Part I

How well is the Nordic model doing? Recent performance and future challenges

Lars Calmfors

Institute for International Economic Studies, Stockholm University

I am grateful to Torben M. Andersen, Sixten Korkman, Tarmo Valkonen, Vesa Vihriälä and other participants in the ETLA Norwell workshop in Helsinki 30 October 2013 for helpful comments, to Sinikka Littu and Georg Marthin for research assistance, and to Katrin Friberg and Hanna Christiansson for secretarial assistance.

1 Introduction

The Nordic welfare model has received a lot of international attention during the whole postwar period. In the 1950s and 1960s it was regarded as a success because of its ability to combine rapidly rising living standards with the build-up of a generous welfare state. Then there followed a period in the 1970s, 1980s and early 1990s with low growth and great macroeconomic problems which brought the model into disrepute. But recently there has been renewed international interest in the Nordic model.[1] This has happened because macroeconomic performance was very favourable from the mid-1990s till the beginning of the international economic crisis in 2008. Public finances have also remained stronger in the four largest Nordic countries than in most other European countries during the crisis.

The traditional picture of the Nordic model has been one where a generous welfare state based on universalist principles, implying generous transfers to households and publicly provided services financed by high taxes, offers generous social protection at the same time as encompassing labour market organisations play a major role in regulating the labour market in a corporatist fashion.[2] At the same time the Nordic economies have been open to trade and technological change. This is likely associated with high levels of spending on human capital investment, including child care, education and R&D. The model has delivered high income per capita, high employment, an equitable income distribution and gender equality.

The four largest Nordic countries all endured severe macroeconomic crises in the 1975-1995 period (see Eklund 2011 and IMF 2013 for brief accounts). In the late 1970s and early 1980s Denmark was the Nordic country with the most severe inflation and unemployment problems. This led to the adoption of a hard-currency option (pegging to the D-mark), a policy of fiscal restraint and government interventions in the wage-setting process. Norway was exposed to a banking and real estate crisis in the late 1980s. After that, incomes policies, with an explicit role for the government in wage negotiations, were used to restore international competitiveness and more restrictive fiscal policies were followed. In the early 1990s, Finland and Sweden suffered deep recessions after a period of rapid credit expansions in the aftermath of financial market deregulations resulting in strong booms, house price bubbles and large real exchange rate appreciations. The recessions involved large-scale bank failures. In Finland the downturn was reinforced by the collapse of trade with the Soviet Union. The recessions

[1] A typical example is a series of articles in *The Economist* (2013).

[2] See e.g. Andersen et al. (2007), Gylfason et al. (2010), Eklund (2010), Berglund and Trägårdh (2011), Korkman (2012), and Korkman and Suvanto (2013).

triggered large nominal exchange rate depreciations in both countries that restored international competitiveness and fiscal consolidation processes were initiated.

Starting in the 1990s, major economic reforms were implemented in all the four largest Nordic countries. Fiscal rules were tightened: in Norway with the aim of using oil and gas revenues to accumulate government wealth for the benefit of future generations; in Denmark, Finland and Sweden first in order to consolidate public finances after the earlier fiscal crises and later with the aim of building up buffers to help handle future strains from ageing populations. Markets for both products and services were deregulated and exposed to more competition. Labour market reforms, mainly involving less generous unemployment insurance (except in Norway) and more emphasis on activation measures (in all the four largest Nordic economies) were implemented. Wage-setting processes became more decentralised and allowed more flexibility for individuals, especially in Denmark and Sweden, although large elements of co-ordination through pattern bargaining were retained.

Developments have also differed between the four main Nordic countries in important respects. Norway has remained outside the EU. Finland has joined the euro, Denmark pegs its currency to the euro, whereas Sweden and Norway have flexible exchange rates and inflation targets. Labour market reforms have been most extensive in Denmark (already in the 1990s) and in Sweden (mainly after 2006), whereas they have been of much less scope in Norway. GDP rises in Norway have to a large extent been based on oil and gas revenues, while growth in Sweden and Finland has been very R&D-intensive and associated with the ICT-sector.

Iceland forms a particular case with a gradual transition from a heavily regulated economy to a more market-oriented one in the 1990s and early 2000s (see e.g. Gylfason et al. 2007 and OECD 2011). Newly privatised banks were allowed to expand at a rapid pace, both domestically, fuelling an unsustainable credit boom, and abroad, until their assets stood at around 900 per cent of GDP in mid-2008. The three main banks collapsed already in the beginning of the international financial crisis in 2008, which threw Iceland into a deep recession of a similar type as Finland and Sweden experienced in the early 1990s, but of a much larger magnitude.

Among the Nordics recent macroeconomic developments have been most favourable in Norway and Sweden, where GDP has increased above the pre-2008 levels. This is not the case in Denmark and Finland where the downturns have been more protracted. In Denmark this was due to a strong real appreciation, eroding international competitiveness, during the

preceding overheating of the economy and the unwinding of the earlier property price boom with substantial falls in house prices which have depressed aggregate demand. Finland has suffered from severe structural shocks in the ICT, paper and pulp, and steel industries.

It is obvious from the above review that there have been large changes in the Nordic economies over the last two decades. Some developments have been common to all the Nordic countries, while in other respects the countries have followed different paths.

This paper has three main objectives:

1. To sort out in what respects the Nordic countries differ from other countries and how similar the Nordic countries are to each other. Do the Nordics still represent a group of countries that are distinct from other comparable countries?
2. To discuss the economic developments in the Nordic economies over the last two decades compared with other countries. This analysis will look both at developments in 1990-2007 before the international economic crisis and at how well the Nordic economies have fared during the crisis.
3. To identify major challenges facing the Nordic countries in the future which need further analysis.

2 How special are the Nordic countries?

This section looks at both economic outcomes and structural characteristics of the Nordic economies. This is done mainly with the help of diagrams that include the Nordics as well as comparable EU countries (the older member states) and the US.

2.1 Economic outcomes

In terms of *GDP per capita* (Figure 1a), the Nordics as a group beat all the comparison areas except the US. Iceland, Finland, Denmark and Sweden all belong to a group of mid-income countries together with the UK, France, Belgium, Germany, the Netherlands, Ireland and Austria, whereas Norway, due to its oil and gas incomes, has the highest income among the countries shown in Figure 1b after Luxembourg.

The Nordic countries stand out as a distinct group when it comes to *income equality*. Here they form a well-defined cluster. Among the countries in Figure 2b, Iceland, Norway, Denmark and Finland are the ones with the lowest Gini coefficients for household disposable incomes. Sweden ranks 7 after also Belgium and Austria. Whereas the average Gini

coefficient for the Nordic group is 0.25, it is 0.32 for Southern Europe, 0.34 for the UK and 0.48 for the US. Only Continental Europe with a coefficient of 0.28 is close to the Nordic group. The overall *employment* rate (employment in per cent of working age population 20-64 years old (Figure 3) is higher in the Nordic countries than in all the four comparison areas. The similarities among the Nordics with respect to employment are the greatest when it comes to female employment (Figure 4). Here the five Nordic economies rank the highest (the order is Iceland, Norway, Sweden, Finland and Denmark) with employment rates between 70 and 80 per cent. The similarities of the Nordic countries are also evident for employment of persons 55-64 years old (Figure 8), where Iceland, Sweden and Norway form a top trio with employment rates between 70 and 80 per cent. Employment rates for this group are considerably lower, around 60 per cent, in Denmark (ranked 5th) and Finland (ranked 8th).

In terms of total employment (20-64 year olds; Figure 3b) Iceland, Norway and Sweden are ranked 1st, 2nd and 3rd, respectively, with employment rates around 80 per cent of the working-age population, and Denmark and Finland somewhat lower, 7th and 9th respectively, with employment rates in the 70-75 per cent interval. Nordic employment performance is most "normal" when it comes to employment of 25-54 years olds (Figure 7), where the Nordics belong to a larger group of countries, including also Austria, the Netherlands, Germany, Luxembourg, France, UK and Belgium, all with employment rates in the 80-85 per cent interval.

Although similarities between the Nordic countries are great when it comes to employment, differences are large with respect to *working time*. Hours worked per employed person (Figure 9b) differ widely among the Nordics with Norway at the lower end (1 400 hours per year and ranked 16th among the countries shown) and Iceland at the higher end (1 700 hours per year and ranked 3rd). The Nordic countries are more similar with respect to hours worked per person of working age, still with Iceland having most working hours (Figure 10b). Comparing the Nordics as a group with other areas, working time per person in the working-age population (Figure 10a) is higher only in the US. But working time per employed person (Figure 9a) is lower than in all the comparison areas except Continental Europe. The longer working time per person of working age than per employed person in the Nordics relative to other countries is to a large extent a reflection of high female employment, which is often in part-time jobs.

Public finances are currently much stronger in the Nordic group than in the comparison countries. This applies to both general government net lending (the fiscal balance) and consolidated gross government debt (Figures 11a and 12a, respectively). However, Iceland is in a very different situation after its economic collapse in 2008. Figure 12b shows that the four largest Nordic economies all had consolidated gross government debt ratios in the range of 25-60 per cent in 2013, below the EU debt ceiling of 60 per cent of GDP. Of the countries shown in the diagram, only Luxembourg had a lower gross consolidated government debt. But the debt ratio in Iceland is close to 95 per cent, which is is close to the figure for Spain, one of the crisis-stricken eurozone countries. The Finnish debt ratio is also increasing and is likely to exceed 60 per cent in 2014.

2.2 Structural characteristics

Looking first at the *size of government*, the Nordic countries stand out as the group with the highest share of government employment in total employment (Figure 13a). The Nordic group also has the highest tax revenues relative to GDP although Continental Europe comes close (Figure 14a). This conforms to the established picture of the Nordic model. However, total government expenditure as a percentage of GDP today is as high in Continental and Southern Europe and almost as high in the UK as in the Nordic countries (Figure 15a). This is partly a reflection of the recent deeper cyclical downturns in the comparison countries, which have raised government expenditure relative to GDP as there are no automatic cuts in government spending in downturns (rather transfers, such as unemployment benefit payments, increase). Figure 15b indeed shows that government expenditure have risen relative to GDP between 2000 and 2013 in the US and in all EU countries included except Germany, whereas this has not happened in Sweden . As shown in Figure 16a, social protection cash transfers are also larger in both Continental and Southern Europe than in the Nordic countries. Moreover, tax revenues are only somewhat smaller in Continental Europe than in the Nordic countries (Figure 14a).

Figures 13b-16b also show important differences between the Nordic countries as to the size of government. Total government expenditure as a share of GDP (Figure 15b) is much smaller in Norway (ranked 15th among the 18 countries in the diagram)[3] and Iceland (ranked

[3] It could be argued that it is misleading to relate Norwegian government expenditure to overall GDP, including oil revenues, as the policy is to use these temporary incomes to build government net wealth that can be tapped in the future. As Figure 15b shows, Norway instead comes in second among the countries shown when government expenditure is calculated as a percentage of mainland GDP. The picture for Norway with respect to

12th) than in Finland (ranked 2nd), Denmark (ranked 4th) and Sweden (ranked 6th). Iceland (ranked 12th) is far below the other Nordic countries in terms of tax revenues in per cent of GDP (rank 1st for Denmark, 5th for Sweden, 6th for Finland and 8th for Norway; Figure 14b). The Nordic countries are most similar when it comes to government employment, which is higher in the four largest Nordic countries than in all the other countries in the diagram (Figure 13b). But there is a large dispersion among the Nordics when it comes to social protection cash transfers, which are quite low in Iceland, Norway and Sweden (Figure 16b).

