2	0.3	1.0	0.9
1995–99	1.7	0.5	0.4	0.8
2000–04	0.8	0.3	0.5	0.1
UK				
1990–94	3.2	0.4	1.0	1.8
1995–99	1.9	0.9	0.2	0.7
2000–04	2.0	0.3	0.2	1.5
US				
1990–94	1.4	0.5	0.2	0.8
1995–99	2.3	1.0	0.2	1.1
2000–04	2.8	0.6	0.5	1.7

Sources: Groningen Growth and Development Centre, Total Economy Growth Accounting Database and Total Economy Database.

3.2 Product market deregulations

Looking for “deeper” explanations of differences in productivity growth among countries, the amount of product market regulations is an obvious candidate. There are a number of reasons why productivity growth is likely to be stimulated by competition-enhancing deregulation. This creates stronger incentives to eliminate slack in the organisation because of greater risks of losing market shares and because the entry of more competitors provides better yardsticks for comparing managerial performance. New competitors often introduce new vintages of technology and strengthen the incentives of incumbents to upgrade their technology as well, at the same time as the possibilities to do so through imitation are increased.

However, lower profit margins could also reduce the return to investment in research, so ultimately the net effect of deregulation on productivity growth is an empirical issue. But recent research on panels of sectors in the OECD countries does suggest that lower levels of product market regulation are conducive to productivity growth (Nicoletti and Scarpetta 2003, 2005a). More specifically, a low degree of product market regulation appears to accelerate the catch-up of productivity in a given sector in a country to the level of the most advanced competitors elsewhere.

The OECD has calculated various measures of product market regulations, some of which are shown in Table 4.7. These measures capture various aspects such as the degree of public ownership, regulations of

prices and other aspects of business operations, and various barriers to entry such as legal and structural impediments, administrative burdens and impediments to trade and foreign investment. The Scandinavian countries have low *levels* of product market regulation – only somewhat higher than the Anglo-Saxon countries – compared to several other European countries, but so have Germany and the Netherlands, which have experienced slow productivity growth. And Finland, with the highest productivity growth of the Scandinavian countries, has the least deregulated product markets of these countries, whereas Denmark, with the lowest productivity growth, has the most deregulated markets. However, OECD work has pointed to a correlation between productivity growth and the degree of product market regulation among OECD countries as well as between the amount of ICT investment and the degree of product market regulation (Nicoletti and Scarpetta 2005a). This could help explain the high level of such investment in the Scandinavian countries. A plausible hypothesis is that this correlation could reflect that the incentives to invest in ICT to win or defend market shares are stronger in a competitive environment than in one where incumbents are more protected.

The last four columns of Table 4.7 illustrate the amount of change in product market deregulations in various countries. Over the last two decades, product markets have been deregulated everywhere. According to the measure used, the percentage change in the degree of regulation over the whole 1982 to 2003 period has been the third largest in Denmark. The changes in deregulations have been

Table 4.6 Contributions to average annual growth in GDP per hour, 1995–2003

	Contributions (percentage points)			Productivity growth (percent)			Share of GDP (percent)		
	ICT-producing sectors	ICT-using sectors	Rest	ICT-producing sectors	ICT-using sectors	Rest	ICT-producing sectors	ICT-using sectors	Rest
Denmark	0.4	0.3	0.3	7.3	1.2	0.4	4.7	25.7	69.5
Finland	1.0	0.6	0.8	12.8	2.7	1.2	8.2	22.7	69.1
Sweden	0.7	0.6	0.5	10.6	2.4	0.7	6.7	24.0	69.3
Average Scandinavian countries	0.7	0.5	0.5	10.2	2.1	0.7	6.5	24.1	69.3
Austria	0.5	0.7	2.5	9.0	2.3	3.6	5.0	27.8	67.2
Belgium	0.2	0.3	0.9	2.6	1.2	1.4	6.3	32.0	61.7
France	0.5	0.3	1.0	-	-	1.4	-	-	70.1
Germany	0.4	0.2	1.2	9.0	0.8	1.8	5.0	29.4	65.6
Greece	0.3	0.7	1.9	7.3	3.1	2.6	3.4	22.0	74.6
Ireland	2.5	0.8	2.6	22.3	3.1	4.2	11.5	27.1	61.3
Italy	0.3	0.1	0.0	6.1	0.2	-0.1	4.6	29.6	65.8
Netherlands	0.3	0.5	0.3	5.9	1.7	0.5	5.3	28.3	66.4
Portugal	0.3	0.5	1.0	8.1	1.7	1.5	4.2	25.2	70.7
Spain	0.3	0.2	0.1	7.6	0.9	0.2	4.1	21.9	73.9
Average euro area (except Finland)	0.6	0.4	0.8	7.7	1.7	1.1	5.5	27.0	68.1
UK	0.7	0.8	0.7	10.7	2.9	1.0	6.7	27.4	65.9
US	0.8	1.3	0.4	11.4	4.5	0.6	7.2	28.3	64.4

Notes: The sum of contributions to overall labour productivity growth in some cases differ significantly from labour productivity growth in Tables 4.4 and 4.5. The main explanation is inconsistencies between different Groningen data bases. The classification of ICT-producing and ICT-using sectors follows Annenkov and Madaschi (2005). ICT-producing sectors include office machinery; insulated wire; electronic valves and tubes; telecommunication equipment; radio and television receivers; scientific instruments; communications; computer and related activities. ICT-using sectors comprise clothing; printing and publishing; mechanical engineering; other electrical machinery and apparatus; other instruments intermediation; building and repairing of ships and boats; aircraft and spacecraft; railroad and transport equipment; furniture, miscellaneous manufacturing; recycling; wholesales, commission and retail trade (except motor vehicles and motor cycles); repair of personal and household goods; financial intermediation (except insurance and pension funding); insurance and pension funding (except compulsory social security); activities auxiliary to financial ones; renting of machinery and equipment; R&D; and legal, technical and advertising services.

Source: Groningen Growth and Development Centre, 60-Industry Database.

Table 4.7

Product market regulations

	Overall regulation, 2003	Rank	Administrative regulation, 2003 ^a	Rank	Economic regulation, 2003 ^b	Rank	Time series indicator for seven industries, 2002 ^c	Rank	Percentage change in time series indicator for seven industries, 1982-95	Rank	Percentage change in time series indicator for seven industries, 1982-2002	Rank
Denmark	1.1	4	1.1	3	1.4	4	1.7	4	-36.4	5	-68.4	3
Finland	1.3	8	1.3	7	1.9	14	2.5	12	-44.4	3	-54.3	11
Sweden	1.2	7	1.1	3	1.7	11	2.0	7	-36.2	6	-56.5	9
Average Scandinavian countries	1.2		1.2		1.7		2.1		-39.0		-59.7	
Austria	1.4	10	1.9	14	1.5	7	2.5	12	-21.4	12	-51.1	14
Belgium	1.4	10	1.9	14	1.8	12	2.3	10	-29.0	9	-58.7	7
France	1.7	17	1.6	10	2.3	19	3.3	17	-19.7	13	-44.7	16
Germany	1.4	10	1.9	14	1.8	12	1.7	4	-28.7	10	-65.8	4
Greece	1.8	19	1.9	14	2.2	17	4.2	19	-4.6	19	-25.6	19
Ireland	1.1	4	1.1	3	1.5	7	3.3	17	-19.5	14	-42.6	17
Italy	1.9	20	1.6	10	2.6	20	2.7	14	-15.3	17	-54.2	12
Netherlands	1.4	10	1.9	14	1.6	9	1.7	4	-33.9	8	-68.9	2
Portugal	1.6	15	1.5	9	2.2	17	2.9	15	-18.6	15	-51.7	13
Spain	1.6	15	2.0	19	2.1	16	2.2	9	-16.3	16	-56.7	8
Average euro area except Finland	1.5		1.7		2.0		2.7		-20.7		-54.9	
Switzerland	1.7	17	2.2	20	2.0	15	2.9	15	-6.4	18	-31.5	18
UK	0.9	1	0.8	1	1.4	4	1.1	1	-62.0	1	-75.2	1
US	1.0	3	1.1	3	1.3	3	1.4	2	-34.8	7	-49.5	15
Australia	0.9	1	1.0	2	0.9	1	1.5	3	-26.2	11	-68.4	5
New Zealand	1.1	4	1.4	8	1.1	2	2.1	8	-46.6	2	-60.2	6
Average Anglo-Saxon countries	1.0		1.1		1.2		1.5		-42.4		-61.8	
Japan	1.3	8	1.7	12	1.4	4	2.3	10	-37.1	4	-55.0	10
South Korea	1.5	14	1.8	13	1.6	9	-	-	-	-	-	-

Notes: ^{a)} The indicator reflects regulatory and administrative opacity, the extent of licenses and permits systems, communication and simplicity of rules and procedures, administrative burdens on startups, administrative burdens for firms and sector-specific administrative burdens. – ^{b)} The indicator reflects domestic regulatory provisions affecting private governance and product market competition such as state control and legal barriers to entry. – ^{c)} The indicator is an unweighted average of indicators for seven industries: gas, electricity, post, telecoms, air transport, railways and freight. The industry indicators reflect barriers to entry, public ownership, market structure, vertical integration and price controls.

Sources: For columns 2, 4 and 6: Conway, Janod and Nicoletti (2003); for columns 8, 10 and 12: Nicoletti and Scarpetta (2005b).

above the average of euro area countries also in Finland and Sweden, but they have been even larger in the Netherlands and Germany and of a similar magnitude in Austria, Belgium, Italy, Portugal and Spain. However, if one looks instead at the change in regulations over the 1982–95 period, Finland and Sweden stand out as very early deregulators. This timing of reforms is likely to have been important for productivity developments over the last decade.

Product market deregulations in Sweden

The discussion above provides some support for the hypothesis that high productivity growth in Sweden and Finland has at least partly been driven by product market deregulations. Evaluations made at the national level in Sweden give even stronger support for this.

Swedish competition law was strengthened very substantially in 1993 when it was brought into line with EC regulations. Several network industries that had earlier been shielded from competition – rail transport, taxis, domestic air traffic, postal services, telecommunication, and electricity generation and distribution – were deregulated in the first half of the 1990s. Several empirical studies have found substantial productivity effects from these deregulations.⁷

Other evidence on the productivity effects of increased competition is provided by case studies of a number of sectors in a recent report from the management-consulting group McKinsey & Company (2006). The report is a follow-up of an earlier study (McKinsey & Company 1995), which emphasised how low competitive intensity and comprehensive regulations in many sectors hampered productivity developments in Sweden. The new report takes the automotive industry (trucks and cars) as an example of how the absence of regulatory and trade barriers has necessitated a high rate of efficiency improvement. According to the report, Swedish automakers – together with Japanese – have a leading international position in terms of labour productivity.

The new report also emphasises how extensive deregulations in some sectors have led to fast productivity growth relative to both earlier periods and other countries. In retailing, competition has been promoted primarily by changes in zoning laws and in munic-

ipal practice, which have made it easier for new entrants to obtain retail licenses. In food processing, the dismantling of remaining import restrictions and the opening up of a large export market in connection with the Swedish EU entry in 1995 is picked out as a crucial factor. The take-over of several Swedish food producers by foreign, more efficient, owners is also emphasised. There has also been more pressure on food producers to cut costs because of the increased competition in food retailing. In retail banking, deregulations have made it easier for new entrants to obtain licenses.

To make their case regarding the importance of competition in Sweden, McKinsey and Company (2006) contrasts the developments in the automotive industry, retailing, food processing and banking with that in construction, where deregulations have been almost absent. According to the report, the latter sector is characterised by rigid zoning laws, a bureaucratic planning process, detailed building codes, collusive behaviour and extensive regulation of the tasks that various types of construction workers can perform (see also OECD 2004b). The result is a low level of efficiency. The McKinsey and Company report estimates that 20 to 30 percent of building costs are pure “waste” (unused working time, unused operating time of machinery, material waste, building errors and theft).

3.3 Human capital and R&D

Another probable determinant of high productivity growth in Finland and Sweden is human capital accumulation. Table 4.8 shows that the percentage of the working-age population with tertiary education is very high in the Scandinavian countries (the average being 34 percent versus 23 percent in the euro area excluding Finland): only the US (39) and Japan (37) score higher. Looking at shares of the population with at least upper secondary education gives a similar picture. In the PISA measures of student performance, Finland stands out with the best results among OECD countries (Figure 4.4). Sweden does not rank as high but is also clearly above the euro area average, whereas Denmark ranks significantly lower.