Figure 17b shows that Sweden, Denmark and Finland have high marginal income tax rates in an international comparison (around 55 per cent; the countries are ranked 3rd, 4th and 5th in the diagram, respectively). The top rates are considerably lower in Norway and Iceland, which reduces the Nordic average so that it is about the same as the averages for Continental Europe, Southern Europe and the UK (Figure 17a).

An interesting observation is that the Nordic countries are not unique when it comes to the redistributive effects of the tax and transfer system. This is illustrated in Figure 18, which gives the difference between the Gini coefficients for household market and household disposable incomes. Among the Nordics taxes and transfers do most redistribution in Finland (though not as much as in Belgium). But the amount of redistribution in the other Nordic countries does not stand out. In particular it is lower in Iceland and Sweden than in most of the other European countries shown. A likely explanation of the surprisingly low amount of redistribution in the Nordic countries is the success in reaching high employment rates. As a large fraction of population has earned incomes, the need for social transfers is reduced at the same time as these groups also pay at least some taxes. The fact that Finland displays the highest redistribution effect is consistent with this explanation, since Finland has the lowest employment rate among the Nordics.[4]

Figure 16 together with Figures 19-20 illustrate some aspects of *social protection*. Total social protection transfers (including both cash and in-kind transfers (via public consumption) are high relative to other countries in Denmark, Sweden and Finland (Figure 16). Looking at the

social protection cash transfers also changes significantly when they are related to mainland instead of overall GDP (Figure 16b).

[4] It should be noted that the difference between the Gini coefficients for market and disposable incomes is an imperfect measure of the redistributive effects of the tax and transfer system, as this also affects market incomes. For example, generous unemployment benefits are likely to raise wages of the low-paid relative to those of the high-paid.

government (-sponsored) unemployment insurance, the Nordic countries as a group have the highest net replacement rates (after-tax unemployment compensation relative to the previous after-tax wage) for both short-term and long-term unemployed (Figures 19a and 20a).

But for short-term unemployed (Figure 19b), Sweden has, after the reforms of unemployment insurance and the introduction of earned income tax credits in recent years, become an outlier among the Nordics with a replacement rate around 67 per cent (and rank 13th among the countries in the diagram), whereas replacement rates are 70-80 per cent in the other Nordic countries (with Denmark ranked 2nd, Iceland 5th, Norway 6th and Finland 8th). For long-term unemployed (Figure 20b), there is more homogeneity among the Nordic countries, although they do not top the ranking (net replacement rates for long-term unemployed are higher in Ireland, the Netherlands and Luxembourg). Finland, Denmark, Iceland and Norway are clustered together with replacement rates in the 65-70 per cent interval. Sweden is less generous than the other Nordic countries also with respect to the long-term unemployed (a replacement rate around 60 per cent), but ranks higher in this respect relative to the other countries in the diagram than for the short-term unemployed. Figures 20a and 20b serve to illustrate the universalist character of the Nordic welfare model: high social protection also of groups marginally attached to the labour market. But as can be seen, such fairly generous protection of the long-term unemployed is also the case in several other European countries.

There are large similarities among the Nordic countries also with respect to other *labour market institutions*. This applies in particular to trade union density, which is much higher in the Nordic group than in the comparison regions (Figure 21a). The Nordic countries top the ranking in Figure 21b with a density of around 80 per cent in Iceland and densities close to 70 per cent in Finland, Denmark and Sweden. Norway has a trade union density of 55 per cent but still ranks as number 5 of the countries shown. Although unionisation has fallen over the last twenty years in the Nordic countries, and particularly in Denmark, Sweden, and Iceland, this has not affected their relative positions (see also Schnabel 2013).

Unlike with trade union membership, the Nordics do not stand out as a group of their own regarding the coverage of collective agreements. It is higher in Sweden, Finland and Iceland (85-90 per cent of the work force, but not as high as in Austria and Belgium; see Figure 22b) than in Denmark and Norway (70-80 per cent, which is also below the figures for France, Spain, the Netherlands and Italy). Looking at the Nordics as a group (Figure 22a), it turns out, somewhat surprisingly, that the coverage of collective agreements is somewhat lower

than in Continental Europe. Traditionally, the four largest Nordic economies have been characterised by highly co-ordinated wage bargaining (with tri-partite negotiations involving also the government in Finland and Norway). In recent years co-ordination has been weakened (especially in Denmark), but important elements still remain mainly through pattern bargaining with the manufacturing sector acting as norm setter.

Figure 23 shows the most recent OECD indicators of the strictness of employment protection for permanent workers and workers on temporary contracts, respectively. For permanent workers employment protection is in a middle range for all the Nordic countries (stricter than in the US, the UK and Ireland, but less strict than in most Continental and Southern European countries). Among the Nordics Sweden has the strictest and Finland the least strict regulation for permanent workers. With the exception of Norway all the Nordic countries have low degrees of employment protection for workers on temporary contracts. This is in particular the case for Sweden and Iceland. The traditional view has been that Denmark has significantly less employment regulation than the other Nordic countries. However, the revised OECD data shown in Figure 23, taking account not only of legislation, but also of collective agreements and case law, no longer provides such a picture.

A common trait of the four largest Nordic countries is the emphasis on active labour market programmes designed to help the unemployed find jobs. The various measures in Table 1 all indicate that such programmes play a larger role in the Nordics than in the comparison countries (although the importance is somewhat lower in Finland than in the other Nordic countries). The focus on activation measures together with less strict employment protection than in Continental and Southern European countries makes it reasonable to talk about a common *flexicurity* model for the four largest Nordic economies.

When it comes to *product market regulations*, the Nordics as a group appear more regulated than both Continental Europe and the UK (Figure 24a). Sweden, Norway and Iceland are considerably more regulated than Denmark and Finland according to a recent OECD indicator (Figure 24b). It should be kept in mind though that measuring accurately the degree of product market regulation is difficult.[5] In terms of *foreign trade dependence* the Nordic countries form a middle group together with Austria, Germany, Portugal and Spain (Figure 25b).

[5] The most recent version the OECD indicator of product market regulation puts the Nordics in a different positions than an earlier version. . According to that the Nordic countries formed a close cluster with a moderate level of product market regulation.

When it comes to R&D expenditure, Finland, Sweden, and Denmark are at the top, all with such expenditures at or above 3 per cent of GDP, whereas Norway spends only about half that amount and finds itself ranked as low as 13th of the countries shown in Figure 26b. As a group the Nordics spend more in terms of GDP than all the other regions shown except the US (Figure 26a).

It has become popular to compare the "competitiveness" of various economies by constructing summary measures aggregating a large set of factors. These measures should not be taken too seriously as it is not obvious exactly what they reflect and the factors included can sometimes appear quite ambiguous.[6] Still, it is noteworthy that the four largest Nordic economies often come out high in such comparisons, as shown by Figure 27, although the rankings differ between measures. Another prominent feature of the Nordic countries is the high degree of organisational and technological change. This is highlighted by Figure 28, which shows the percentages of workers reporting that they had been subject to substantial organisational and technological changes in their workplace.

2.3 The Nordic model

The conclusion from the review above is that the Nordic economies are similar in many respects, but that there are also important differences. The most distinct feature of the Nordic economies in terms of economic outcomes is the high degree of income equality. All the Nordic economies are also high-employment ones. The Nordics stand out the most for their high employment of females and older people, whereas they appear as more “normal” Western European economies when it comes to employment of prime-aged people (25-54 years old). But in terms of working time, there are large differences between the Nordics. The four largest Nordic countries all have low government debt, whereas the government debt-to-GDP ratio in Iceland is quite high. This could be taken to suggest that there is no particular Nordic trait resulting in good public finances, but that fiscal outcomes are more associated with the timing of economic and financial crises: earlier crises have helped shape a consensus on the need for fiscal discipline in the largest Nordic economies, whereas Iceland is still suffering the fiscal consequences of the recent financial melt-down (see also Eklund 2011 and Calmfors 2013).

[6] For example, the IMD Business School's World Competitiveness Index "ranks the ability of nations to create and maintain an environment which sustains the competitiveness of enterprises" (IMD 2013). Another index, the World Economic Forum’s Global Competitiveness Index aggregates factors “that determine the level of productivity of a country” and which “set the level of prosperity that can be reached”. “A more competitive economy is one that is likely to grow faster over time” (WEF 2013).

The Nordic economies have a number of structural characteristics that motivates the talk of a Nordic model. Although there are differences, a common trait is the flexicurity focus on facilitating adjustment in the labour market through active labour market programmes and fairly low employment protection. The Nordics are also characterised by high trade union membership and high coverage of collective agreements, although they do not form any group distinct from other comparable European countries in the latter respect (coverage is higher in several other countries).

The Nordic countries are still characterised by "big government". This applies in particular to government employment, which is higher than in comparable countries. But the Nordics are no longer unique with respect to overall government expenditure (which reflects high government transfers in several other European countries, but also that government expenditures have risen relative to GDP since the onset of the financial crisis) and tax revenues. Income protection for individuals in the case of unemployment provided (or sponsored) by the state is fairly generous, although this is the case also in the Continental European countries. Somewhat surprisingly, the total redistributive effects of the tax and transfer system are not particularly large in the Nordic countries. This probably reflects high employment which reduces the need for such redistribution. A variable where (the four) largest Nordic countries differ a lot from other European countries is one that could be regarded both as a structural characteristic and an outcome variable: *trust*. Trust is a structural feature to the extent that it lowers transaction costs as well as facilitates decision-making in various areas (in both the private sector and politics). It has indeed been claimed that a high level of trust promotes good economic outcomes (see, for example, Blanchard et al. 2013 and Bützer et al. 2013). But trust can also be seen as an outcome variable, as outcomes that are regarded as desirable by most people are likely to foster a high degree of trust. Table 2 shows that the four Nordic countries exhibit the greatest degree of trust among the countries included independently of whether it is measured as general trust in people, trust in politicians or trust in the legal system.

To sum up, it makes sense to talk about a Nordic welfare model where the state offers a safety net to its citizens at the same time as both product and labour markets are fairly flexible. The model also includes high investment in human capital of various forms through spending on child care, education and R&D. Overall, the Nordic model seems to foster a high level of trust in society which makes it easier to accept openness to foreign trade and technological change. But at the same time it should be realised that in many respects, such as the size of

government, the degree of income protection and importance of collective agreements, similarities with other comparable European countries, like Austria, Belgium, Germany and the Netherlands, are great.

3 Developments since the early 1990s

This section looks more closely at macroeconomic developments since the early 1990s.

3.1 Developments over the 1990-2012 period

Figure 29 shows that GDP growth in Norway and Iceland has been higher than the EU-15 average (and in Germany) over the whole 1991-2013 period. All the Nordic countries also suffered severe set-backs with GDP falls in 2009. The fall was by far the largest in Iceland where it was a consequence of the severe financial crisis and where it continued also in 2010. Finland and Sweden also had sharp falls. But in Sweden output rebounded strongly again with GDP in 2013 being 5.4 per cent above the pre-crisis level in 2007. This did not happen in Finland, where output in 2013 was still 5.5 per cent below that level. This is explained by the exceptional structural shocks that have hit the ICT, paper and pulp, and steel sectors in this country.[7] Over the whole 1991-2013 period GDP growth in Finland exactly matched average EU-15 growth. Denmark had a less sharp fall than Finland and Sweden in the beginning of the recent crisis, but the recovery has been sluggish, still leaving output in 2013 below its pre-crisis level. This is largely explained by the strong real exchange rate appreciation during the preceding boom, the bursting of a house price bubble and the high degree of trade integration with the eurozone. In Denmark GDP grew considerable less than in the EU-15 over the whole 1991-2013 period. Norway has had the most even development over this period and suffered only a small setback in the beginning of the recent crisis.

Labour productivity measured as GDP per employed person has increased faster than the EU-15 average (and in Germany) in *all* the Nordic countries over the 1991-2013 period, but with considerably higher productivity growth in Finland and Sweden than in the three other Nordic

[7] The main explanations are dramatically falling market shares for the Nokia-led ICT cluster, falling output in the paper and pulp industry due to falling world demand for these products and oversupply in global steel markets. In all, the value added of the manufacturing industry has declined by a third from late 2008 to early 2013. In the same period the fall in Sweden was 7 per cent and in Germany value added in manufacturing increased by more than 5 per cent. The (direct) negative contribution of the collapse in manufacturing in Finland was some 6 per cent of GDP (Holmström et al., 2014).

economies (Figure 30). As should be expected during a cyclical downturn with labour hoarding, labour productivity has stagnated from 2008 onwards in all the Nordic countries.

Table 3 decomposes growth of GDP per hour into contributions from changes in labour composition, ICT capital, non-ICT capital and total factor productivity in a number of countries for the 1995-2007 and 2008-2013 periods. In the first period, Finland and Sweden stood out as the countries with the highest total factor productivity growth. Only Austria and Germany came close. In contrast, total factor productivity growth during this period was low or non-existent in Norway and Denmark. In these countries the main contribution to labour productivity growth came from accumulation of non-ICT capital. Hence, the growth models of the four largest Nordic countries have been very different. The table also decomposes labour productivity growth in 2008-2013 into contributions from various factors, but this is less revealing for growth patterns as this period is characterised by low resource utilisation.

Looking at aggregate labour market developments (employment as a percentage of working-age population and unemployment as a percentage of the labour force in Figures 31 and 32, respectively), the deep downturns in the first half of the 1990s in Finland and Sweden are clearly visible. Subsequently, up till the beginning of the worldwide economic crisis in 2008 labour markets in these countries recovered as did labour markets in the EU-15, although the Finnish and Swedish recoveries were stronger. Denmark also had a strong labour market recovery up till 2008, but after that the labour market situation deteriorated substantially. The deterioration in the labour market was even more pronounced in Iceland during its deep financial crisis. Norway has had the most stable labour market developments with a fall in unemployment around the mid-1990s and subsequently very low levels around 4 per cent.

Figures 33-35 show developments of youth unemployment, unemployment for low-skilled workers and long-term unemployment. Although youth unemployment in Sweden and Finland fell after the crisis in the beginning of the 1990s, it remained higher than in the EU-15 until 2010-2012. The development in Sweden is particularly noteworthy: a strong upward trend from 2000, which contrasts with developments in the other Nordic countries. Norway, Denmark and Iceland all have had rather low youth unemployment, although levels have risen during the recent crisis. Despite a compressed wage structure, unemployment of unskilled workers has been lower in all the Nordic countries, except in Finland before the recent crisis, than in the EU-15, but developments over time have been similar. Although long-term unemployment has recently shot up substantially in Iceland and Denmark, it has in general

been consistently lower in the Nordic countries than the EU average. The likely explanation is a larger use of active labour market programmes to prevent long periods of unemployment (see Table 1).

There was a strong trendwise improvement in government net lending in all the Nordic countries from the first half of the 1990s till the beginning of the international crisis in 2008 (Figure 36). This improvement was stronger than in the EU-15. This was due to both stronger discretionary consolidation efforts and larger automatic stabilisers, i.e. larger automatic responses of the fiscal balance to cyclical output variations, associated with the large size of the public sector (see e.g. Swedish Fiscal Policy Council 2009, 2011). Because of its oil and gas revenues Norway ran large fiscal surpluses (of the order of magnitude of 8-18 per cent of GDP in 2000-2008), but surpluses emerged in the other Nordic countries, too. These developments are reflected in declines of government net debt between the mid-1990s and 2007/08 in all the Nordic countries (Figure 37). Net government debt was negative, i.e. the government had positive net financial wealth, in all the Nordic countries except Iceland before the crisis.

The financial crisis in Iceland led to a dramatic worsening of the fiscal balance in that country between 2007 and 2008 (of around 19 per cent of GDP) because of government support to the failing banks and dramatically falling tax revenues. The outcome was a fiscal deficit of 13.5 per cent of GDP in 2008. However, subsequently the deficit has been cut very significantly (amounting to only 2.7 per cent of GDP in 2013). During the crisis there have also been large deteriorations of the fiscal balances in Denmark, Finland and Norway. The deterioration has been the smallest in Sweden. Deficits have emerged in Denmark, Finland and Sweden, whereas Norway still had a fiscal surplus of more than 11 per cent of GDP in 2013. The described developments of the fiscal balance during the crisis are reflected in the developments of the government net financial position. In Iceland, there has been a huge increase in debt. The government net financial position has also deteriorated significantly in Finland and Denmark, whereas it has stayed more or less constant in Sweden. In Norway, the fiscal surpluses have meant that government net financial wealth has continued to increase.

Figure 38 shows that not only Norway, but also Sweden, Finland and Denmark have had large current account surpluses for most of the 1990-2013 period, indicating an excess of domestic saving over investment. Here Iceland is the odd man out with large current account deficits over the last 15 years. Sweden and Norway have sustained their current account surpluses

during the recent crisis, whereas the earlier surplus in Finland has turned into a small deficit. In Denmark the current account surplus has even increased during the crisis, as households have tried to restore their balance sheets after the fall in house prices through increased saving, at the same time as investment has fallen. A similar process – but of much greater magnitude – has taken place in Iceland, where the current account deficit has fallen from around 25 per cent of GDP in 2008 to around 4 per cent in 2013.

Figure 39 shows the development of the international competitiveness of the Nordic economies (relative unit labour costs) since the early 1990s. In Finland and Sweden relative unit labour costs fell substantially in the first half of the 1990s due to large nominal exchange rate depreciations. There was a smaller fall in relative unit costs in Iceland.

In Norway relative unit labour costs have instead been increasing since the early 1990s. This can be seen as a Dutch disease phenomenon (oil wealth driving up aggregate demand and hence domestic wages and prices relative to other countries). In Iceland and Denmark relative costs increased up till the beginning of the financial crisis. This was a response to strongly overheated economies. Icelandic relative costs then fell dramatically when the nominal exchange rate depreciated. Danish relative costs started falling first in 2010, when the prolonged downturn caused slower wage growth. Developments in Finland and Sweden have been less dramatic with a tendency for relative costs to fall in Sweden and to rise in Finland up till 2009/2010. Subsequently, relative unit labour costs have risen somewhat in Sweden and fallen in Finland. In the latter country the profitability of export firms has fallen more than the relative unit labour cost indicator suggests due to a more general decline of the prices of many Finnish export products.

The relative cost developments are reflected in the developments of export market shares shown in Figure 40. In both Denmark and Norway export market shares have trended downwards from the early 1990s. The development in Iceland has been similar, although there has been a sharp turnaround after the large fall in relative costs during the financial crisis. Finnish and Swedish market shares increased in the 1990s, but have fallen from 2000 onwards. The swings in Finland have been much more pronounced than in Sweden. Finnish market shares increased by nearly 40 per cent between 1991 and 2002. But the subsequent decline has been equally dramatic. These developments are mainly explained by the shifting fortunes of the Nokia-led ICT cluster (Holmström et al. 2014).

3.2 Relative performance of the Nordics

After the crises in the early 1990s up to the beginning of the Great Recession in 2008 economic developments were favourable in the Nordics relative to those in comparable European countries. This holds for GDP, productivity, employment and public finances. Wide-ranging product market deregulations likely contributed to growth.[8] So did probably also comprehensive tax reforms (including a broadening of tax bases, a lowering of tax rates and the introduction of a dual tax system with lower – nominal – taxation of capital incomes than of labour incomes) in the four largest Nordic economies in the early 1990s. Other contributing factors may have been creative destruction of stagnating firms during the crises in the early 1990s and more of individual wage setting stimulating individual effort (see e.g. Calmfors 2013a as well as Korkman and Suvanto 2013). Finland and Sweden were well placed to develop ICT technology because of the strong market positions of Nokia and Ericsson.

A contentious issue is what explains the favourable employment developments in the Nordic economies from the mid-1990s up to 2008. Well-functioning labour markets are often advanced as an explanation. An alternative explanation is a strong recovery of aggregate demand during this period (in Finland and Sweden associated with large nominal exchange rate depreciations in the early 1990s). The tension between these two explanations is well illustrated by Denmark, where it has been commonplace to attribute the earlier rise in employment to comprehensive labour market reforms including less generous unemployment benefits (especially for young people) and a larger focus on activation measures. However, in retrospect it appears that much of the strong employment rise in Denmark may have been associated with a boom fuelled by fast credit growth and leading to a housing price bubble, which resulted in a deep recession and a large employment fall when it burst.

How well have the Nordic countries been doing during the current economic crisis compared to other countries? Table 4 summarises developments of GDP, the labour market (employment, labour force participation and unemployment), public finances (government net lending and consolidated government gross debt) and income distribution (Gini coefficient and P90/P10 household disposable income ratios) over the period since 2008. Because the

[8] It is well-established that competition-enhancing product market deregulations stimulate productivity growth (see e.g. Wölfl et al. 2010). This occurs through several mechanisms: lower barriers to entry, more efficient resource allocation, stronger incentives to innovate and faster diffusion of new technology.

Icelandic situation has been so special, averages are given for the Nordic countries both including and excluding Iceland.

Compared to Southern Europe the Nordic countries as a group have, of course done much better in terms of GDP, employment, unemployment and government debt developments. But relative to Continental Europe, the deterioration of the economic situation has in several respects been larger in the Nordic countries (both including and excluding Iceland). Averages for both the employment and the labour force participation rates have fallen by more in the Nordic countries than in Continental Europe. Unemployment has risen by more. Government net lending has fallen by more. GDP has developed more weakly. The only variable in the table where developments have been more favourable concerns government debt which has increased by less in the Nordic countries (both when including and excluding Iceland) than in Continental Europe.

Table 4 also repeats the differences in developments among the Nordics during the current economic crisis discussed above. In terms of changes in GDP, the employment rate, the labour force participation rate and government net lending, Sweden comes out much better than the other Nordic countries. Unemployment has also increased less in Sweden (and Finland) than in Denmark and Iceland, but the increase has been even smaller in Norway despite the fact that employment developments have been better in Sweden. The explanation is that labour force participation has fallen by less in Sweden than in Norway (see also Section 4.5). Consolidated gross government debt has been more or less stable in Sweden during the crisis, whereas it has increased considerably in Iceland, but also in Finland and Denmark. Debt developments have, due to oil and gas revenues, been even more favourable in Norway than in Sweden (a large reduction in consolidated government gross debt).

Finland and Iceland have had the most unfavourable GDP development, with falls of 5.2 and 4.1 per cent, respectively, over the 2008-2013 period. However, among the Nordic countries the employment rate has fallen and the unemployment rate has increased the most in Denmark.

Changes in income distribution (the last two columns in Table 4) appear to have been small everywhere in the 2008-2012 period. The only exception is Iceland, where the Gini coefficient has fallen by almost 20 per cent. The explanation is the reduction in incomes of "capitalists" in this country during the deep crisis.

The comprehensive labour market reforms, including less generous unemployment insurance, the introduction of large earned income tax credits and more narrow gateways to sickness insurance and disability pensions are probable explanations for the relatively favourable macroeconomic performance in Sweden in recent years (Swedish Fiscal Policy Council 2010, 2011). Also a more versatile production structure has contributed to the relative success of Sweden, particularly in comparison to Finland, which has been very vulnerable to the recent declines in its ICT, forest and steel sectors.