Skill-capital complementarity is a possible explanation of high productivity growth in Finland and Sweden. Such complementarity might be particularly important for the diffusion of ICT technology. Several studies for the US have found evidence of

⁷ See OECD (2004b), Regelutredningen (2005) and Fölster and Peltzman (2006a,b) for surveys of these studies.

Table 4.8

Educational level, 2004

	Percentage of working age population with at least upper secondary education	Rank	Percentage of working age population with tertiary education	Rank
Denmark	81	6	32	5
Finland	78	8	34	4
Sweden	83	5	35	3
Average Scandinavian countries	81		34	
Austria	80	7	18	18
Belgium	64	14	30	7
France	65	12	24	16
Germany	84	3	25	14
Greece	56	17	21	17
Ireland	63	16	28	10
Italy	48	18	11	20
Netherlands	71	11	29	9
Portugal	25	20	13	19
Spain	45	19	26	12
Average euro area except Finland	60		23	
Switzerland	85	2	28	10
UK	65	13	26	12
US	88	1	39	1
Australia	64	15	31	6
New Zealand	78	9	25	14
Average Anglo-Saxon countries	74		30	
Japan	84	4	37	2
South Korea	74	10	30	7

Source: OECD (2005d).

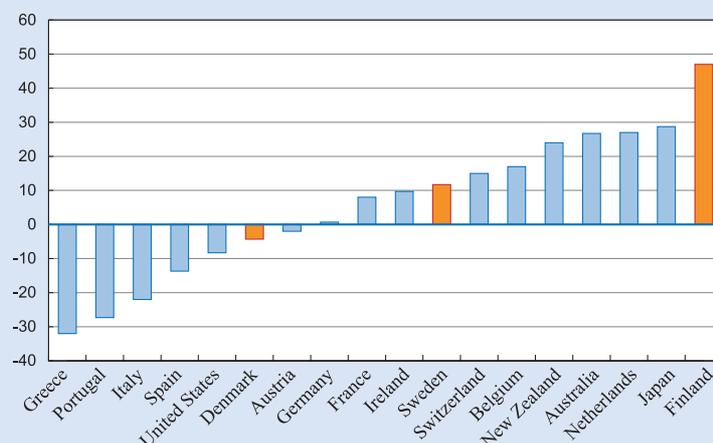
complementarity between computers and skilled labour at both the industry and establishment level.⁸

For Sweden, Gunnarsson, Mellander and Savvidou (2004) have obtained similar results using panel data for various manufacturing sectors. The largest productivity effects seem to be associated with the interaction between ICT investment and employees with upper secondary education, but there appears to be strong complementarity also between ICT and university educated engineers. The complementarity hypothesis together with the fact that the educational qualifications of the

work force have increased provides a possible explanation of why the impact of ICT investment on

Figure 4.4

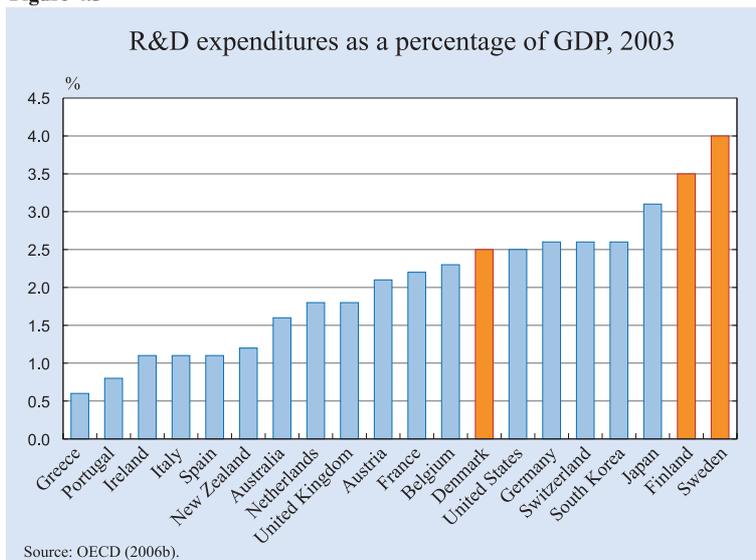
Educational attainment measured as average of PISA scores in reading, mathematics and science, 2003



Source: OECD (2006b).

⁸ See, for example, Autor, Katz and Krueger (1998), and Bresnahan, Brynjolfsson and Hitt (2002).

Figure 4.5



growth has become larger over time according to the study (and why recent studies in general find large productivity effects of such investment, whereas earlier studies did not).

High spending on R&D is likely to have been another contributing factor to high productivity growth in Finland and Sweden. As can be seen in Figure 4.5, Sweden and Finland are at the top among the countries shown and Denmark only somewhat below. A number of recent studies have documented the growth effects of R&D spending. These include, for example, Griffith et al. (2004), Zachariadis (2004) and Aiginger and Falk (2005), using data from OECD countries. OECD (2003a) estimates suggest that a 10 percent increase in business R&D expenditures, on average corresponding to around 0.1 percent of GDP in OECD countries, boosts short-term GDP growth by 0.3 to 0.4 percentage points. This could imply a long-run effect on the level of GDP per capita of about 1.2 percent under the assumption that changes in R&D do not permanently affect output growth.⁹ Ali-Yrkkö and Maliranta (2006) have analysed the productivity impact of R&D using a panel data set of Finnish firms over the period 1996–2004. There is an economically and statistically significant effect after three to five years, but not before, which suggests the existence of substantial lags between R&D investment and productivity.

⁹ The empirical results on the effects of non-business (including government) R&D are less clear-cut. R&D spending for defence purposes, fundamental science and health research generate basic knowledge with probable technology spillovers in the long term. But such effects are difficult to identify given the long time lags involved.

3.4 Can we explain productivity developments in the Scandinavian countries?

Summing up, how well can we explain the recent good productivity performance in Finland and Sweden? Both ICT-producing sectors (particularly in Finland) and ICT-using ones (particularly in Sweden) have made large contributions. High investment in ICT capital is also likely to be an important contributing factor. There is reason to believe that a well-educated work force has interacted with ICT investment in generating high productivity growth. Early product market deregulations are likely to have created strong incentives for efficiency increases and facilitated the adoption of ICT technology.

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4. Labour market outcomes

Labour market developments have differed substantially between the three Scandinavian countries. A first illustration is provided by Table 4.9 and Figure 4.6, which show how registered unemployment has developed. In Denmark, unemployment rose substantially from the mid-1970s and reached a peak as early as 1983. There were reductions in the late 1980s, but a new higher peak was reached in 1993. After that, large reductions occurred during a ten-year period, although there has been a small increase again in the last few years.

Finland, and in particular Sweden, managed to hold down unemployment until the 1990s, when it rose dramatically and reached peaks that were unprecedented in these countries. The peak in Finland and the increase from 1970 to the peak year (1994) were the second highest in the OECD area (only Spain fared worse). After the dramatic increases, unemployment fell again in both Finland and Sweden. In Finland, there has been a continuous fall from 1994, whereas unemployment in Sweden fell from 1998. There were some increases again in Sweden in 2003 to 2005 before unemployment started to turn down again in 2006. Denmark now belongs to the group of OECD countries with the lowest unemployment. Current unemployment in Sweden is somewhat higher, but lower than the euro area average although not

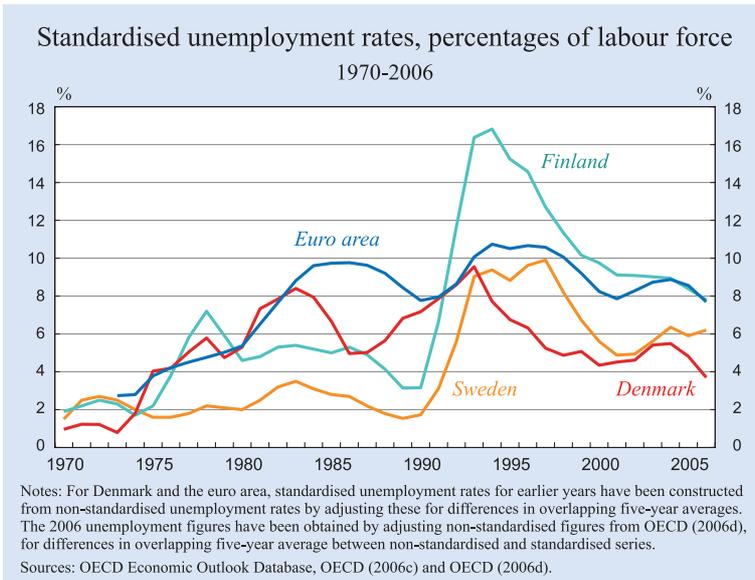
Table 4.9 Standardised unemployment rates, 1970–2006

	Unemployment (1970)	Unemployment (peak year)	Unemployment (2006)	Change in unemployment (peak year – 1970)	Change in unemployment (peak year – 2006)	Change in unemployment (2006 – 1970)
Denmark	1.0	9.6 (1993)	3.7	8.6	-5.9	2.7
Finland	1.9	16.8 (1994)	7.8	14.9	-9.0	5.9
Sweden	1.5	9.9 (1997)	6.2	8.4	-3.7	4.7
Average Scandinavian countries	1.5	12.1	6.0	10.6	-5.5	4.5
Austria	-	5.2 (2005)	4.5	-	-0.7	-
Belgium	2.1	12.6 (1982)	8.6	10.5	-4.0	6.5
France	2.5	11.7 (1994)	8.8	9.2	-2.9	6.3
Germany	0.8	9.5 (2004)	8.4	8.7	-1.1	7.6
Greece	-	12.0 (1999)	9.1	-	-2.4	-
Ireland	-	16.6 (1987)	4.4	-	-12.2	-
Italy	5.3	11.3 (1998)	7.1	6.0	-4.2	1.8
Netherlands	1.0	12.0 (1983)	4.6	11.0	-7.4	3.6
Portugal	-	8.5 (1986)	7.5	-	-1.0	-
Spain	2.4	21.4 (1985)	8.4	19.0	-13.0	6.0
Average euro area except Finland	2.0	12.1	7.7	10.7	-4.2	5.0
Switzerland	-	4.5 (2005)	3.9	-	-0.6	-
UK	3.0	12.4 (1983)	5.5	9.4	-6.9	2.5
US	4.8	9.5 (1982–1983)	4.6	4.7	-4.9	-0.2
Australia	1.6	10.6 (1993)	5.0	9.0	-5.6	3.4
New Zealand	-	10.4 (1992)	3.8	-	-6.6	-
Average Anglo-Saxon countries	3.1	10.7	4.6	7.7	-5.2	0.4
Japan	1.1	5.4 (2002)	4.2	4.3	-1.2	3.1
South Korea	-	7.0 (1998)	3.4	-	-3.6	-

Notes: For Denmark and the euro area, standardised unemployment rates for earlier years have been constructed from non-standardised unemployment rates by adjusting these for differences in overlapping five-year averages. The 2006 unemployment figures have been obtained by adjusting non-standardised figures from OECD (2006d) for differences in overlapping five-year averages between the non-standardised and standardised series.

Source: OECD Economic Outlook, various issues and OECD Economic Outlook Database.

Figure 4.6



as low as in the Anglo-Saxon countries. Finland is among the OECD countries with the highest current unemployment, although it is lower than in Greece, France, Germany and Spain. Although the reductions in unemployment relative to the peak years have been substantial in all three Scandinavian countries, only part of the earlier unemployment rises have been recovered. The net result is that unemployment today is considerably higher (5.9 percentage points in Finland, 4.0 percentage points in Sweden, and 2.8 percentage points in Denmark) than in 1970. The increases in unemployment relative to 1970 in Finland and Sweden compare unfavourably with the Anglo-Saxon countries (in particular the US where unemployment fell marginally) and also with Italy and the Netherlands. But the increase in Sweden is smaller than for the euro area average, whereas the reverse holds for Finland. The Danish performance is impressive: among the countries in the table, unemployment developments between 1970 and 2006 were more favourable only in the US, Italy and the UK.

An often noted feature of Scandinavian labour markets is the low incidence of long-term unemployment, as indicated by Figure 4.7. Long-term unemployment makes up a considerably smaller fraction of total unemployment than in most Conti-

mental Western European countries, although not as low as in most Anglo-Saxon countries.