4 Future challenges

What are the prospects for a continued strong economic performance in the Nordic countries? It is important to identify future challenges to such a development. Below challenges in five areas are discussed:

1. Productivity growth
2. Human capital accumulation
3. The tax system
4. The sustainability of public finances
5. Employment

4.1 Productivity growth

A first challenge is to sustain high productivity growth. As discussed in Section 3.1, the earlier experiences of the Nordic countries have been diverse. Finland and Sweden had the highest labour productivity growth in 1995-2007 based on high total factor productivity growth. The ICT sector played an important role in these developments. Productivity growth was slower in Norway and in particular in Denmark.

During the crisis labour productivity growth has been weak in all the Nordic countries as elsewhere and total factor productivity growth has been negative (see Table 3). The question is whether this only represents cyclical developments, because firms have chosen to retain staff for the future instead of adjusting employment fully to the downturn in the economy, or whether it also represents a lower trend increase in productivity. A worrying sign is that labour productivity actually fell in both Norway and Sweden already *before* the outbreak of the international financial crisis (see Figure 30). OECD (2012b) also finds some evidence in favour of structural breaks indicating lower trend growth of labour productivity in Finland.

A possible hypothesis is that technological developments, contributing to labour productivity growth, are now slower than earlier, especially in the ICT sector (Konjunkturinstitutet 2012). A strong version of this hypothesis is Gordon (2012), who claims that the computer and internet revolution in the US represented only a temporary deviation from a slowing trend increase in productivity that has now come to an end because inventions since 2000 have mainly centred on entertainment and communication "that do not fundamentally change labour productivity". There is also a risk of long-run effects from the prolonged economic downturn: lower investment has meant less rapid capital deepening at the same time as the speed with which new technology is being introduced has slowed down. In Finland aggregate productivity growth is hampered both because productivity growth in the ICT sector is lower than before and because the sector (where productivity growth is still higher than in the rest of the economy) has shrunk in size (OECD 2012b).

The prospect of slower technological progress in coming years suggests the need to promote productivity growth in other ways. As investment in immaterial assets (software, data bases, R&D, design, product development, organisational change, etc.) seems to be an important driver of productivity growth (van Ark et al. 2009, Corrado et al. 2012), more such investment could help keep up productivity growth. OECD reports on Denmark and Finland have pointed to the potential for higher productivity growth in the service sector in these countries through enhanced competition and deregulation: this could entail the opening-up of government-dominated sectors, in particular the health sector, to more of private provision and the loosening of zoning and planning restrictions in the retail sector with the aim of increasing store-level scale economies (OECD 2012a,b).

Yet another issue concerns the contribution structural change in the economy (re-allocation of resources) could give relative to within-sector and within-firm productivity growth. This issue is particularly pertinent in Finland, where the setbacks in the ICT, forest and steel industries motivate re-allocations of both capital and labour to other sectors. In the context of structural change the strictness of employment protection may be an important factor. Such regulations increase firms' costs of adjusting employment and could distort the composition of employment between temporary and permanent workers. They may therefore result in an inefficient allocation of labour and hence lower productivity growth.

It is obviously an important challenge to find the most efficient ways of promoting productivity growth. A particular problem may be the small size of the Nordic economies in a

globalised world facing rapid technological change. Given that the Nordics are at the technological frontier in many fields, they need to innovate based on their own R&D efforts rather than on imitation. Given the small size of the economies, they cannot invest simultaneously in many different fields of innovation activity. On the one hand, this might suggest that innovation policies should be targeted. But on the other hand, government authorities are likely to be bad at forecasting which technologies might take off.

4.2 Human capital accumulation

The stock of human capital used in production is an important determinant of labour productivity. According to OECD (2013a) differences in the use of reading skills in production explain about 30 per cent of the variation in labour productivity across countries. Due to matching problems the use of skills is only weakly correlated with skills proficiency in the population. Still, skills proficiency forms the potential for the human capital that can be used in production.

The OECD's PISA studies, which have been conducted every third year since 2000, measure 15-year olds' reading ability and their proficiency in mathematics and science. Figure 41 shows how the relative performance of the Nordic countries in the three fields has developed over time. Overall, Finland has done very well, although results have worsened in the two latest studies. The other Nordic countries have done less well, indicating a substantial potential for improvement. A – perhaps – surprising finding is that Finnish students appear to be the least happy ones at school (only around 65 per cent state that they are happy compared to around 85 per cent in the other Nordic countries) despite the good study results (OECD 2013b). A possible interpretation is, of course, that there is a trade-off between effort and having "a nice time" at school.

In the PISA studies Iceland and Denmark have done substantially worse in reading and science than in mathematics, whereas Norway and Sweden have done worse in mathematics and science than in reading (although the relative reading performance of Swedish students is about the same as the science performance in the latest study). Looking at trends, Denmark has improved over time in science but deteriorated in math. However, what stands out most is the strong downward trend for Sweden in all three measures. This has triggered an ambitious school reform programme in Sweden encompassing inter alia measures to enhance the competency of teachers, to create more of a career ladder for them involving higher pay in the case of promotion, the introduction of grades for pupils at lower levels than before and a new

grading scale, initiatives to strengthen skills in mathematics, science and technology, the introduction of more national tests, changes in vocational education including the introduction of a new apprenticeship system (see Swedish Fiscal Policy Council 2011 for a survey of these reforms). So far, these reforms have not reversed the downward trend for Sweden in the PISA studies, which is a clear indication of how difficult it can be to achieve fast results in this field.

The OECD has recently also carried out a first study (PIAAC) of the skills proficiency of the adult population (16-64 years old) in various countries (OECD 2013a). The survey looks at numeracy, literacy and problem-solving capacity in technology-rich environments in 2011/12. Numeracy and literacy measure similar capacities as mathematics and reading in the PISA studies. Problem-solving in technology-rich environments is defined as "the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks". Table 5 shows that the Nordic countries come out much better in the PIAAC study than in the PISA studies. Finland still performs the best among the Nordic countries, but Sweden, Norway and Denmark also come out very well here. The difference for Sweden between the PIAAC and the PISA studies is striking. The better results of the Nordic countries for the adult population in the PIAAC study than for young people in the PISA studies could to some extent reflect a higher quality of education in the past than now. But in all likelihood a large volume of adult education is an important explanation, as there is a strong correlation between this variable and the skills proficiency of the population (OECD 2013a).

The most important challenge in the field of education is to reach the partly overlapping groups of young people who drop out of the school system, immigrants with a foreign-language background and employees in elementary occupations (where low proficiency in numeracy, literacy and computer skills may hamper the introduction of new technology and organisational structures that raise productivity). A crucial issue is which types of programmes are the most effective in helping low-performing students: Is it early-prevention programmes targeting such students at a very early stage (possibly already when they are just deemed to be at risk of later failure) or is it late-prevention programmes for children who fail to progress at a satisfactory speed? A clear conclusion from available research seems to be that any such programme should be initiated during the first years of primary school or possibly already in child care (OECD 2013b). Another issue is how to find the balance between targeting low-performing schools and targeting low-performing students within

schools. This will depend on the extent to which low performance is concentrated by school. The latest PISA study finds some evidence suggesting that school systems with high student performance (in mathematics) tend to allocate resources more equitably between advantaged and disadvantaged schools (OECD 2013b).

4.3 The tax system

Taxes that are not lump-sum impose welfare losses because they create wedges between private and social returns that affect behaviour. As a result many socially desirable market transactions will never come about. In particular high labour taxes distort individuals' choices between, on the one hand, market work and, on the other hand, leisure and household work. Incentives for education, work effort and promotion are also distorted. Capital income taxation distorts the incentives for saving and investment.

Figure 14 showed that the four largest Nordic countries all have high tax revenues relative to GDP (in the range of 43-48 per cent). Figure 42 shows that developments in the Nordic countries have differed over time. During the last decade the ratio of taxes to GDP has fallen substantially in Sweden and Finland, whereas it has remained fairly stable in Denmark, Norway and Iceland.[9]

The overall tax level is determined by the political preferences for public consumption and income redistribution. These preferences differ among countries and over time. However, it is always desirable that the tax system is as efficient as possible so that the costs of raising a given amount of revenues are minimised.

A number of difficult challenges for the tax systems in the Nordic countries can be identified. Capital income taxation provides a good illustration of difficult efficiency-equity trade-offs. A usual finding is that capital income taxes are more distortionary than other taxes (e.g. Sörensen 2010). This is because savings appear to be relatively sensitive to changes in the return. In addition a tax on savings affects labour supply as the return to the labour income that is saved is reduced. Efficiency considerations therefore speak in favour of low capital taxation. Another argument in favour of this is that stronger incentives for saving would

[9] The effects of the size of the government sector on growth are a controversial research issue. Bergh and Henrekson (2012) argue that the reduction in the size of government and tax revenues as a percentage of GDP in Sweden has been an important factor behind the higher growth from 1995 onwards.

reduce the risk that households over-borrow and thus the risk of financial crisis. But, on the other hand, lower capital income taxes would increase income inequality. This may be considered particularly problematic as income inequality in the Nordic countries has been trending upwards over the last two decades and this seems to a large extent to be related to increased inequality of capital incomes (see e.g. Roine and Waldenström 2011 and *Finanspolitisk redogörelse* 2013).

Another important challenge is how to cope with the increased international mobility of some tax bases. High international capital mobility implies that high corporate taxation in an individual country (or set of countries) will lead to a re-allocation of the capital stock to other countries, the costs of which will largely be borne by wage-earners in the form of lower real wages (see e.g. Arulampalam et al. 2007). This implies that there will be large benefits for an individual country of lowering the corporate tax at the same time as the benefits are much smaller if there is a general international trend towards such tax decreases.

International mobility of high-skilled labour will also over time make it more difficult to maintain the high marginal tax rates for high-income earners in the Nordic countries.[10] Overall, a common assessment is that the distortionary costs of high labour taxation on both the quantity and quality (via education as well as effort and acquisition of higher competence at work) are large (Sörensen 2010, Arnold et al. 2011). Estimates by IMF (2013) indicate that the top marginal income tax rates in Denmark and Sweden are above the revenue-maximising rates (when taking estimates of the sensitivity of taxable income to marginal tax rates into account but not any effects on migration).[11] In particular, it has been argued that high marginal income tax rates have adverse effects on entrepreneurship and the start-up of new firms (Hansson 2014). But again there are obvious conflicts with equity concerns.

Compared to other taxes, real estate taxes have low efficiency costs. This is because the amount of taxation is difficult to change through behavioural responses. Housing also represents a tax base which is not internationally mobile. A shared problem of the Nordic countries is the favourable tax treatment of owner-occupied housing relative to other types of assets, which promotes residential investment relative to other more productive forms of investment (OECD 2012a,b,c). However, taxes on owner-occupied housing seem to have

[10] There has been much less empirical research on the effects of taxes on the international mobility of labour than on ordinary labour supply effects. However, a recent study of the effects of preferential tax treatment for highly paid foreigners in Denmark points to large effects for them but small effects for natives (Kleven et al. 2013).

[11] In Norway the top marginal tax rate is somewhat below the revenue-maximising one according to the study. Finland and Iceland were not included.

large legitimacy problems and to be very unpopular among the general public (Swedish Fiscal Policy Council 2011, 2012; Calmfors 2014).

In general consumption taxation is less distortionary than income taxation. This is an argument in favour of greater reliance on consumption taxes. An important observation is that VAT rates in the Nordic countries are lower for food than for other goods, which goes against optimal-taxation considerations. According to them, taxation of goods with low price elasticities (such as food) should rather be higher as distortionary costs are smaller, the more limited behavioural responses are (Swedish Fiscal Policy Council 2011, 2012). However, such considerations seem very much to go against the instincts of many citizens, who tend to dislike taxes on "necessary" activities (Calmfors 2014).

A final important challenge is to design the tax rules for closely held companies such that they balance the objectives of creating incentives for entrepreneurship and uniform treatment of different types of labour incomes in a reasonable way. The four largest Nordic countries all have dual income tax systems with a progressive labour income tax and a proportional capital income tax (which is lower than the highest marginal income tax on labour income). The tax rules for closely held companies define how owners' incomes are split between labour and capital income for tax purposes. It remains a difficult challenge to design these tax rules such that entrepreneurship is promoted at the same time as tax avoidance through reclassification of labour income as capital income is counteracted (Lodin 2014).

The above considerations suggest that the Nordic countries face difficult challenges with respect to the design of the tax system. Some of the challenges are driven by international developments (greater mobility of production factors) which speak in favour of lower taxation of highly mobile tax bases and higher taxation of less mobile ones. Others have more to do with the possibility of changing the tax structure such that the efficiency costs of taxation are reduced. Some potential tax changes will involve difficult efficiency-equity trade-offs. Other changes could improve efficiency without any equity costs (and possibly even both improve efficiency and be favourable from an equity perspective). It remains a difficult political challenge to devise efficiency-raising tax reform in such a way that it becomes *politically feasible*. Especially the Swedish experiences from the great tax reform in 1990/91 point to the benefits of *comprehensive* reform. This can make it possible to obtain a political majority for it as losers from individual tax changes can then be compensated through changes elsewhere in the tax (and transfer) system (Åsbrink 2014).

4.4 Fiscal sustainability

A fourth challenge concerns fiscal sustainability. As in other European countries the old-age dependency ratio (the ratio between people aged 65+ and people aged 15-64 years) is projected to rise substantially over the next 50 years. However, as shown in Figure 43 the rises in the Nordic countries are expected to be substantially smaller than the average rise among EU countries and to reach levels around or slightly above 45 per cent as compared to around 55 per cent in the average EU country. Still these demographic changes imply considerable sustainability problems because of rising costs for pensions, health care and old-age care. Figure 44 shows the European Commission's S2 indicator, which measures by how much taxes in per cent of GDP would need to be raised permanently for governments to stay solvent (that is, meet their intertemporal budget constraints according to which the present value of future fiscal surpluses must at least equal current debt) given projected future expenditure based on demographic developments. As can be seen, there is a large fiscal gap for Finland (around 6 per cent of GDP), whereas the gaps are much smaller in Denmark and Sweden.[12]

The design of the pension system is crucial for fiscal sustainability because it both determines the costs for pensions and influences the tax base through its effects on the age of exit from the labour market. Sweden has opted for a sustainable pension system through *defined contributions*. In the Swedish system there is an automatic mechanism (the "brake") for adjusting pension benefits so that the capitalised value of contributions plus the assets in the system's buffer funds do not fall below the value of pension liabilities. The implication is that benefits will gradually be adjusted downwards when longevity increases (Swedish Fiscal Policy Council 2009). Finland and Norway have also introduced links between pension benefits and life expectancy (OECD 2012b,c). It is not clear, however, that such gradual downward adjustments of pension benefits are *politically* sustainable. Nor are they likely to be desirable.

An obvious possibility is to gradually raise the retirement age when longevity increases. Denmark has chosen this solution by explicitly indexing the retirement age to longevity (OECD 2012a). A similar reform is now being discussed in Sweden (Pensionsåldersutredningen 2013). But it is more complicated there than in Denmark, as there

[12] According to national government estimates in the convergence reports to the EU, the picture is even more favourable for Sweden (with a negative S2 indicator, implying room for tax cuts) and Denmark (with a zero indicator, implying that the criterion for fiscal sustainability is exactly met).

exists no unique formal retirement age in Sweden: retirement is instead an individual decision based on the incentives in the pension system. To achieve a change in the retirement age, a number of parameters would have to be adjusted in the Swedish system: the minimum retirement age (now 61), the age at which employment protection legislation ceases to apply (now 67), the age at which employees are no longer eligible for unemployment and sickness insurance (now 65) and the age at which the guarantee pension is paid out (now 65; such pensions are paid to people who have accumulated the right to only a very low pension in the ordinary system).

Yet another option would be to raise the contributions to the pension system. Anyway it is clear that designing the old-age pension system such that its long-run sustainability is guaranteed remains an important challenge for the Nordic countries.

However, the effective retirement age depends also to a large extent on the design of early retirement schemes. These have been tightened in all the four largest Nordic countries (OECD 2012a,b,c; Swedish Fiscal Policy Council 2009). If the old-age retirement age is raised, there are strong arguments for establishing more generous systems for disability pensions for those who cannot go on working because of health problems, as has been done in Denmark (OECD 2012a). It is, however, a difficult challenge how to trade off income protection for disabled older workers against the objective of raising the effective retirement age, which can easily be jeopardised by broad gateways to disability pension schemes. The obvious way to alleviate this trade-off is to adapt working conditions to the needs of more elderly employees. It remains an open question how government policy best strengthens employers' incentives to do this.

Sustainable pension systems are not enough to address the fiscal challenges from an ageing population as this will also entail rising costs for health and old age care as well as a decrease of the share of the population that is working and paying taxes. An even worse problem likely arises from the coexistence of Wagner's law (according to which government expenditure rises with economic growth because of increasing demand for it) and Baumol's disease (according to which the relative cost of services – including publicly financed ones – rises with growth because productivity increases more slowly in services than in goods production) will create further long-run pressures on public finances. Unless Baumol's disease can be cured through higher productivity growth in the production of public services, these will have to be financed through either more user fees and insurance solutions or higher taxes relative to

GDP. Both solutions have obvious drawbacks. Increased reliance on user fees raises serious equity concerns. Higher tax rates may have adverse effects on growth (see Konjunkturrådet 2014).

Fiscal sustainability problems will be reduced to the extent that employment in general can be increased. An important margin of adjustment concerns the age of entry into the labour market of young people. To the extent that the entry age can be lowered, the need for raising the exit age becomes smaller. This raises important issues of how governments can strengthen the incentives for earlier entry, for example, through reductions of income tax progressivity (raising the return on graduating from studies at a lower age) or more favourable grants to students graduating at a lower age.

To ensure the sustainability of public finances and avoid future government debt crises, fiscal policy in general must be conducted in a responsible way. As discussed in Sections 2 and 3, the four largest Nordic countries have managed their public finances well in recent years. This is probably to a large extent explained by earlier fiscal deficit problems which have promoted a consensus on the need for fiscal responsibility (Calmfors 2013a,b). Fiscal frameworks have also been strengthened including inter alia the formulation of medium-term fiscal targets and government expenditure ceilings. However, the prolonged international crisis has put pressures on the public finances in Denmark, Finland and Sweden, all of which at present have fiscal deficits (as has Iceland). Fiscal deficits are desirable in the current downturn as they raise aggregate demand. But it should not be taken for granted that earlier prudent fiscal policy will automatically be restored in the future. To guarantee continued fiscal responsibility represents another challenge for economic policy. It could require stronger legal backing for fiscal targets and expenditure constraints, the establishment of guidelines for how deviations from targets are to be handled, and that expenditure ceilings are extended to cover more expenditure categories and impose more restrictions on local governments (the last consideration does not apply to Sweden but to all the other Nordic countries).

In recent years there has been a strong international trend towards establishing independent fiscal monitoring institutions, so-called *fiscal councils* (Hagemann 2010, Calmfors and Wren-Lewis 2011). The hope is that such institutions will strengthen the incentives for fiscal responsibility by increasing the transparency of fiscal policy and raising the reputation cost for governments of fiscal laxity. So far Sweden is the only Nordic country which has

established a proper fiscal council.[13] However, also here the role has clear limitations: the council is only commissioned to evaluate the government's Spring Fiscal Policy Bill but not the draft budget before it is decided in the parliament. There are also important questions of how large resources such a council should have in order to function effectively and whether there should be special budgetary arrangements in order to protect the council from political pressures (Calmfors and Wren-Lewis 2011, Calmfors 2012b, 2013).

4.5 Employment

During the on-going economic crisis unemployment has increased in all the Nordic countries. Large rises in unemployment tend to become persistent. This is obvious from Figure 32, which shows that unemployment in Finland and Sweden has not come down again to the earlier levels after the crises in the first half of the 1990s. It is an important challenge, especially in Iceland and Denmark where recent unemployment rises have been the largest, to ensure that these rises do not become permanent. According to OECD (2013c) structural unemployment (NAIRU, which is the unemployment consistent with stable inflation) has increased over the 2008-2012 period in these two countries, but so far not in the other three Nordic countries.

All the Nordic countries have serious structural problems in the labour market. To a large extent they relate to low employment of the low-skilled and of non-European immigrants, groups which tend to overlap. As can be seen from Figure 45, Sweden is the Nordic country with the largest proportion of foreign-born residents from outside Europe (7 per cent) whereas the numbers are much lower in Iceland and Finland (2-3 per cent). In Sweden employment for those with only basic schooling never recovered after the crisis in the 1990s. Instead there has been a continuous downward trend. One possible explanation is a changed composition of this group: the share of foreign-born has increased much more in this education group than in groups with higher education (Bengtsson et al. 2013). Another possible explanation is that technological developments have raised skill requirements.

[13] Denmark's Economic Council functions partly as a fiscal council, but the OECD (2012a) has recommended that it be given a clearer mandate to perform such a task (OECD 2012a). Norway has set up an Advisory Panel, which gives "expert judgment and advice" on modelling and long-term simulation issues, as well as on analyses in budget reports and white papers on long-term perspectives. This is a much more limited role than that of a fiscal council (OECD 2012c). Finland is now setting up a fiscal council as part of the economic governance reforms in the euro area, but it seems likely to get a less prominent role than the Swedish council (Korkman and Suvanto 2013).

Finland and Sweden have higher youth unemployment than the other three Nordic countries (Figure 33). Moreover, Sweden has had a rising trend. It represents a major challenge to reverse this development. Reforms have been undertaken to improve vocational schooling and to introduce apprenticeship education along similar lines as in Denmark (which has much lower youth unemployment than Sweden), but the lesson seems to be that it takes a long time to get these systems to work properly. However, the long-term award especially from well-functioning apprenticeship systems may be high, as there is reason to believe that long-lasting exposure of in particular low-educated youth to a single employer may be much more effective in facilitating the school-to-work transition than more casual contacts with many employers.[14]

Denmark and Finland both have considerably lower employment rates among 55-64 year olds than Iceland, Norway and Sweden (Figure 8). Although measures have been taken to reduce the access to early retirement in Denmark and Finland (OECD 2012a,b), it remains a challenge there to increase employment among elderly people. Norway and Denmark have high rates of sickness absence and retirement for disability reasons in common, which are issues that should be addressed (OECD 2012b,c).

It is important to avoid the temptation to see high employment of elderly people as a threat to the employment of young people and to let that motivate schemes for earlier labour market exit of people approaching the retirement age. Previous research summarised in OECD (2013c) as well as new research results there do not find any evidence that employment of older people crowd out employment of youth. If anything, higher employment for older people seems to go hand in hand with higher employment of youth implying that the two categories of workers are complements rather than substitutes in production.