Another illustration of labour market developments is provided by Table 4.10 and Figure 4.8, showing employment rates (employment as percentages of working-age population). The total employment rates in Denmark and Sweden are among the highest in the OECD area. Among the countries shown, Denmark ranks second (after Switzerland only) and Sweden fourth (after New Zealand as well). Finland ranks considerably lower, and after all the Anglo-Saxon countries, but with a higher employment rate than most of the other countries in the eurozone. The high employment rates in Denmark and Sweden in particular seem usually to be what one has in mind when referring to the Nordic “employment miracle”. The developments of employment mirror those of unemployment over the last fifteen years. In Finland and Sweden, the unemployment increases in the early 1990s had their counterparts in very large falls in the employment/population ratios (by around 14 percentage points in Finland and by nearly 12 percentage points in Sweden). From the mid-1990s, employment rates have recovered, but the earlier levels have not been restored. In Denmark, in

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Figure 4.7

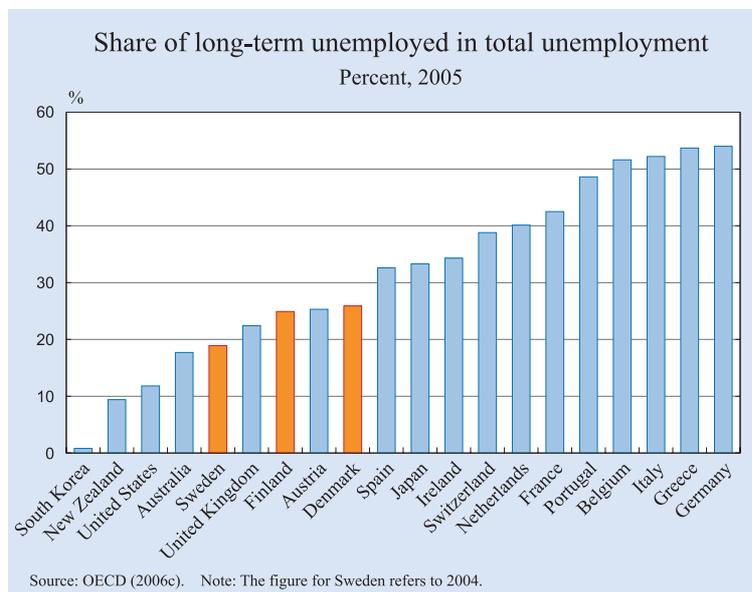


Table 4.10
Employment rates, percentages of population in various age and gender groups, 2005

	Total 15–64	Men 15–64	Women 15–64	Total 15–24	Total 25–54	Total 55–64
Denmark	75.5	80.1	70.8	62.0	83.9	59.8
Finland	68.0	69.4	66.5	39.2	81.7	52.6
Sweden ^a	73.5	75.0	71.8	51.5	82.9	69.5
Average Scandinavian countries	72.3	74.8	62.7	50.9	82.8	60.6
Austria	68.6	75.4	62.0	53.1	82.6	31.8
Belgium	61.0	67.7	54.1	26.6	78.3	32.1
France	62.3	67.8	56.9	26.0	79.6	40.7
Germany	65.5	71.4	59.6	42.6	77.4	45.5
Greece	60.3	74.5	46.2	25.3	74.3	41.6
Ireland	67.1	76.2	58.0	46.3	78.0	51.7
Italy	57.5	69.7	45.3	25.5	72.2	31.4
Netherlands ^a	72.0	78.8	65.0	63.6	81.5	44.8
Portugal	67.5	73.4	61.7	36.1	80.8	50.5
Spain	64.3	76.4	51.9	41.9	74.7	43.1
Average euro area except Finland	63.4	71.7	55.2	36.2	76.9	41.0
Switzerland	77.2	83.9	70.4	59.9	85.1	65.0
UK	72.6	78.6	66.8	58.1	81.1	56.8
US	71.5	77.6	65.6	53.9	79.3	60.8
Australia	71.6	78.5	64.7	63.6	78.8	53.7
New Zealand	74.6	81.5	68.0	56.9	82.0	69.7
Average Anglo-Saxon countries	72.6	79.1	66.3	58.1	80.3	60.3
Japan	69.3	80.4	58.1	40.9	79.0	63.9
South Korea	63.7	75.0	52.5	29.9	73.4	58.7
<i>Note:</i> ^a 2004.						

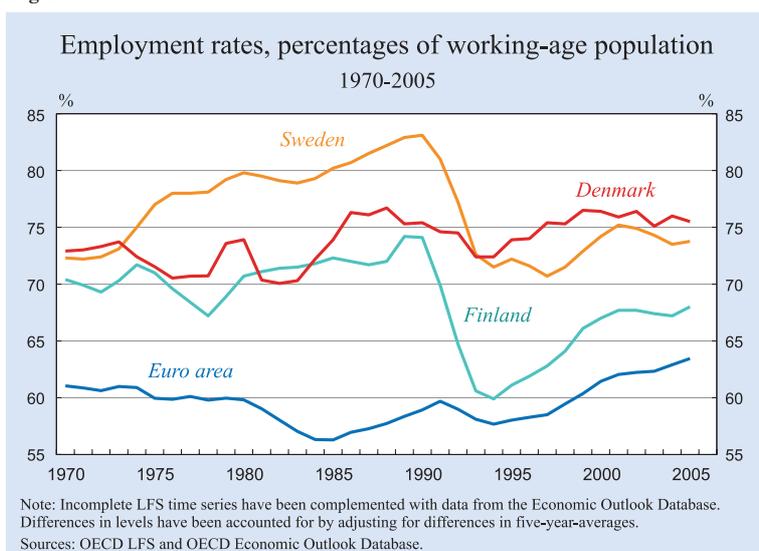
Sources: OECD LFS Database and OECD (2006c).

contrast, the current employment rate is only marginally below the earlier peak in the late 1980s.

Table 4.10 shows that the high employment rates in the Scandinavian countries reflect to a large extent high female employment. The Dutch Ministry of Finance (2005) expresses this with the pregnant formulation that “the employment success of the Nordics is of a feminine nature”. Whereas the average employment rate for men in the Scandinavian countries is only 3.1 percentage points higher than the euro area average (74.8 percent versus 71.7 percent), the difference is as large as 14.5 percentage points for women (69.7 percent versus 55.2).

Another noteworthy feature of the Swedish and Danish labour markets is the high employment among older workers. With almost 70 percent, Sweden has the highest employment rate among all the countries shown for 55 to 64 year olds. Denmark ranks a bit lower with around 60 percent. In contrast, employment rates for this age group are in the 30 to 40 percent range in most continental eurozone countries. Finland has been much less successful in this respect with an employment rate for elderly workers of only around 50 percent. Among the countries in the table, only New Zealand can compete with Sweden when it comes to employment for older workers.

Figure 4.8



Saxon countries, but higher than most continental euro countries. Finland conforms more to the general continental European picture of low youth employment.

Table 4.11 decomposes the differences in the overall employment rate in the various countries shown to the eurozone average into contributions from males and females and from various age groups. The higher female employment rate in the Scandinavian countries explains the bulk of the difference in the total employment rate between the Scandinavian countries and the

eurozone: on average, 7.5 percentage points out of 8.9, that is 84 percent of the difference. This is a considerably larger share than for the Anglo-Saxon coun-

In terms of youth employment, Denmark, with 62 percent, ranks very high (at par with Australia, the Netherlands and Switzerland). With around 50 percent, Sweden ranks lower than the Anglo-

Table 4.11

Contributions to differences in total employment rates relative to the euro area average from differences in employment rates for various gender and age groups, 2005^{a)}

	Total 15-64	Men 15-64	Women 15-64	Total 15-24	Total 25-54	Total 55-64
Denmark	12.1	4.2	7.8	4.1	4.3	3.7
Finland	4.6	-1.2	5.7	0.3	2.4	1.9
Sweden ^{b)}	10.1	1.7	8.3	1.0	3.5	5.6
Average Scandinavian countries	9.2	1.6	7.5	1.7	3.5	4.0
Austria	5.2	1.8	3.5	3.0	3.8	-1.5
Belgium	-2.4	-2.0	-0.4	-1.7	1.0	-1.4
France	-1.1	-2.0	1.0	-2.4	1.4	0.0
Germany	2.1	-0.2	2.3	1.1	0.3	0.7
Greece	-3.1	1.4	-4.4	-1.8	-1.6	0.2
Ireland	3.7	2.3	1.5	1.9	0.6	1.3
Italy	-5.9	-1.0	-4.8	-1.5	-2.8	-1.5
Netherlands ^{b)}	8.6	3.6	5.0	4.9	3.0	0.7
Portugal	4.1	0.8	3.4	0.0	2.6	1.6
Spain	0.9	2.4	-1.5	1.3	-1.1	0.6
Average euro area except Finland	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	13.8	6.1	7.7	4.1	5.4	4.3
Australia	8.2	3.4	4.9	5.4	1.1	1.8
New Zealand	11.2	4.8	6.6	4.2	3.0	4.1
UK	9.2	3.4	6.0	3.7	2.6	2.9
US	8.1	2.9	5.4	3.4	1.6	3.2
Average Anglo-Saxon countries	8.3	3.0	5.5	3.5	1.8	3.1
Japan	5.9	4.4	1.6	0.6	1.0	4.5
Korea	0.3	1.6	-1.2	-0.6	-1.9	2.8

Notes: ^{a)} Column 2, labeled "Total 15-64", shows how much higher the total employment rate is than the average for the euro area (except Finland). Columns 3 and 4 decompose this difference into contributions in percentage points from males and females, respectively. Columns 5-7 decompose the difference instead in contributions from different age groups. - ^{b)} 2004.

Source: OECD (2006c).

tries, where a higher female employment rate explains 62 percent of the difference to the euro area (5.7 percentage points out of 9.2). Higher employment for elderly workers accounts for about as much of the difference in overall employment to the euro area countries in the Scandinavian countries as in the Anglo-Saxon ones (3.4 percentage points out of 8.9, that is 38 percent, versus 3.2 percentage points out of 9.2, that is 35 percent). The other side of this is that, on average, higher youth employment makes a smaller contribution in the Scandinavian economies than in the Anglo-Saxon ones to the higher overall employment rate than in the eurozone, although the contribution is high in Denmark.

4.1 The determinants of (un)employment developments

Much empirical research has tried to account for unemployment differences both across OECD countries and over time (that is, to explain unemployment in a panel of these countries). The main focus has been to explain the development of structural (equilibrium) unemployment by exploring the explanatory power of differences in various institutional factors after controlling for cyclical developments.

General research results¹⁰

The panel data studies typically find that generous unemployment benefits tend to raise unemployment. Many of the studies find that high union density and/or a high coverage of collective agreements do the same. There is somewhat more uncertainty about other variables. Although almost all studies find that a high coordination of unions (and employers) in wage bargaining promotes low unemployment, results on decentralisation of bargaining to the level of the firm differ. According to the majority of studies, such decentralisation results in higher unemployment than bargaining at the sector level, but a very substantial minority supports the Calmfors-Driffill (1988) hypothesis of a hump-shaped relationship between the degree of coordination and unemploy-

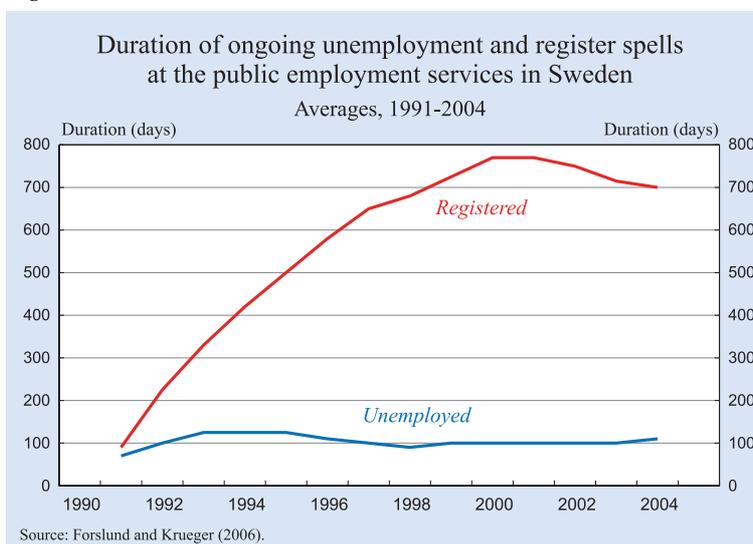
¹⁰ See OECD (2006c) for an extensive survey of recent studies.

ment (with the highest unemployment occurring with an intermediate degree of coordination).¹¹ Some studies have found labour tax wedges to be an important determinant of structural unemployment, whereas others have not. More recent studies, however, often allocate an important role to tax wedges (for example, Belot and van Ours 2004, Nickell, Nunziata and Ochel 2005, and Bassanini and Duval 2006). Only a few studies have looked at the effects of product market regulations on unemployment, but there is some evidence that a low degree of product market regulation is conducive to low unemployment (for example, Nicoletti et al. 2001 and Bassanini and Duval 2006).

Many studies have looked at the effects of active labour market programmes. A common finding is that a larger size of programmes tends to reduce (open) unemployment. This is, however, to a large extent likely to be a mechanical effect because jobless workers are reclassified from unemployed to programme participants. Indeed, it is clear that the use of “active” programmes to interrupt spells of open unemployment is a major explanation of the low incidence of (registered) long-term unemployment in the Scandinavian countries. This is illustrated for Sweden in Figure 4.9, which compares average durations of open unemployment and of registration as a jobseeker at a labour market office (implying that the registered person is either openly unemployed or participating in a labour market programme). Whereas the average duration of open unemployment stayed more

¹¹ See Chapter 3 in EEAG (2004) for a review of the results of various studies on this point.

Figure 4.9



or less unchanged at around 100 days during the economic crisis of the 1990s, the average duration of registration increased to almost two years and still remains close to that level.

It is uncertain whether placement in active labour market programmes reduces the total jobless rate (open unemployment plus programme participation) and raises regular employment; indeed a number of studies suggest the reverse (see Calmfors, Forslund and Hemström 2004). There is some evidence that labour market training is the active labour market programme with the most favourable aggregate effects on regular employment (Boone and van Ours 2004, Bassanini and Duval 2006), presumably because the risk of crowding out of regular employment are much smaller for such programmes than for subsidised job schemes.

Conclusions on (un)employment levels in the Scandinavian countries

Several features of the traditional Scandinavian model are not conducive to low unemployment: generous unemployment benefits, high labour taxes, high union density and wide coverage of collective agreements. Factors that promote low unemployment are a high degree of coordination of wage bargaining and fairly deregulated product markets (see Section 3 above). Also, extensive active labour market programmes (mainly in Denmark and Sweden) are likely to hold down open unemployment.

Evaluating the balance of factors, it may appear surprising that employment outcomes are as good as they are in the Scandinavian countries. A possible explanation is that various factors *interact* in such a way that the employment-friendly features of the Scandinavian model are more effective in counteracting the employment-hostile ones than elsewhere. For example, high labour taxes are likely to have less adverse effects on employment under highly coordinated wage bargaining. The reason is that unions then have to take into account that wage increases to compensate for high taxes lead to rises in unemployment, which require further tax increases to pay for the unemployed and so on. The studies of, for example, Daveri and Tabellini (2000) and Nickell, Nunziata and Ochel (2005) support this hypothesis. Also, one would expect high union density and wide coverage of collective agreements to have smaller adverse unemployment effects the higher is the degree of bargaining coordination. This hypothesis receives

empirical support in, for example, Belot and van Ours (2004).

Lindgren (2006) focuses explicitly on interaction effects. The conclusion is that high “latent wage pressure” due to generous unemployment benefits, high union density and low competition in product markets causes less unemployment in an economy with highly coordinated wage bargaining than in one with decentralised bargaining. The three Scandinavian countries are the ones with the highest “latent wage pressure” in Lindgren’s sample, and Finland and Denmark, but not Sweden, have a high degree of coordination in wage bargaining according to his metric.¹²

Another interaction may be between active labour market policy and unemployment insurance. Boone and van Ours (2004) and Bassanini and Duval (2006) find some evidence suggesting that high active labour market expenditure could mitigate the adverse unemployment effects of generous unemployment benefits. The studies put forward the explanation that active labour market programmes are an effective way of testing benefit recipients’ availability for work. But a more probable explanation is that the placement of a large proportion of the jobless in labour market programmes represents a mechanical offset to increases in open unemployment.

Empirical research thus gives some support for the view that other institutional features in the Scandinavian countries may to some extent offset the adverse employment effects of high taxes, generous unemployment benefits and high unionisation. But there are also results that suggest the opposite, for example, that generous unemployment compensation is particularly problematic for employment if taxes are high (Belot and van Ours 2004). In general, one should be aware that the results on interaction among various variables are not robust: different studies find evidence of quite different interactions.¹³ So, we are quite sceptical regarding results from studies of interaction effects.

The role of a large government sector

An important issue is whether the high government employment in Denmark and Sweden (see Table 4.1)

¹² Lindgren constructs an index of “latent wage pressure” by aggregating measures of the generosity of unemployment benefits, union density and product market regulation into one score.

¹³ See, for example, the overview in Belot and van Ours (2004).

is likely to be a major cause of high overall employment there. The answer is no. As discussed above, equilibrium (un)employment appears to be determined by a number of “labour market institutions”. We are aware of no empirical studies that have found government employment to be a determinant of aggregate unemployment and employment rates. The explanation is that a large government sector merely crowds out private employment by raising the aggregate wage level.

An interesting issue is, however, what implications a large government sector has for measured GDP and productivity. By raising the wage level and crowding out private employment, private-sector productivity is raised. The value added of non-market government output is measured by the wage sum. If the wage is above the marginal product of labour in the government sector, GDP will be overestimated. This point has been made by Sinn (2006). However, there are also counter arguments. If activities are optimally distributed between the private and the government sectors, measuring government output at wage costs (instead of at “shadow” market prices) will instead lead to an underestimation of GDP.

Female employment

According to recent research, high unemployment benefits and high labour tax wedges, as in the Scandinavian countries, exert a negative influence on female employment as well as on employment of other groups (Bassanini and Duval 2006). But there are also factors in these countries that promote female labour force participation and employment (Jaumotte 2004, Bassanini and Duval 2006). One such factor is low relative taxation of second earners in a household: second earners are more or less taxed at the same rates as single earners (especially in Finland and Sweden), whereas tax rates for second earners are considerably higher than for single earners (around 50 percent) in, for example, Belgium, Germany and France due mainly to dependent spouse deductions (OECD 2005c). In addition, high tax progressivity – which makes it more beneficial for a household to earn a given before-tax income through two breadwinners than through only one – provides a strong incentive for female labour force participation in the Nordic countries.

Not surprisingly, the extent of childcare subsidisation has also been shown to be important for female labour market participation. Here, the Scandinavian

countries stand out as the OECD countries with the most generous subsidies (OECD 2005c). Whereas public expenditure on formal day-care and pre-primary education amounts to around 0.5 percent of GDP in Belgium, the Netherlands, the UK and the US and to 0.8 percent in Germany, it amounts to 2.7 percent in Denmark, 1.9 percent in Sweden and 1.5 percent in Finland. Generous parental leave provisions in these countries also appear to promote female labour-market participation, according to existing studies.

That childcare subsidies raise female employment does not necessarily mean they are desirable from a social welfare point of view. On the one hand, the subsidies tend to offset the distortionary effects of high marginal taxes on labour supply. These effects are larger for females than males, as female labour supply is more elastic (see, for example, Aronsson and Walker 2006). On the other hand, childcare subsidies may create another distortion by generating excessive consumption of childcare at the expense of other goods and services. Rosen (1995) maintained that the amount of subsidisation in Sweden is too large and results in “too many mothers taking care of other women’s children and too few being involved in the production of non-household goods and services”.¹⁴

Causes of the unemployment reductions in Finland and Sweden

Above, we documented the reductions in unemployment (and rises in employment) that have taken place in Denmark, Finland and Sweden from the mid-1990s. The causes of these reductions seem to differ substantially among the three countries. According to the OECD (2006c), the unemployment reductions in Sweden and Finland since the mid-1990s are fully explained by cyclical recoveries.¹⁵ Similar results are obtained by Lindblad and Sellin (2006) for Sweden and by Honkapohja et al. (2006) for Finland. Using a different modelling strategy, which tries explicitly to model the determinants of equilibrium unemploy-

¹⁴ Note, however, that Rosen did not consider the fact that married women’s labour supply decisions do not take into account the costs for social assistance in case women end up as single mothers after divorce. This externality has been claimed to be important (Kolm and Lazear 2006). Note also that to the extent that childcare is provided by the government in the Scandinavian countries, instead of within families, this tends to give an overestimation of GDP as compared to countries with less government-provided childcare.

¹⁵ See Chapter 2 of the OECD study. The estimates build on statistical filtering techniques (so-called unobserved components models), where Phillips-curve relationships are used to decompose actual unemployment into a cyclical part and a structural (equilibrium) part. The basic idea is that a decreasing rate of inflation is a sign of actual unemployment exceeding structural unemployment and vice versa. See also Richardson et al. (2000).

ment as described above, Bassanini and Duval (2006) also find that the whole of the Swedish unemployment reduction can be explained by a lower output gap, whereas the finding for Finland is that this factor accounts for around four fifths of the unemployment reduction.

The cyclical explanation of unemployment reductions in Finland and Sweden is not surprising, as the large unemployment rises in 1991 to 1993 in the two countries were clearly triggered by large shortfalls of demand. There were deep financial crises with falling asset prices and debt deflation after the bursting of asset price bubbles. The crises were aggravated by the attempts to defend fixed exchange rates by high interest rates in a situation when earlier inflation had already caused substantial real exchange rate appreciations. The situation was made worse in Finland by the loss of the Soviet export market and in Sweden by the timing of a tax reform that substantially reduced capital income tax rates and interest rate deductibility, thus raising post-tax interest rates even more than pre-tax rates.¹⁶

The myth of Danish flexicurity

The favourable unemployment developments in Denmark are of particular interest, as the Danish *flexicurity model* has been hailed as a successful way of combining flexibility (low employment protection) with social security (for example generous unemployment compensation). The proponents of this view see low employment protection as the key to high employment and claim that generous unemployment support is of only secondary importance for employment (but of first-order importance for equity).¹⁷ In line with this reasoning, the low degree of employment protection in Denmark is seen as a prime explanation of the reduction in unemployment over the last decade.

How well does this reasoning stand up to the facts? The answer is: not very well. This type of flexicurity explanation of low unemployment in Denmark is somewhat of a myth.

A first problem with the low employment protection explanation of Danish labour market developments is that the empirical studies of (un)employment in pan-

els of countries discussed above usually fail to find significant effects of employment protection on overall unemployment.¹⁸ Higher employment protection appears to reduce both job creation and job destruction, but these changes seem more or less to cancel out, leaving overall unemployment unchanged, even though they lengthen the duration of unemployment. Employment protection seems mainly to redistribute unemployment among various groups: from old people to young and from short-term to long-term unemployed (see OECD 2006c).

The interaction between employment protection, unemployment benefits and “economic turbulence”, due, for example, to restructuring associated with globalisation has been studied by Ljungqvist and Sargent (2006) in simulations of a detailed search model. Their finding is that high employment protection reduces unemployment in “tranquil” times, when unemployment is mainly “frictional”. The explanation is that the inflow into unemployment is reduced at the same time as hirings are left unchanged. (In general equilibrium, expected future layoff costs are fully shifted on to employees through lower wages.) The main cause of high unemployment in the Ljungqvist-Sargent model is the interaction between high turbulence, causing large human capital losses for laid-off workers, and generous unemployment benefits, tied to previous earnings. This interaction leads many unemployed workers to set their reservation wages above the wages at which they are offered new employment: effective replacement rates – the ratios between the unemployment benefit and the earnings on a new job – become much higher than formal rates – the ratio between unemployment benefits and previous earnings. If the degree of turbulence is moderate, more employment protection will still not raise unemployment. This will be the case only at high degrees of turbulence, but the result is then conditional on high unemployment benefits preventing lay-off costs from being shifted on to employees in the form of lower wages.

Another problem with the low employment protection explanation of unemployment reductions in Denmark is that the degree of protection has stayed more or less unchanged over the last two decades. The only major change is that restrictions on renewals of temporary employment contracts were abolished in

¹⁶ See, for example, Hagberg et al. (2006).

¹⁷ Sapir (2005) goes so far as to claim that “protecting jobs with employment legislation is definitely detrimental to employment, whereas protecting workers with unemployment insurance is potentially useful for employment”.

¹⁸ There are exceptions, such as Elmeskov, Martin and Scarpetta (1998) and Blanchard and Wolfers (2000), who find that a high degree of employment protection may raise unemployment under certain conditions. Belot and van Ours (2004) find instead that stricter employment protection *reduces* unemployment.

1990. But since these contracts play a rather modest role – only covering around eight percent of employees – the changes have been judged to be of limited importance (Andersen and Svarer 2006).