A standard prescription to prevent unemployment from becoming entrenched is to use labour market activation programmes. Unfortunately, large-scale programmes of this type often deliver disappointing results because of locking-in effects and low efficiency. To improve the quality of activation policies is a major challenge. There are a whole host of issues that can be raised in this context. How can activation measures for those on sickness insurance and disability pensions with restricted work ability be strengthened without overloading the public employment service with new client groups that divert resources away from those with more work capacity? To what extent can the efficiency of the public employment service be raised

[14] See Kramarz and Nordström Skans (2013).

through more sophisticated evaluations of the various employment offices, controlling in a systematic fashion for differences between local conditions and client groups? Can the allocation of job seekers between various activiation programmes be improved through better use of profiling tools? What are the best ways of organising the institutions serving the unemployed? Should there be single gateways that give the unemployed co-located access to benefits and employment services as has been a feature of recent reforms in Norway and Finland (OECD 2013c)? To what extent should public employment services be contracted out to private providers? Should activation programmes to a larger extent allow unemployed people to access the ordinary school and university system against which there are now often restrictions (because of a fear of unequal treatment of ordinary students and labour market programme participants).

Stricter limits on the maximum duration of unemployment benefits and benefits that gradually fall over an unemployment spell (as were introduced in Sweden in 2007) strengthen the incentives for employment. However, such measures involve difficult trade-offs. Iceland, where the maximum benefit period was extended when unemployment rose in the crisis, provides an illustration: there was a strong insurance motive for this, but at the same time this has weakened the incentives for return to work.

As was clear from Table 4, labour force participation rates have fallen very little during the economic crisis in Sweden. Although this raises measured unemployment now, such increased attachment to the labour market is likely to be beneficial for employment in the long run when labour demand picks up again. The small fall in labour force participation in Sweden can probably be explained by the introduction of a generous earned income tax credit, which increases the return to work, and stricter gate-keeping in the systems of sickness insurance and disability pensions (Swedish Fiscal Policy Council 2010, 2011). Such measures, however, raise important questions about the desirable trade-off between, on the one hand, income protection in the case of sickness, disability and unemployment and, on the other hand, the incentives for employment.

To allow people who want to work to do so is a welfare objective in itself. But higher employment is also a means to achieve fiscal sustainability as it increases the tax base. This, however, presupposes that increased employment is achieved in ways that give a net improvement of public finances. This is, of course, the case if reduced benefit generosity raises employment. It is not, for example, the case with the Swedish earned income tax credit,

the self-financing of which according to various computations is probably only 20-30 per cent (meaning that the direct cost of the tax credit is offset only up to 20-30 per cent by the increased tax revenues from higher employment; see Swedish Fiscal Policy Council 2010, 2011).

Yet another issue concerns employment protection and then in particular the balance between regulation of fixed-term contracts and regulation of open-ended contracts. Especially Sweden, but also Denmark and Iceland, have considerably stricter regulation of open-ended contracts than of fixed-term ones. This may not be desirable as both theoretical and empirical research suggests that more flexible regulation of fixed-term contracts does not raise employment but creates incentives for firms to substitute temporary for permanent workers with low transition rates between these states. This may result in a dual labour market where fixed-term contracts become a trap, with some workers alternating between dead-end jobs and unemployment and receiving little training, rather than a stepping-stone to more stable employment (OECD 2013c). There is also some evidence suggesting that a large gap between stringent regulation of regular employment and loose regulation of temporary employment is associated with weak productivity growth (Bassanini et al. 2009).

5 Conclusions

The Nordic model has traditionally been seen as one of a generous welfare state based on universalist principles offering a high degree of social protection, financed by high taxes, and involving encompassing labour market organisations which regulate employment conditions in collective agreements. At the same time the model has included openness to foreign trade and technological advances as well as acceptance of the structural change following from this. The model has delivered high living standards and high employment.

Over the last few decades the model has undergone large changes at the same time as other countries have moved in the earlier Nordic direction. Overall, the Nordic countries appear as a somewhat less distinct group different from other Western European countries than was the case before. Although government employment is still higher than in comparable countries, the Nordics are no longer unique with respect to government expenditure and tax revenues relative to GDP, redistributive effects of tax and transfer systems, and social protection. In these respects there are now great similarities with Continental European countries such as Austria, Belgium, France, Germany and the Netherlands. Although trade union membership is still high, the coverage of collective agreements is no longer higher in the Nordics than in

Continental Europe. As elsewhere there have been substantial product market deregulations in the Nordic countries.

It is reasonable to talk about a Nordic *flexicurity* model with a strong focus on labour market activation measures facilitating structural change at the same time as employment protection is moderate: more strict than in Anglo-Saxon countries but less strict than in Continental and Southern Europe. In terms of product market regulations the Nordic countries also form a middle group with less regulations than in most comparable Western European countries but with more than in, for example, the US, the UK and Ireland.

The Nordic model continues to deliver high employment, especially for females and older people. It also delivers high income equality. At the same time, the Nordics rank high in most comparisons of "competitiveness" and "organisational and technological change". A distinctive feature is that citizens have a high degree of *trust* in society, which is likely to facilitate decision-making in general as well as adjustment to foreign trade and technological change.

The period from the mid-1990s till the beginning of the financial crisis in 2007/08 was a period with relatively high growth in both output and employment in the Nordic countries. Public finances were consolidated due both to active decisions and strong automatic stabilisers associated with large public sectors. These favourable developments are likely to have reflected fundamental structural factors especially in Sweden, Finland and Norway. In Iceland and, to some extent in Denmark, they to a large extent also reflected unsustainable booms. There were strong adverse effects on output and employment when the booms came to an end with an acute financial and macroeconomic crisis in Iceland and protracted downturns in Denmark and Finland. Sweden and Norway are the Nordic countries that have weathered the international economic crisis the best. In Sweden this has happened at the same time as there have been substantial reductions in the degree of social protection (in unemployment and sickness insurance as well as early retirement). In Norway this has not happened.

Overall, output and labour market deteriorations, as well as deteriorations in the fiscal balance, have been larger in the Nordics than in Continental Europe during the international economic crisis that started in 2008. The Nordic countries have not been more resilient than those economies during the crisis, but they have benefitted from starting out from better positions.

All the Nordic countries face great challenges for the future. A key challenge is to maintain a high rate of productivity increase as this is the basis for rising living standards. There are worrying signs that the trend growth of productivity may be slowing down. It is not obvious how this should be countered. A particular problem for small economies like the Nordic ones that find themselves at the technology frontier in many fields is that they need to base innovations on their own R&D efforts and not on imitation. Choices need to be made about where to focus innovation activities. It is not obvious what role government policy should have in such choices as government authorities are usually not well suited to picking winning technologies.

In the case of Finland, a particular problem is the need for re-allocation of resources from the stagnating ICT, forest and steel industries, which have been hit by exceptional shocks. Coping with these asymmetric disturbances as a member of the Eurozone and thus without access to the tool of an exchange rate depreciation of its own currency represents a major challenge, which will shed light on the capacity of the Nordic model to handle adjustment to structural shocks triggered by global developments.

A key long-run factor for productivity increases is accumulation of human capital, which requires efficient school systems. Finland has shown excellent results in the past, but performance has deteriorated recently. Swedish school results have exhibited a long-run downward trend, which seems very difficult to break.

More mobile tax bases (firms, capital and labour) will expose existing tax systems to strains, although it is not clear at what pace, especially when it comes to mobility of labour. There is large room for increasing the efficiency of tax systems through lower top marginal labour income tax rates and lower capital income taxation at the same time as consumption and real estate taxes could be raised. However, such tax reform raises serious equity concerns. It is not obvious which trade-offs should be made.

In the future the Nordics will face fiscal sustainability problems. This is partly due to ageing populations. But the greatest problems are the probable increases in the demand for welfare services, the relative costs of which are gradually rising as incomes become higher (the combination of Baumol’s disease and Wagner’s law). These problems are likely to be less severe than in most comparable countries, but they will still be serious. They will likely require pension reforms linking the retirement age to longevity. If the old-age retirement age is raised, there are strong arguments for generous systems for disability pensions for those

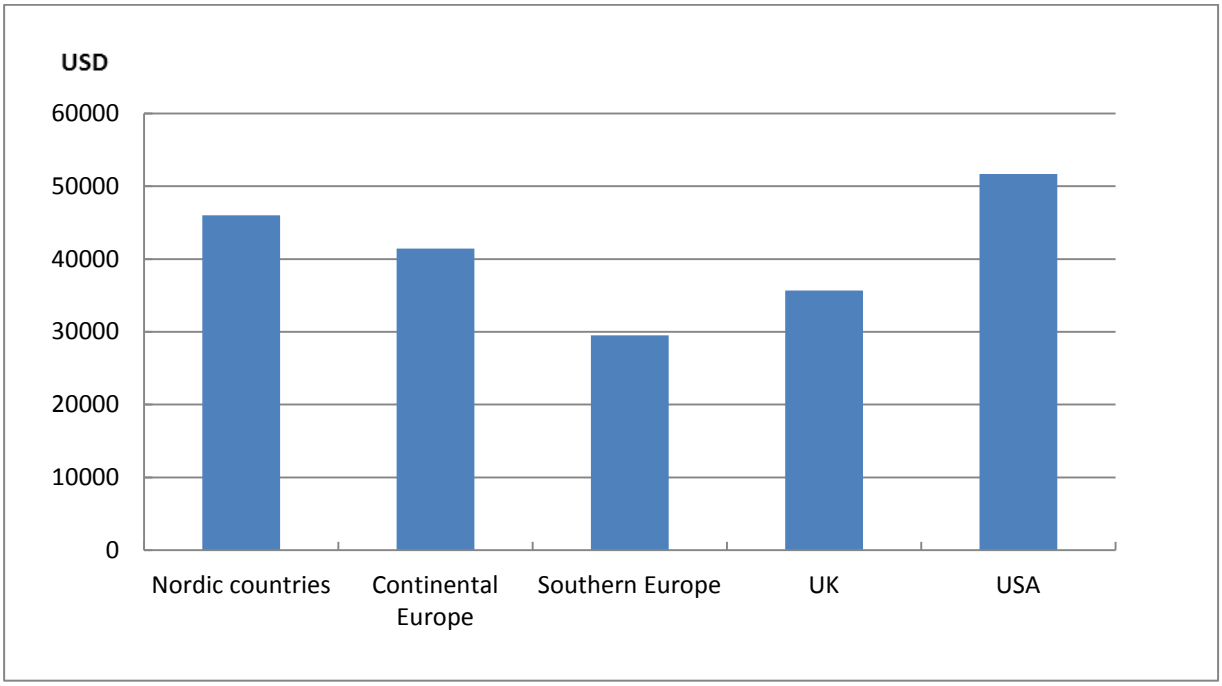
who cannot go on working because of health problems. It is a difficult challenge how to trade off income protection for disabled older workers against the objective of raising the effective retirement age which may require narrow gateways to disability pension schemes. However, pension reforms will not be enough for ensuring fiscal sustainability. There will also be difficult choices between allowing the tax ratio to rise (with potential adverse effects on growth) and introducing more user fees and insurance solutions (with likely adverse effects on equity).

All the Nordic countries face the challenge of reducing unemployment and to prevent the increases of recent years from becoming persistent. Problems are to a large extent centred on low-skilled workers and non-European immigrants, groups which often overlap. Sweden has a worse youth unemployment problem than the other Nordic countries. The problems in the labour market raise a host of questions regarding how labour market activation policies can be made more efficient.