Unlike for Sweden and Finland, empirical evidence suggests that the bulk of the unemployment decline in Denmark is explained by a reduction in structural unemployment (OECD 2006c, Bassanini and Duval 2006).¹⁹ A further indication is that wage increases over the last decade have been much lower than predicted by earlier estimated Phillips curves (Det økonomiske råd 2003, Andersen and Svarer 2006).

The OECD regularly evaluates the amount of labour market reforms in the member countries (Brandt, Burniaux and Duval 2005 is a recent such attempt.) Interestingly enough, Denmark is ranked as number one in terms of total reform effort between 1994 and 2004. Out of seven areas, active labour market policy and unemployment benefits are identified as the areas where reforms have been by far the largest. There has also been a fair amount of reform relating to wage formation (see Section 2) and pension schemes (disability, early retirement as well as old-age pensions). The area with the least reform is employment protection.²⁰

Also in the Danish policy discussion, more ambitious activation efforts and the reforms of the unemployment benefit system have been emphasised. Although the benefit system is still the most generous in the OECD, the reduction in generosity has been very substantial (Det økonomiske råd 2003, Andersen and Svarer 2006). In 1993, the maximum duration of unemployment benefits was formally seven years. Eligibility could, however, be renewed through participation in “active” labour market programmes, which implied in effect unlimited benefit duration. After that, maximum duration has been cut in steps to four years today, and eligibility can no longer be renewed through participation in activation programmes. After benefits have expired, only unemployment assistance, which is significantly lower than benefits and conditional on wealth, total income of the household etc., is available. Benefit generosity has also been reduced because the maximum benefit that can be

paid out has not risen *pari passus* with wages. The result is a reduction in the OECD summary measure of the average gross replacement rate (weighted over various worker types and a five-year period) of the order of magnitude of 15 percentage points between 1995 and 2003 (Brandt, Burniaux and Duval 2005).

The other major change in labour market institutions concerns activation policies. Participation in activation programmes has gradually come to be offered at much earlier stages. There has also been a gradual strengthening of the obligation to take part in such programmes as a precondition for receiving unemployment benefits. Today, all unemployed are obliged to accept an offer to participate in an activation programme after twelve months of unemployment. Although the larger emphasis on activation measures – with a successively increasing fraction of the unemployed participating in such programmes – has received a lot of attention, evaluations of programme effects on labour market outcomes have usually not been very encouraging (Det økonomiske råd 2003, Andersen and Svarer 2006). Most programmes do not appear to have raised regular employment opportunities of participants, because locking-in effects of programmes during their duration seem to have dominated the small increases in transitions to regular employment that, according to some studies, have occurred after completion of the programmes. Instead, activation policies seem mainly to have had *ex ante threat effects*, shortening unemployment duration by changing the behaviour of the unemployed *prior* to programme participation (Rosholm and Svarer 2004).

The threat effect in conjunction with less benefit generosity may have been particularly successful in lowering youth unemployment in Denmark (see the discussion of Table 4.10).²¹ Unemployed below the age of 25 now have to choose between going into education for one year and a half (receiving only half the unemployment benefit), finding work or receiving reduced unemployment assistance.

The panel data study by Bassanini and Duval (2006) provides an attempt at attributing changes in structural unemployment among OECD countries to different factors. According to the study, the three main explanations of the reduction in the Danish structur-

¹⁹ A similar judgement has been made by the Danish Ministry of Finance (Finansministeriet 2002), whereas the Danish Economic Council attributes around 30 to 40 percent of the fall in unemployment between 1993 and 2001 to a reduction in structural unemployment (Det økonomiske råd 2003).

²⁰ The two remaining reform areas are working-time flexibility/part-time work and taxes/social security contributions.

²¹ The first reform was made in 1996. It then applied only to young people who had been unemployed for more than six months. From 1999 the rules apply to all unemployed young people. See Jensen, Rosholm and Svarer (2003) and Andersen and Svarer (2006).

al unemployment rate from 1982 to 2003 are in declining order: product market deregulations reduced tax wedges and reduced benefit generosity. Product market deregulations have contributed to lower unemployment in all OECD countries, although somewhat more so in Denmark than in most other countries. The contribution of reduced tax wedges is above average. So is the contribution from less benefit generosity, although the contribution appears much smaller than our discussion would suggest. A probable reason could be that the measures of unemployment benefits

used do not fully capture the reduction in – the formerly very long – maximum duration.

An intriguing observation is that even after the benefit cuts of the last decade, benefit generosity is still very high in Denmark, in fact the highest in the OECD area according to Table 4.1. This suggests that the *change* in the benefit level that has occurred may be more important than the *current level*. A possible interpretation of this phenomenon has been provided by Ljungqvist and Sargent (1997). They

Box 4.1

The labour-market reforms of the new Swedish government

The discrepancy between high output growth and low employment growth has been a key issue in the Swedish economic policy debate. The stress has been on the high benefit dependency rate and how recorded unemployment significantly underestimates “true” unemployment.

Low employment among immigrants has been emphasised as a particularly difficult problem: Sweden is among the OECD countries with the largest employment gap between natives and foreign-born (OECD 2005a). An important explanation is that low-skilled refugees have constituted a significant share of immigration, but high minimum wages in collective agreements, pricing low-skilled workers out of the labour market, is also a probable contributing factor. A compressed wage structure in combination with high tax wedges has also hampered the growth of private service jobs (see Figure 4.10).

The liberal-conservative parties made the employment issue the principal one in their 2006 parliamentary election campaigns. This is generally considered to have been a major factor behind their election victory. The new government has embarked on a path of labour market reforms. These include:

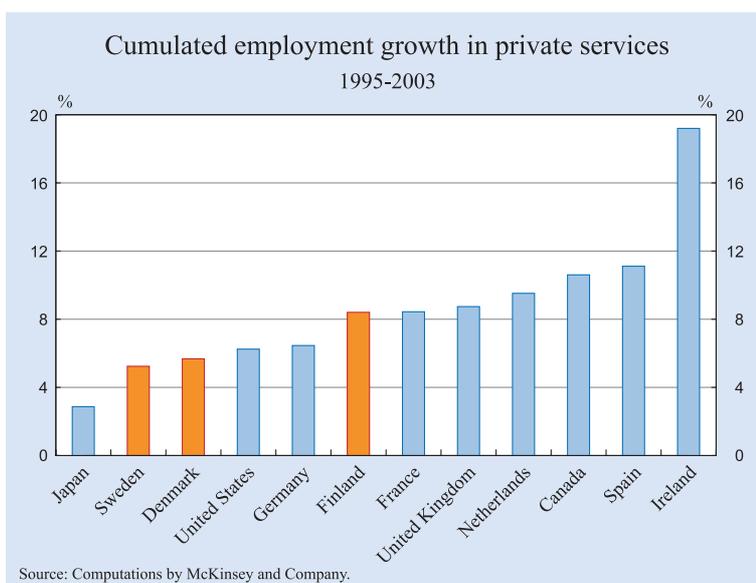
- Lower unemployment benefits for long-term unemployed. The current 80 percent replacement rate (up to a ceiling wage income) has been cut to 70 percent after 200 days and to 65 percent after an additional 100 days (250 days for unemployed with children below 18). In addition, the maximum benefit level that can be obtained for the first 100 days has been reduced somewhat and access to unemployment insurance has been restricted.
- An employment tax credit has been instituted, which reduces the average tax rate on earned income by around 1.5 percentage points and the marginal tax rate by 3 percentage points for most wage earners.
- Tax deductibility for union membership fees and fees for membership in the union-affiliated unemployment insurance funds, which administer unemployment insurance, has been abolished. Membership fees in the unemployment insurance funds have been raised.
- The pay-roll tax rate for young people (19–24) will be reduced by 7.5 percentage points.
- There will be a tax rebate on purchases of household-related services as well as a later reduction of the pay-roll tax rate for employees in some service jobs.
- The size of active labour market programmes will be cut by about one percentage point of the labour force. A new form of subsidised employment directed also against those on long-term sickness leave and disability pensions has been instituted.
- The National Labour Market Board in charge of labour market programmes will be reformed and the employment services opened up to more competition.

The reform programme thus contains both supply-side and demand-side measures. In the short term, the downsizing of active labour market programmes is likely to raise open unemployment, even if regular employment increases. In the longer term, one could expect substantial effects on structural unemployment. Even though all assessments are very uncertain, evaluations on the basis of reduced-form (un)employment equations and structural wage and labour demand equations would suggest that the cuts in benefits, taxes and active labour market programmes might reduce open unemployment by around 0.5 percentage points and raise the regular employment rate by 1.5 to 2 percentage points in the long run.³⁾ This judgement does not take into account the effects of possible reductions in unionisation rates – due to the higher membership fees in unemployment insurance funds and the abolishment of tax deductibility for union and unemployment membership fees – and the possibility of efficiency-enhancing reforms of employment services.

Usually, there is political support for comprehensive labour market reforms only in deep economic crises when large deficit problems necessitate expenditure cuts (see, for example, Chapter 2 in EEAG 2004). The problem with supply-side reforms in such a situation is that it may take a long time for the positive employment effects to materialise when demand is low, as the increased supply must then gradually create its own demand. The current situation in Sweden is much more favourable, as reforms are made in a cyclical situation with high employment growth. Supply-side reforms can then more easily generate higher employment by reducing nominal wage increases relative to price and productivity increases. The main worry is that the trade union movement (mainly blue-collar workers) might choose to pursue militant wage claims to “compensate” for the reforms.

³⁾ These assessments are based on the “baseline equation” for an “average OECD country” in Bassanini and Duval (2006) and a study of wage formation by Forslund, Gottfries and Westermarck (2005).

Figure 4.10



pointed to the possibility of *multiple equilibria*. It may have been possible in all three Scandinavian countries to combine low unemployment with generous unemployment benefits in the 1960s and 1970s because active labour market programmes could then be used in an effective way to monitor the search activities of the unemployed. But this only worked as long as unemployment remained low. Once macroeconomic shocks rocked the system and caused large unemployment rises, strict monitoring of the unemployed was no longer possible. This might have moved the economies to another high unemployment equilibrium.²² It may not be possible to escape from that without significant reductions of benefit generosity as in Denmark.

Why were labour market reforms politically feasible in Denmark already in the mid-1990s? One possible explanation is that employees were compensated by the introduction of a number of paid voluntary leave schemes. Although some of them were later abolished, they may have bought time for the positive effects of the other labour market reforms to materialise (Carcillo et al. 2005). Another contributing factor may have been that the fiscal consolidation achieved already in the 1980s provided room to combine reforms in the mid-1990s with expansionary fiscal policy action (Det økonomiske råd 2003). It is also conceivable that product market deregulations, by reducing the rents to be shared between employ-

ers and employees, reduced the political support for labour market institutions designed to distribute some of these rents to employees.

4.2 Hours actually worked

An alternative measure of labour market performance is *annual hours worked per person of working age*, which is shown in the second column of Table 4.12. In terms of this indicator, the Scandinavian countries stand out less than in terms of employment. Annual hours per person of working age are much higher than in most continental EU

countries, but they are considerably lower than in, for example, Switzerland, Japan, the US and Australia. The explanation is that *hours worked per employed person* is relatively low in the Scandinavian countries, as shown in the fourth column. This is in particular the case for Denmark and Sweden. Although working time is even shorter in, for example, the Netherlands, Germany, Belgium and France, employees in Denmark and Sweden work considerably shorter hours than employees in the US and other Anglo-Saxon countries.

A somewhat different picture of working time is given by column 6, which shows hours worked per person in dependent employment (that is excluding self-employed persons) and where a correction has been made for estimated underreporting of absences due to sickness and parenthood.²³ With this measure, the three Scandinavian countries rank among the countries with the lowest hours of work per employee. Indeed, Sweden ranks second from the bottom; only the Netherlands has lower working time according to this measure.

Figure 4.11 shows the development over time of hours worked per person of working age in the Scandinavian countries and the euro area. As with employment, there was a sharp fall in Finland and Sweden in the early 1990s followed by a partial recovery. In Denmark, there was instead a trendwise reduction from 1970 to the mid-1990s followed also there by a

²² Especially Blanchard and Wolfers (2000) have stressed the importance of such interaction between, on the one hand, macroeconomic shocks and, on the other hand, labour market institutions such as unemployment benefits.

²³ Such absences seem typically to be underreported by respondents in labour force surveys. See, for example, Confederation of Swedish Enterprise (2006) and Davis and Henrekson (2006).

Table 4.12

Hours worked

	Average annual hours worked per person of working age, 2005 ^a	Rank	Average annual hours worked per employed person, 2005	Rank	Revised annual hours worked per employed person, 2002 ^b	Rank
Denmark	1171	9	1551	16	1410	13
Finland	1133	13	1666	11	1491	9
Sweden	1166	10	1587	15	1349	14
Average Scandinavian countries	1158	-	1601	-	1417	-
Austria	1122	14	1636	13	1497	8
Belgium	936	20	1534	18	1451	12
France	956	18	1535	17	1467	11
Germany	940	19	1435	19	1480	10
Greece	1238	6	2053	2	1816	1
Ireland	1099	15	1638	12	1585	5
Italy	1030	16	1791	6	1533	7
Netherlands	984	17	1367	20	1223	15
Portugal	1137	12	1685	9	1688	2
Spain	1141	11	1775	7	1639	3
Euro area except Finland	1043	-	1645	-	1538	-
Switzerland	1258	5	1629	14	1586	4
UK	1214	8	1672	10	1546	6
US	1290	4	1804	5	-	-
Australia	1297	3	1811	3	-	-
New Zealand	1350	2	1809	4	-	-
Average Anglo-Saxon countries	1288	-	1774	-	-	-
Japan	1230	7	1775	7	-	-
South Korea	1525	1	2394	1	-	-

Notes: ^{a)} Average annual hours worked per person of working age have been calculated as hours per employed person times the employment rate. Hours worked per employed person for Korea and Switzerland are for 2004, employment rates for Sweden and the Netherlands are for 2004. – ^{b)} Absences due to sickness and parental leave have been counted twice to adjust for underreporting by respondents in labour force surveys.

Source: For average annual hours worked per person of working age and average annual hours worked per employed person: OECD (2006c). For revised annual hours worked per employed person: OECD (2004a).

partial recovery. A comparison with Figure 4.8 reveals that the recoveries are much smaller in terms of hours worked than in terms of employment. Figure 4.12

shows that the trendwise reduction in hours worked per person of working age in 1970 to 1995 in Denmark had its counterpart in a trendwise reduction

in hours worked per employed person. In Finland, there has been a downward trend in working time over the whole period shown, although reductions have been much smaller than in Denmark. Sweden shows the most variable pattern, with reductions in working time in the 1970s followed by increases in the 1980s, which then accelerated during the economic crisis in the 1990s. During the first years of the 2000s, hours worked per employee fell again.

Table 4.13 helps explain the relatively low number of hours per

Figure 4.11

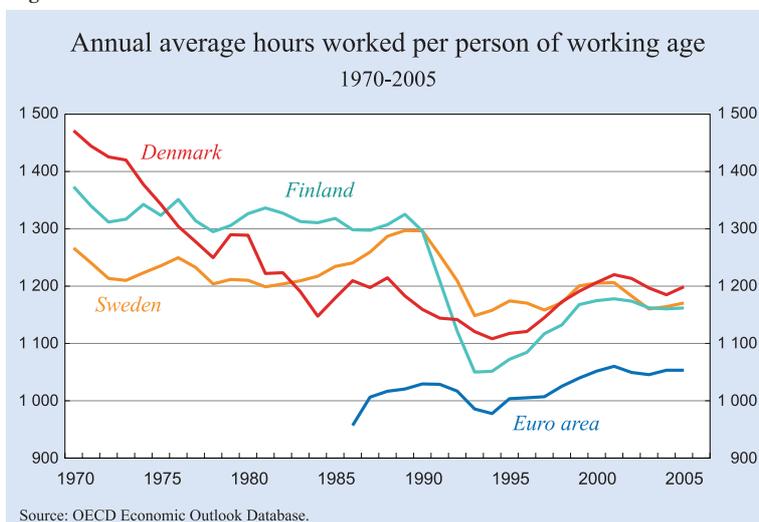
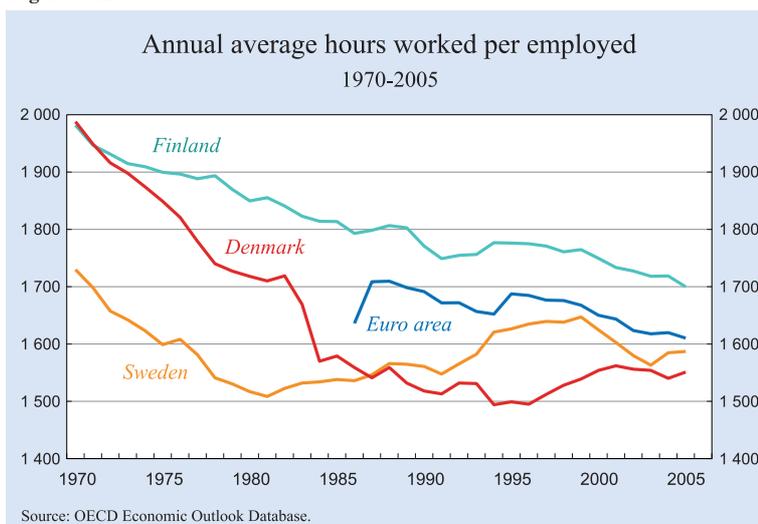


Figure 4.12



employee in Denmark and Sweden. In the Danish case, the explanation is both a short “normal” work-week and a low number of weeks worked during the year. For Sweden, the normal work week is shorter than the average in the table, but the most significant difference to other countries is the low number of weeks worked: in fact the lowest among the countries shown. This is not explained by unusually long vacations, but by the much larger absence due to sickness and parental leave in Sweden than elsewhere.

The large sickness absence has been a hotly debated issue in Sweden in recent years. Several factors are likely to have contributed. Sickness insurance is generous and medical assessment procedures have been lax: according to OECD estimates, Swedish sickness insurance is (together with that of Norway) the most generous among member countries (OECD 2003b, 2005a).²⁴ The high employment rates for both females and older workers are also contributing factors, as sickness absence rates for these groups are significantly higher than for the average employee (Riksförsäkringsverket 2003).

²⁴ With the aggregate measure of generosity used, Sweden and Norway obtain the index score 130. Other countries above the OECD average of 100 are, for example, Switzerland (126), Australia (122), Germany and Spain (115), the Netherlands (111), and Denmark (103). Countries below the OECD average are, for example, the US and the UK (80), Italy (84), France (95), and Belgium (99).

A key issue in the Swedish employment debate has concerned the interaction between sickness absence and unemployment. Unlike most other countries, sickness absence has been highly procyclical (see Figure 4.13). In particular, the reduction in unemployment from 1997 to 2002 was associated with a large increase in sickness absence. There are two possible explanations for this pattern (SNS 2005). The first focuses on the composition of employment: in an upswing more persons with health problems – and possibly also more persons with low work

morale – are employed. The second explanation stresses instead the disciplinary effect of unemployment: the incentives to turn up at work are weakened in times of low unemployment, as there are more alternative job opportunities open in case an employee with high absence were forced to quit. Taking absence from work into account puts Swedish employment developments over the last decade in a different perspective. As can be seen from Figure 4.14, the recovery in the number of *persons actually at work* has been much smaller than the rise in *recorded employment*, which includes also those on sick leave, parental leave, and study leave as well as those on vacation! In 2006 there was a gap of 12 percentage points between the shares of working age population in recorded employment and in actual work.

Figure 4.13

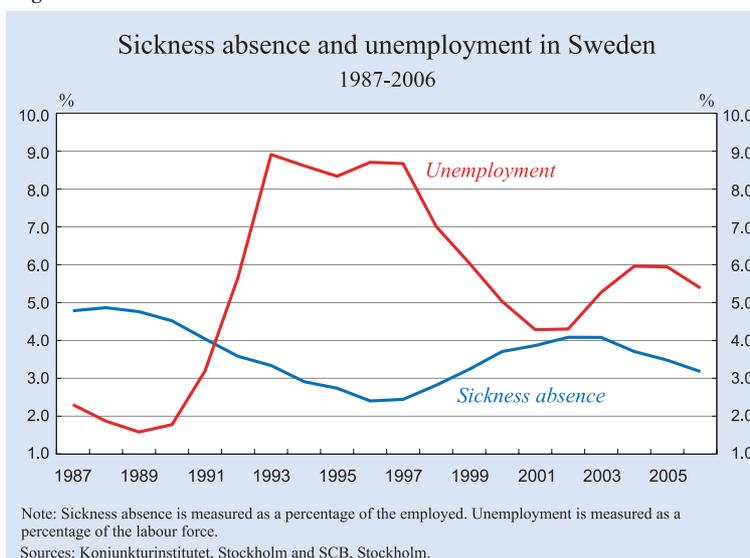


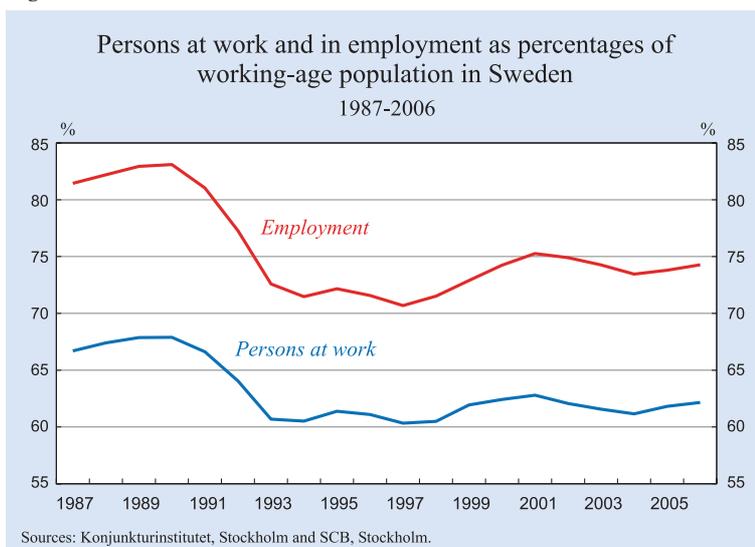
Table 4.13 “Decomposition” of revised average annual hours worked per dependent employee, 2002

	Annual hours of work	Rank	Average weekly hours on all jobs	Rank	Annual weeks worked	Rank	Holidays and vacation weeks	Rank	Reported weeks of absences due to sickness and parenthood	Rank
Denmark	1410	13	36.3	10	38.9	11	7.4	4	1.8	6
Finland	1491	9	38.8	3	38.5	12	7.0	8	2.1	4
Sweden	1349	14	38.1	6	35.4	14	6.8	9	3.8	1
Average Scandinavian countries	1417		37.7		37.6		7.1		2.6	
Austria	1497	8	38.4	4	39.0	10	7.2	6	2.6	2
Belgium	1451	12	36.3	10	40.0	9	7.1	7	2.1	4
France	1467	11	36.2	11	40.5	8	7.0	8	1.9	5
Germany	1480	10	36.5	9	40.6	7	7.8	2	1.4	8
Greece	1816	1	40.7	1	44.6	1	6.7	10	0.2	12
Ireland	1585	5	36.3	10	43.7	2	5.7	13	1.0	11
Italy	1533	7	37.4	8	41.0	6	7.9	1	1.0	11
Netherlands	1223	15	31.8	12	38.4	13	7.5	3	2.2	3
Portugal	1688	2	40.4	2	41.8	5	7.3 (5)	5	1.2	9
Spain	1639	3	38.8	3	42.2	4	7.0	8	1.2	9
Average euro area except Finland	1538		37.3		41.2		7.1		1.5	
UK	1546	6	38.2	5	40.5	8	6.5	11	1.6	7
Switzerland	1586	4	37.5	7	42.3	3	6.0	12	1.1	10

Note: When computing the annual weeks worked, reported weeks of absence due to sickness and parenthood have been counted twice to correct for underreporting by respondents in labour force surveys.

Source: OECD (2004a).

Figure 4.14



At the same time as there is a negative time series correlation between aggregate unemployment and sickness absence, there is a positive cross-section correlation over municipalities and regions (Riksförsäkringsverket 2003). There is also a positive cross-section correlation between the *increase* in sickness absence in the first years of the 2000s and unemployment in the late 1990s (SNS 2005). This strongly suggests that sickness insurance has to a large extent been used as a form of unemployment insurance. A further indication is that the relative replacement rate between sick and unemployment insurance has been shown to have a significant effect on the frequency of “sickness absence” among the unemployed and that this frequency increases when unemployed individuals approach the termination of their unemployment benefits (Larsson 2002).²⁵

A major factor behind the increase in sickness absence in Sweden from the late 1990s was an increase in long-term sick leaves among the oldest age group (60 to 64). A likely explanation is that access to disability pensions was tightened in 1997 when the practice of also taking labour market opportunities into account was ended. This led to a fall in the inflow of elderly workers into early retirement and a large increase in “formal” labour force participation for this group (SNS 2005).