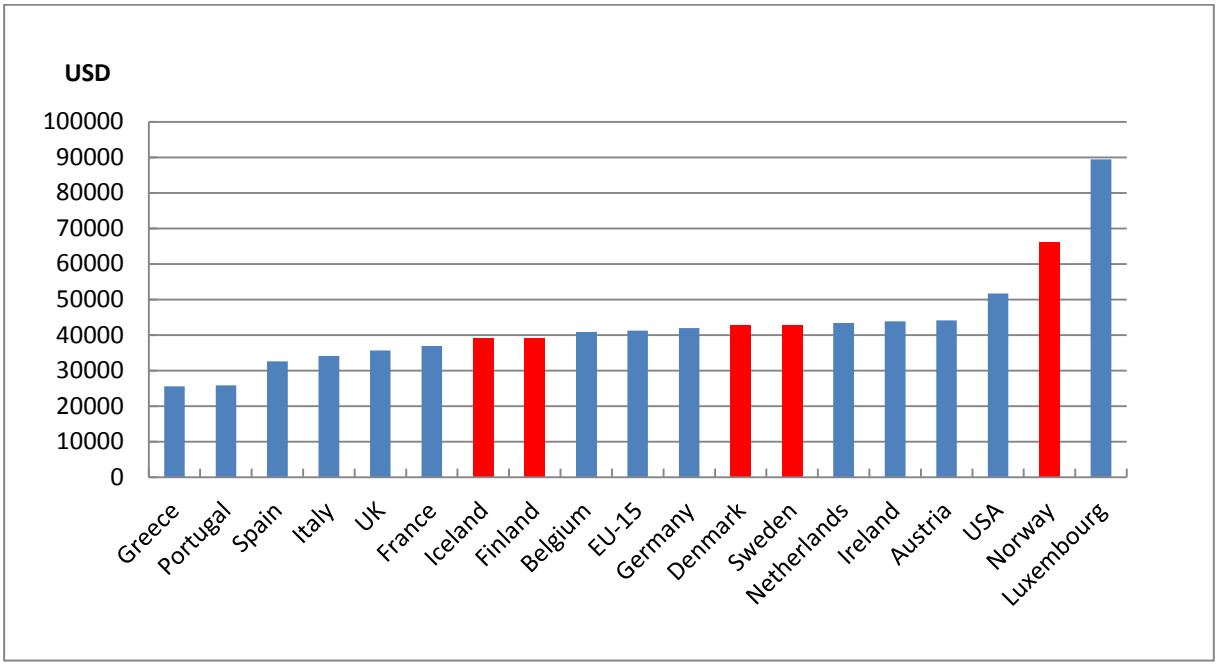
To sum up, it is still reasonable to talk of a Nordic welfare model, although the Nordics today differ less from other comparable European countries than earlier. The Nordic countries have done very well from the mid-1990s till the onset of the international economic crisis in 2008. They have all been hurt by the crisis, but have benefitted from starting out in a better position than many comparable countries. Continued successful economic performance does, however, require that future policy can address a number of challenges. A high degree of trust in society among citizens may be the most valuable asset when trying to meet these challenges, as it is likely to facilitate the adoption of appropriate polices.

Figure 1 PPP-adjusted GDP per capita PPP, 2012

(a)



(b)

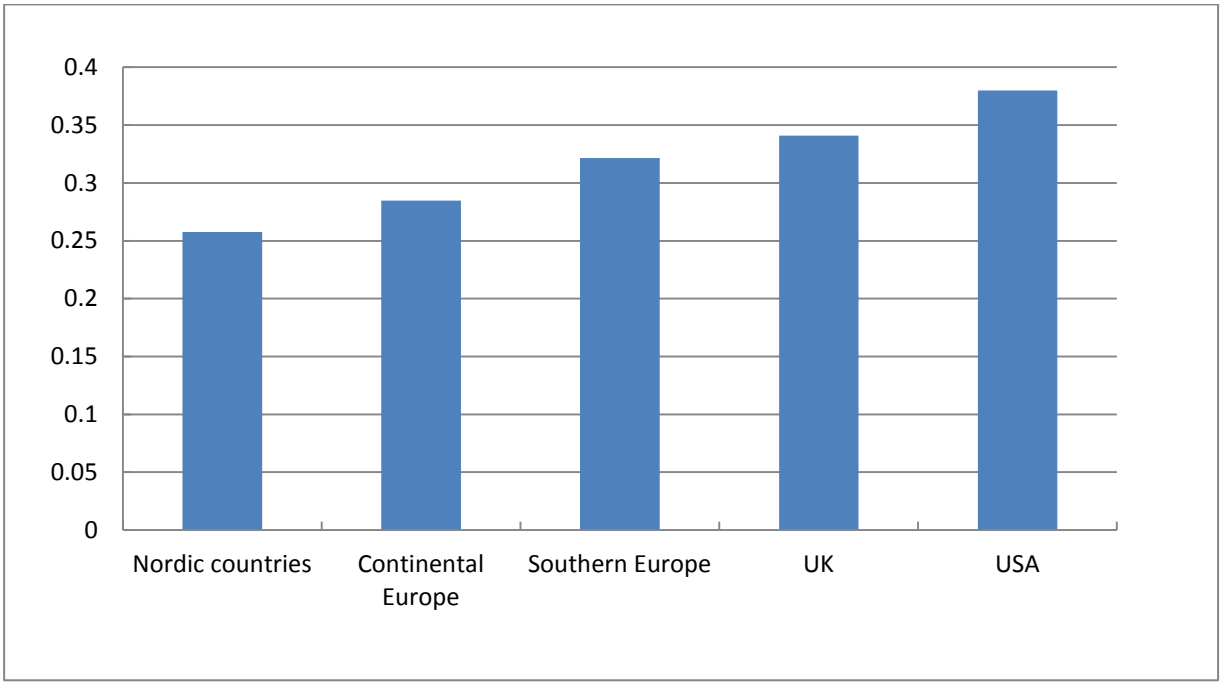


Note: All aggregates are arithmetical averages. The Nordic countries refer to Denmark, Finland, Iceland, Norway and Sweden; Continental Europe to Austria, Belgium, France, Germany and the Netherlands; Southern Europe to Greece, Italy, Portugal and Spain; and EU-15 to Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.

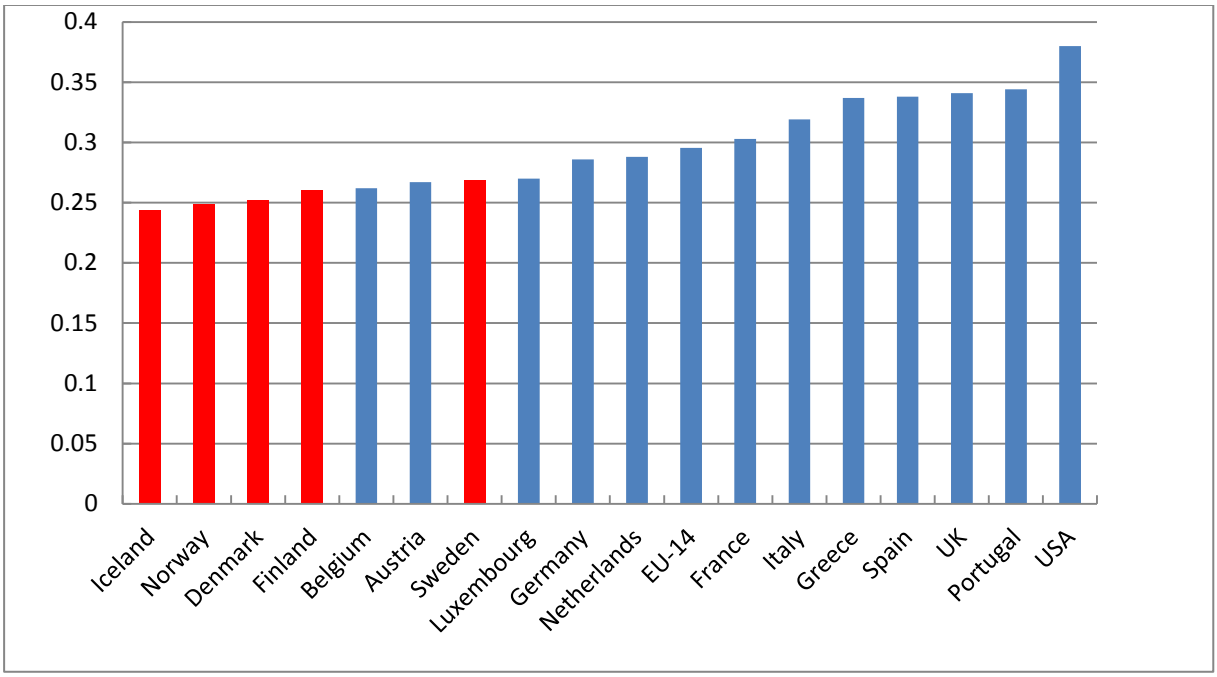
Source: OECD.

Figure 2 Gini coefficient, disposable income of households, 2010

(a)



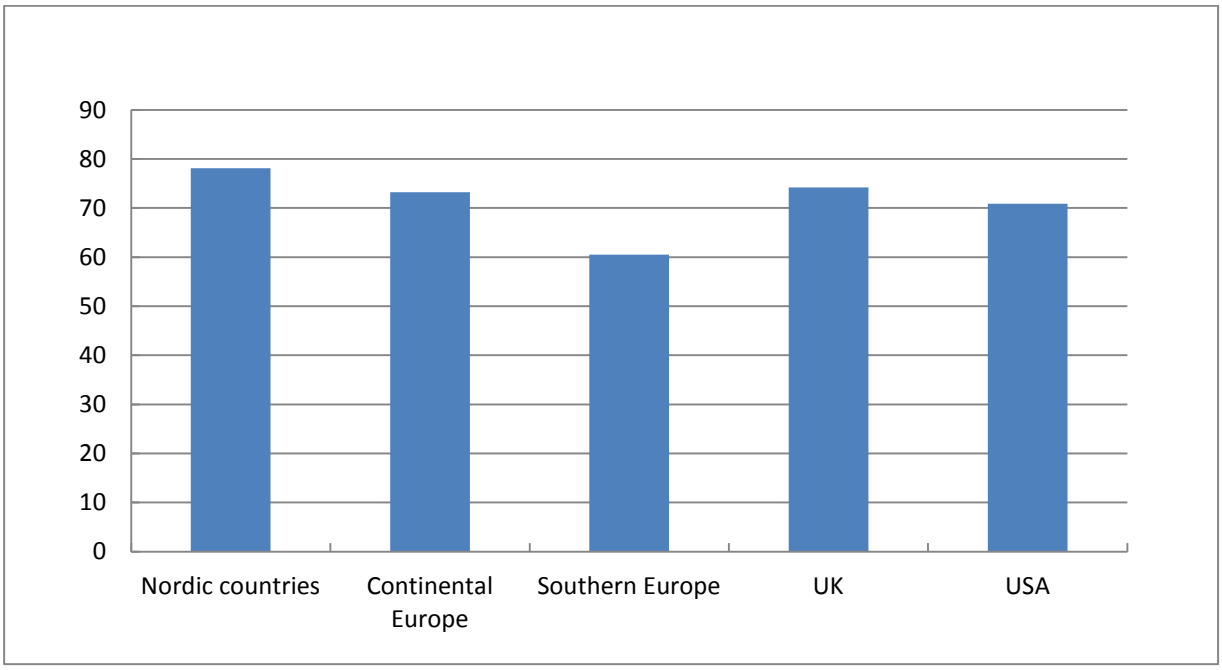
(b)