The Swedish experiences provide a vivid illustration of the interlinkages between different benefit systems

²⁵ In the Swedish system, an unemployed person has been able to receive a sickness benefit – if registered as sick – and this way save unemployment benefit days and thus extend the maximum benefit period.

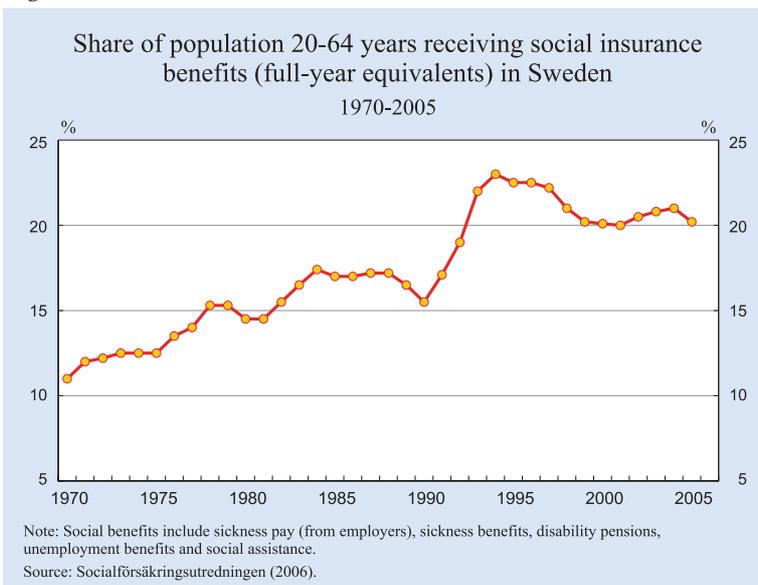
tems and the dangers of judging labour market performance by some indicators only. Limiting access to one benefit system may just result in an overflow to other systems. Developments in 2003 to 2005, when sickness absence began to fall but the inflow into disability pensions surged again, is another example. Not until in 2005 to 2006 was the reduction in sickness absence accompanied by a fall also in the inflow to early retirement. This reflects stricter gate-keeping in both the sickness insurance and the early-retirement systems. Finland also provides clear examples of linkages

between different benefit systems. In the second half of the 1990s, more restricted access to disability pensions for elderly workers led instead to an increase in the number of so-called unemployment pensioners. Further support for the hypothesis that disability pensions are used as de facto unemployment benefits in Finland is provided by a strong correlation across regions between unemployment and disability pension reciprocity rates (OECD 2006a).

The Scandinavian welfare model has certainly not done away with normal economic incentives of benefit recipients: on the contrary, the systems seem to be characterised by extensive “benefit shopping” with reciprocity rates being highly responsive to relative benefit rates and ease of access.

The interlinkages among the various benefits systems provide an argument for looking at the total benefit reciprocity rate. This is done for Sweden in Figure 4.15. The benefit reciprocity rate in 2006 was around 20 percent of the working-age population, almost double the rate in 1970. Although the rate peaked in 1995, the subsequent decline has been only a few percentage points. Interestingly enough, Danish developments in terms of the total number of benefit recipients are very similar to Swedish ones, as shown in Figure 4.16. Here, too, there was a trendwise increase up to the mid-1990s. Compared to that, the subsequent decline is marginal. So, in terms of total benefit dependency, labour market developments in the Nordic countries look far less impressive than in terms of conventional unemployment measures.

Figure 4.15



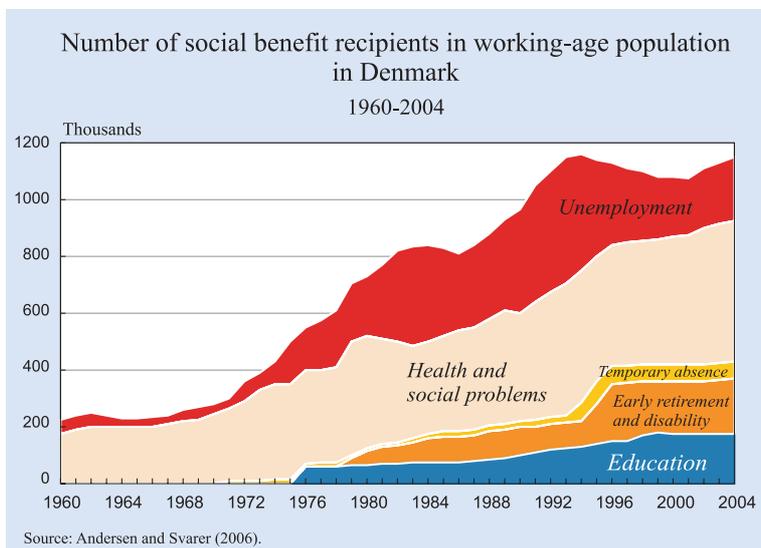
5. Inflation and public finances

Yet another aspect of the macroeconomy concerns inflation and public finances. On this count, all three Scandinavian countries have recently been doing very well.

5.1 Inflation and exchange rate policy

Figures 4.17a and 4.17b show inflation. All three Scandinavian countries were characterised by high inflation in the 1970s and 1980s, very much like other European countries with the exception of Germany. All three countries have subsequently participated in the moderation of inflation that has occurred throughout the OECD area. The patterns

Figure 4.16



and methods have, however, differed among the Scandinavian countries.

Denmark was the first Scandinavian country to opt for a low-inflation policy. This was done already in 1982 when the Danish government, after a number of exchange-rate realignments in 1979 to 1982, chose to restore international cost competitiveness through contractive fiscal policy (including the so-called “kartofellkur” – the “potato cure”) as well as mandatory wage freezes and abolishment of wage indexation. Denmark was a formal member of the ERM

already then and defended its exchange rate vigorously in the early 1980s through a high interest rate policy. Except for very temporary deviations, the fixed exchange rate even survived the general European exchange rate turbulence of the early 1990s. When the monetary union started in 1999, Denmark remained outside, but the fixed exchange rate – now to the euro within ERM II – remains a cornerstone of the country’s low-inflation policy.

After large devaluations, Sweden and Finland both tried to maintain fixed exchange rates during the 1980s and early 1990s. Although the policy commitments to a fixed exchange rate (but outside the ERM system) were gradually strengthened, these were not credible because of the history of earlier exchange rate devaluations and fiscal policies that were inconsistent with the exchange rate pegs. There were renewed bouts of inflation in both countries around 1990. The fixed exchange rates had to be defended through very high interest rates. In the end after serious currency crises, both countries were forced to let their currencies float in 1992, which led to large currency depreciations (in the Finnish case after an exchange rate realignment already in 1991).²⁶

²⁶ See, for example, Jonung (1999), Finans- och penningpolitiskt bokslut för 1990-talet (2000) or Hagberg, Jonung, Kiander and Vartia (2006).

Figure 4.17a

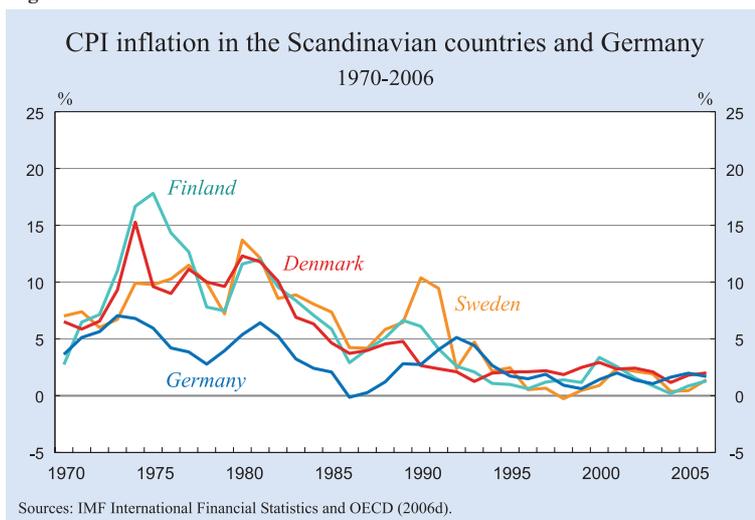
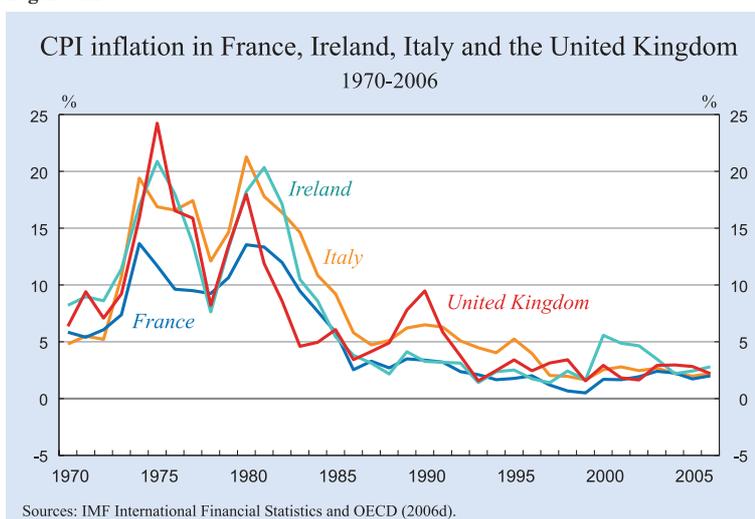


Figure 4.17b



The currency depreciations in Sweden and Finland kick-started the recoveries after the deep recessions in the early 1990s. Unlike in the past, they did not generate new inflation cycles. But the policies followed by the two countries were very different. Finland entered the ERM system in 1996 and joined the euro when it started in 1999. In contrast, Sweden stayed outside both the ERM and the EMU. Instead, the central bank adopted an inflation target (2 percent with a tolerance margin around it of 1 percent in both directions) from 1995. In 1999, there was a major central bank reform making the bank independent of the political system in more or less the same way as the ECB.

Past experiences of inflation-devaluation spirals had in the end a large impact on the resolve to pursue low-inflation policy in all three Scandinavian countries. It is more difficult to understand why so different ways

of doing this were chosen: an exchange rate peg in Denmark, euro membership in Finland, and inflation targeting under a flexible exchange rate in Sweden. This illustrates how the underlying motives for a policy change often are the key determinants of macroeconomic outcomes rather than the exact institutional reforms. A comparison between Sweden and Finland is instructive. In Finland, the need to stop the earlier inflation-devaluation cycles was advanced as an important argument for adopting the euro, whereas in Sweden the decision not to adopt the euro and a fear that this might entail risks of inflation motivated the move towards an independent central bank.²⁷

5.2 Public finances

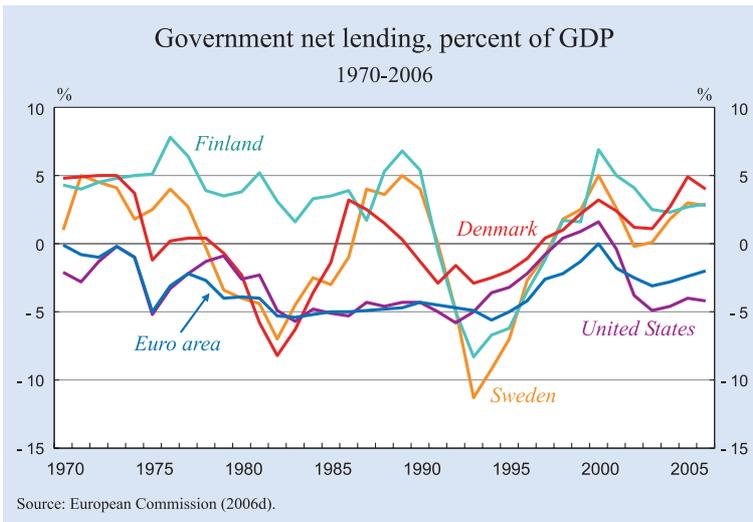
Figures 4.18 and 4.19 illustrate the state of public finances in the Scandinavian countries and the eurozone. Recent developments in the Scandinavian countries contrast favourably with those in the eurozone. All three countries now run sizable budget surpluses and government debt ratios are on a downward path.

The recent strong public finances in the Scandinavian countries are in stark contrast to earlier experiences. In the late 1970s and early 1980s, budget deficits were larger in Denmark than in the eurozone and government indebtedness was high and rapidly increasing. Both Finland and Sweden suffered dramatic deteriorations of their fiscal situations during the recessions in the early 1990s.

The common denominator for all three Scandinavian countries is that acute fiscal crises triggered a rethinking of fiscal policy and forged a consensus on the need for fiscal discipline. Arguably, such sharp crises are

²⁷ On the basis of various government policy statements, Calmfors (2005) argues that this motive was much more important in Sweden than EU requirements on the independence of the central bank. Regarding Finland, see Valtioneuvosto (1997).

Figure 4.18



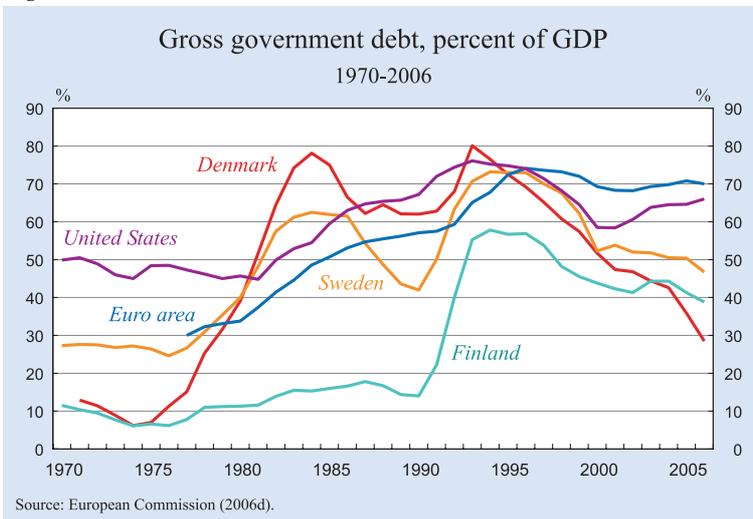
more conducive to a radical change in course than the more creeping fiscal crises experienced in recent years in, for example, France, Germany and Italy.

The experiences in Sweden are particularly instructive. When the fiscal deficit reached 12 percent of GDP in 1994, fiscal consolidation – independent of the cyclical situation – became the overriding priority of the social democratic government that took office that year. This triggered a number of reforms. Numerical targets for deficits and government debt developments were formulated (from 1994), multi-year expenditure ceilings were instituted (from 1996), and the whole budget process was reformed by the introduction of a top-down approach making it impossible to decide in Parliament on expenditure increases without cutting other expenditures, once the overall budget is approved (1997). Government policy documents from these years indicate that the main

motive was to restore the freedom of action of fiscal policy, which had been seriously circumscribed by the earlier debt increases: in 1993 to 1996 fears that the process of fiscal consolidation would be halted led to repeated interest rate hikes and large exchange rate movements.²⁸ Calmfors (2005) maintained that this motive was much more important for fiscal consolidation than the EMU convergence criteria and the stability pact requirements, although these lent more legitimacy to the fiscal consolidation and probably speeded it up: it was an explicit aim of the government to reduce the budget deficit below three percent of GDP in 1997, so that Sweden would retain the option of entering the monetary union when it started in 1999. The government even argued that staying outside the EMU imposed even tougher requirements of fiscal discipline to maintain credibility of low inflation than membership.²⁹

The fiscal policy process in Finland in the 1990s had large similarities to the one in Sweden. The huge deterioration in the budget situation in 1992 to 1993 made fiscal consolidation a central political concern. The desire to meet the requirements for EMU membership was another motive for the consolidation programme initiated in 1995. The programme covered the government's four-year term in office and subsequent governments have continued the practice of agreeing such medium-term fiscal goals.

Figure 4.19



As discussed above, the tightening of fiscal discipline in Denmark from 1982 was very much tied to the policy of using the fixed exchange rate as an anchor for low inflation. The main task of fiscal policy has been seen as keeping current inflation in line with that in the other ERM countries (today mainly the euro-zone) and preventing large budget deficits from threatening the

²⁸ See Jonung (1999) and Finans- och penningpolitiskt bokslut för 1990-talet (2000).

²⁹ Proposition 1996/97:1.

credibility of low inflation in the future. The policy of fiscal discipline has not been underpinned by any major reforms of fiscal policy institutions; instead it seems to build on a general consensus on the need for such policy.³⁰

5.3 Pension reform

As discussed extensively in the 2005 EEAG report, the future development of age-related expenditures represents a threat to long-run fiscal sustainability in all EU countries. One way to deal with the problem is pension reform. Such reforms have been carried out in all three Scandinavian countries. The most encompassing reform was the Swedish one, which was decided in 1994 after a multi-party agreement.³¹ The pension system remains largely a pay-as-you-go one, but it was transformed from one with defined benefits to one with defined contributions. Pensions are now indexed to per-capita wage growth. This could potentially involve risks for the sustainability of the system due to unfavourable employment or demographic developments. To deal with this, there is a balancing mechanism that limits the degree of indexation if the long-run financial stability of the system is threatened: this occurs if the capitalised value of contributions plus the assets in the buffer funds fall below the value of pension liabilities. The balancing mechanism is automatic according to a predetermined formula and does not require any political decisions. The new pension system has also introduced a flexible retirement age, where later retirement gives a higher pension. The radical pension reform in Sweden can only be understood as part of the consolidation efforts during the fiscal crisis in the first half of the 1990s.

There have also been pension reforms in Finland and Denmark, but these have been smaller and later than in Sweden. Some of the changes will first take effect after substantial lags. The state pension systems in these countries are also largely pay-as-go ones but still with defined benefits. Reforms in Finland in 2006, however, introduced indexing of pension benefits to life expectancy (from 2010) to ensure that increased longevity does not raise pension costs. The reform also introduces a flexible retirement age and provides financial incentives for later retirement. The overall effects of the reform are, however, difficult to judge, as the possibilities to retire early (for disability reasons)

or obtain unemployment benefits up to retirement remain large despite some changes restricting access to these systems (OECD 2006a).

In Denmark, there was also a pension reform in 2006. The main ingredients were a postponement of the eligibility age for early retirement by two years (to be implemented in 2019 to 2023) and an increase in the old-age retirement age also by two years (to be implemented in 2025 to 2029). When implemented, these ages will be indexed to life expectancy (maintaining an expected pension period of 19.5 years).

Projected rises in pension costs to 2050 are smaller in all three Scandinavian countries than in the average EU15 country – 1.3 percent of GDP in Sweden and 2.7 percent in Denmark and Finland versus the EU15 average of 3.0 percent – according to European Commission estimates (European Commission 2006a). Overall projected rises of age-related expenditures are also smaller in Sweden and Denmark (3.6 percent and 4.5 percent of GDP respectively) than in the average EU15 country (4.8 percent), but somewhat larger in Finland (5.1 percent). But in view of the current budget surpluses, fiscal sustainability risks have been judged by the European Commission to be small in all three Scandinavian countries (European Commission 2006b).

6. Conclusions

There is no such thing as a Scandinavian economic miracle. But the Scandinavian countries have in many respects done better recently than most of the eurozone countries. Public finances are in a better shape and there has been no weakening of fiscal discipline. Output growth has been substantially higher in Finland and Sweden than in the eurozone, although the difference in income growth after accounting for terms-of-trade changes is considerably smaller. In the second half of the 1990s, the high output growth in Finland and Sweden reflected to a large extent a recovery from deep recessions. So, part of the good performance is explained by having done poorly before.

But there is certainly more to recent output growth in Finland and Sweden than a catching-up from the crises of the early 1990s. The two countries have not shared in the trendwise decline in productivity growth in many of the eurozone countries. In Sweden, trend productivity growth seems even to have increased rel-

³⁰ Finansministeriet (2002) and Andersen and Chiriaeva (2006).

³¹ See Könberg, Palmer and Sundén (2006) for a more detailed account.

ative to the 1980s. The favourable productivity developments in Finland and Sweden are linked to ICT technology: high productivity growth in ICT-producing sectors has made a significant contribution to overall productivity growth. The other side of the coin is falling relative prices of ICT products, which have led to terms-of-trade losses. The importance of investment in ICT capital relative to non-ICT capital has also been larger than in most eurozone countries. It is a plausible hypothesis that the interaction between a skilled work force and ICT investment has contributed to rapid diffusion of ICT technology in the Scandinavian countries. High spending on R&D is also likely to have been an important factor for productivity growth.

In all the Scandinavian countries there have been substantial product market deregulations. They are likely to have had important productivity-increasing effects. The *level* of product market regulations is lower than in most eurozone countries, although not as low as in Anglo-Saxon countries. The *changes* in product market regulations were earlier than in most Continental Western European countries.

In terms of employment, Denmark has been doing particularly well since the early 1990s and is today one of the OECD countries with the highest overall employment as a ratio of working-age population. Total employment is also very high in Sweden, but somewhat lower in Finland. In the latter two countries, there has been a recovery from the large falls in employment in the first half of the 1990s, but employment has been far from restored to earlier levels.

The Danish *flexicurity* model with low employment protection, but generous unemployment benefits, has been claimed to be the main explanation of the favourable employment developments in Denmark. This is largely a myth. Instead, the employment rise in Denmark is mainly explained by significant reductions in the generosity of unemployment benefits and tougher requirements on the unemployed.

Total hours worked in the Scandinavian countries (at least as reported) are higher than in most euro area countries, but significantly lower than in non-European OECD countries like the US. In Sweden, this reflects to a large extent high sickness absence, which rose at the same time as unemployment fell in the late 1990s and early 2000s. This suggests that there may be a substantial amount of concealed unemployment in other social insurance systems than the unem-

ployment benefit system. Indeed, benefit dependency rates are high in the Scandinavian countries and have not come down much from the mid-1990s.

Does the Scandinavian labour market model represent another way of achieving high employment than the Anglo-Saxon one? The answer is both yes and no.

The Scandinavian model is less successful in generating many hours worked than in generating high employment rates. To understand the employment-generating capacity, it is necessary to see how different parts of the system interact. High and progressive taxes discourage work in general, but also finance generous childcare provisions and make it profitable to split household income between two breadwinners. This, together with separate taxation and the absence of dependent spouse deductions, is conducive to high female employment, which is the main contributing factor to high overall employment in the Scandinavian countries. A fairly high degree of coordination of wage bargaining may also help restrain wages despite high degrees of unionisation, high taxes and generous unemployment benefits.

At the same time, recent improvements in macroeconomic performance in the Scandinavian countries have been associated with limited – but yet clear – steps in a market-liberal (Anglo-Saxon) direction. This is obvious in terms of product market deregulations in all the three Scandinavian countries. Denmark provides a good example of how limited reductions in benefit generosity – still leaving in place a generous system – can help reduce structural unemployment very significantly. Sweden has provided a contrast. The earlier absence of labour market reforms was associated with what seems to be more or less unchanged structural unemployment. It remains to be seen how effective the labour market reforms of the new liberal-conservative government, which took office in the autumn of 2006, will be.

Perhaps, the most important lesson from the Scandinavian experiences is that steps in a market-liberal direction can produce substantial macroeconomic improvements, but that such reforms can still be consistent with an economic system very different from the Anglo-Saxon model. However, it is wrong to see macroeconomic developments in the Scandinavian countries as evidence that market-liberal reforms are not needed if one wants to stimulate output and employment. Instead, Scandinavian experi-

ences support the reverse hypothesis. They provide strong arguments for Continental European countries to reduce product market regulations to the Scandinavian level and beyond as well as to reduce unemployment benefit replacement rates and increase requirements on the unemployed. The Scandinavian experiences also point to the importance of addressing benefit generosity in all social insurance systems at the same time: the risk of partial reforms is that they result mainly in large overflows of benefit recipients from one insurance system to another.

Another important lesson from the Scandinavian countries is about the benefits of having a deep crisis. Denmark had that in terms of public finances and employment already in the early 1980s, which helped form a consensus on the need for fiscal consolidation. A new unemployment crisis in the early 1990s triggered substantial reforms of unemployment insurance and labour market policy. Finland and Sweden had acute unemployment and public finance crises in 1991 to 94. This led to a radical re-thinking of fiscal policy in both countries, most so in Sweden where fiscal discipline had been the weakest. The main characteristic of the “Scandinavian miracle” may simply be earlier sharp crises – conflicting with generally held perceptions of the superiority of the own model – which are much more conducive to policy change than more creeping crises (as in France or Germany) or continuous crisis (as in Italy). And the most important policy changes may not necessarily be radical reforms of institutions but rather the curbing of excesses that may over time accumulate in any system. Some of the Scandinavian experiences illustrate clearly the benefits from reaching a consensus on such measured reform.

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