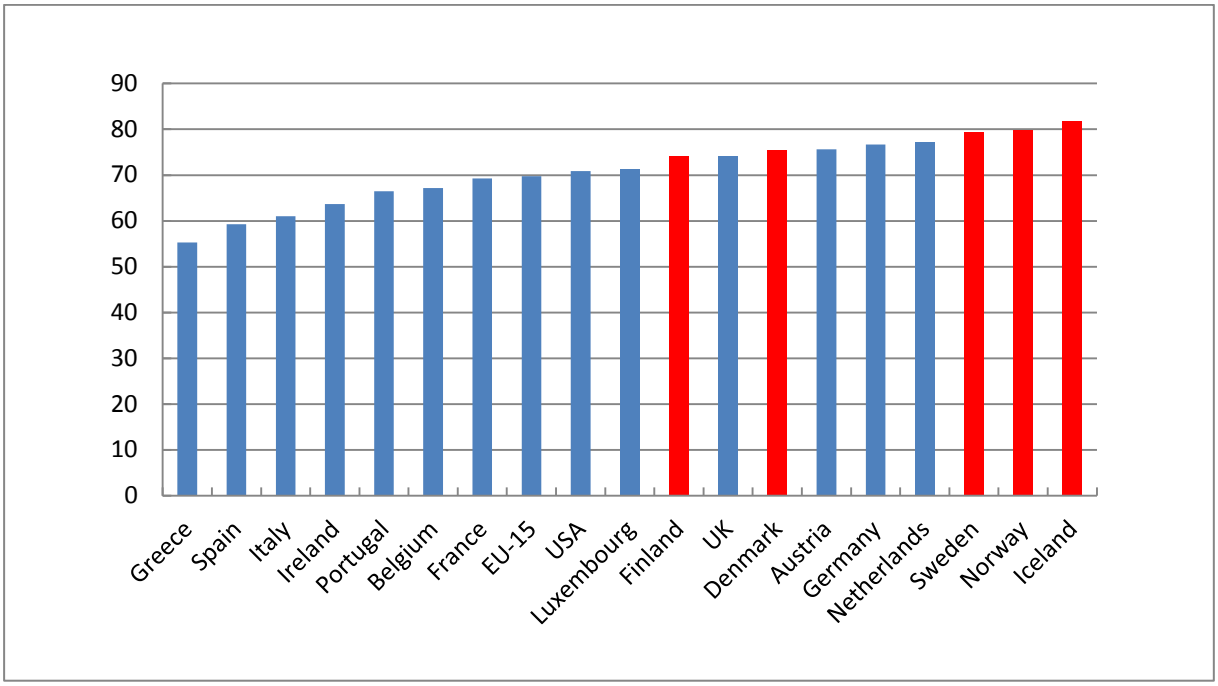
Note: See Figure 1. EU-14 refers to Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK. The Gini coefficient can take on values between zero (all households have the same income) and one (all incomes go to only one household). The coefficient refers to the whole population.
Source: OECD Social and Welfare Statistics.

Figure 3 Employment rate, percentage of population 20-64 years old, 2012

(a)



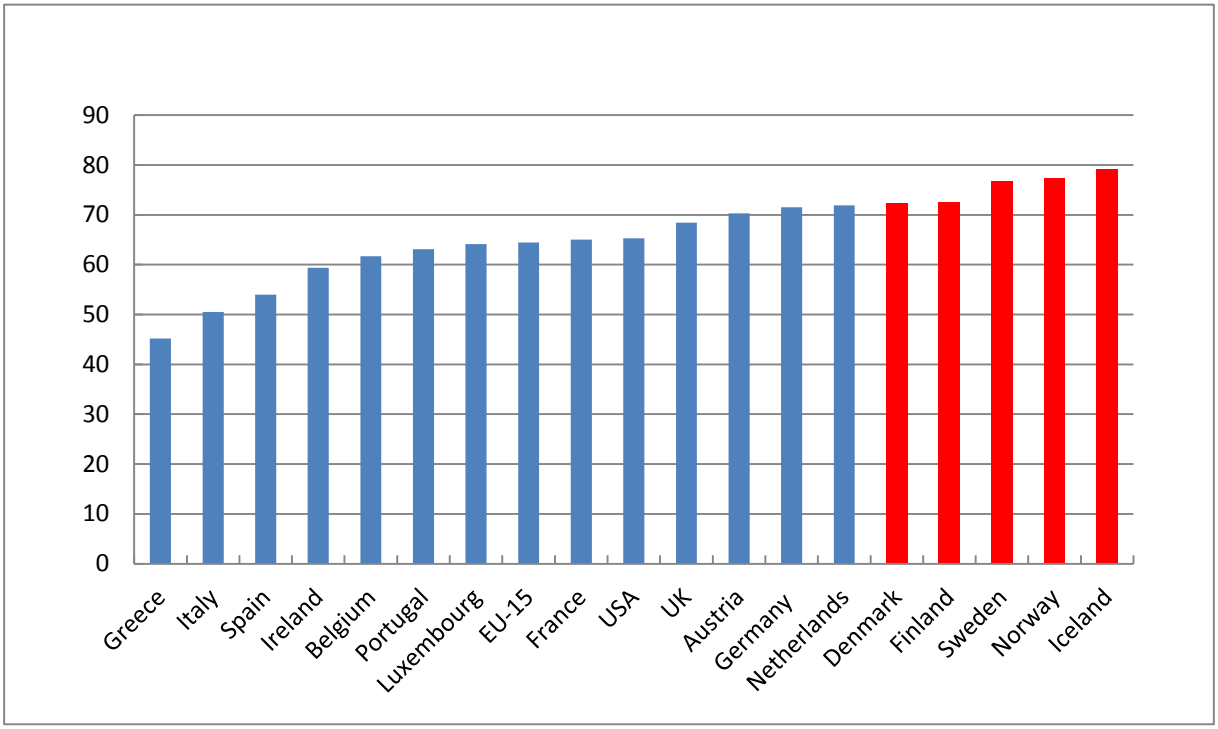
(b)



Note: See Figure 1.

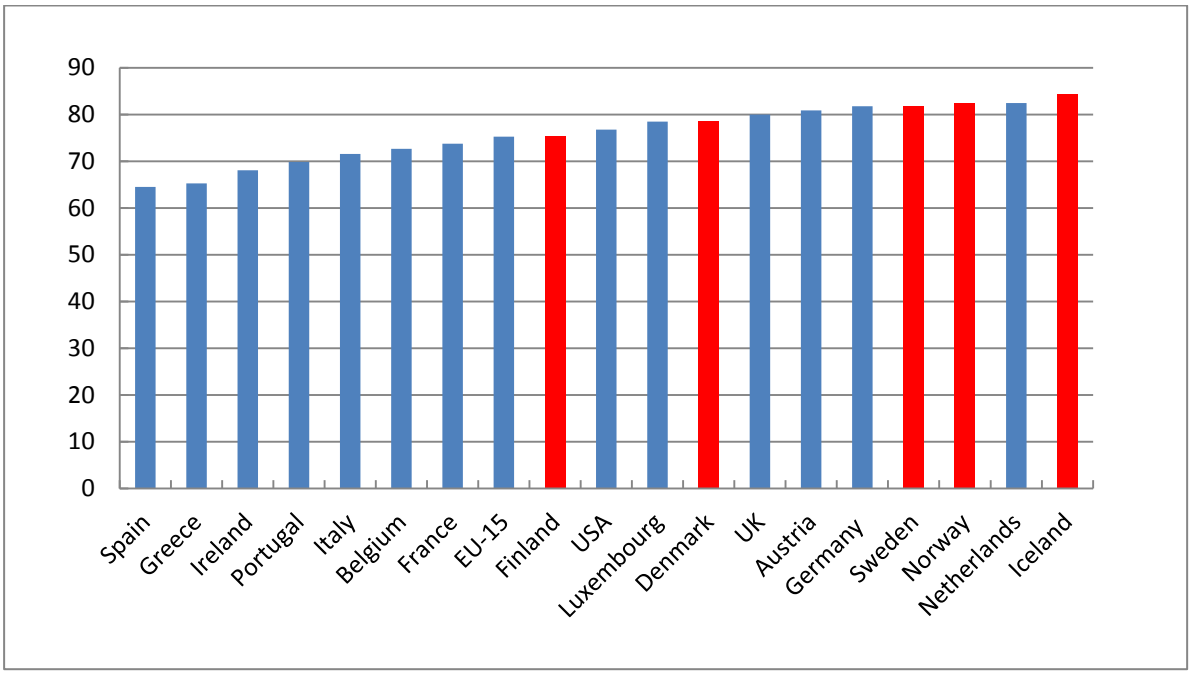
Source: Eurostat.

Figure 4 Employment rate, percentage of females 20-64 years old, 2012



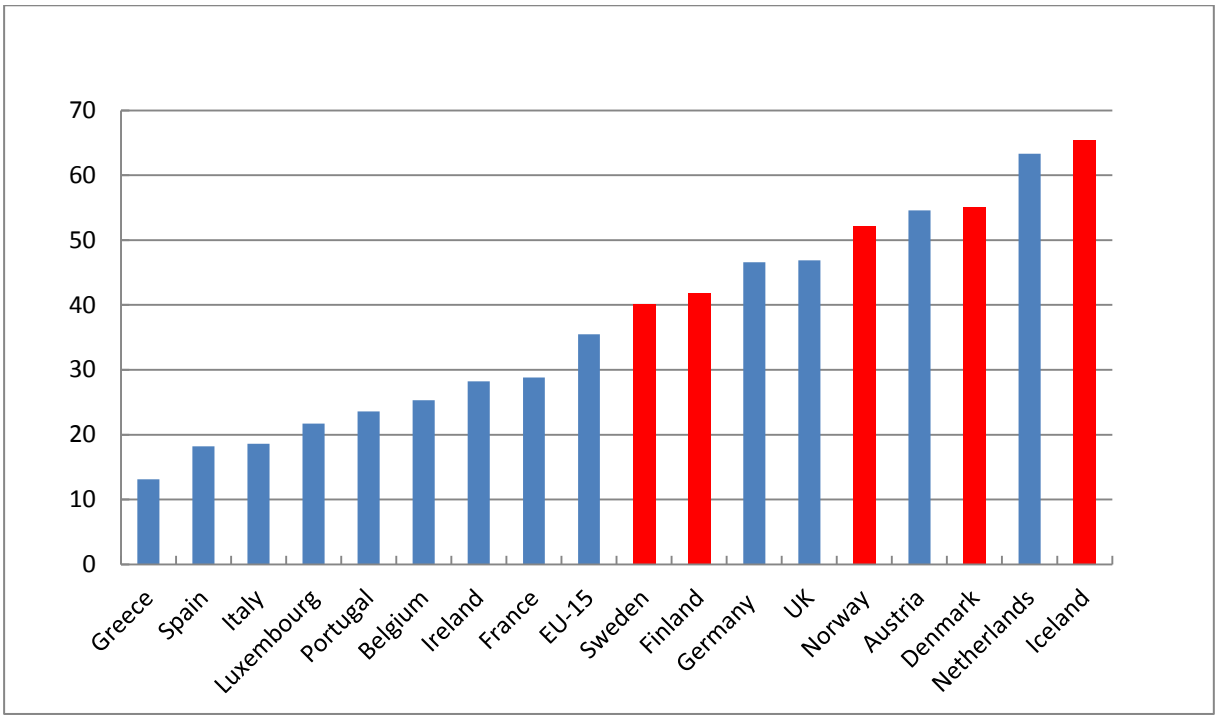
Note: See Figure 1.
Source: Eurostat.

Figure 5 Employment rate, percentage of males 20-64 years old, 2012



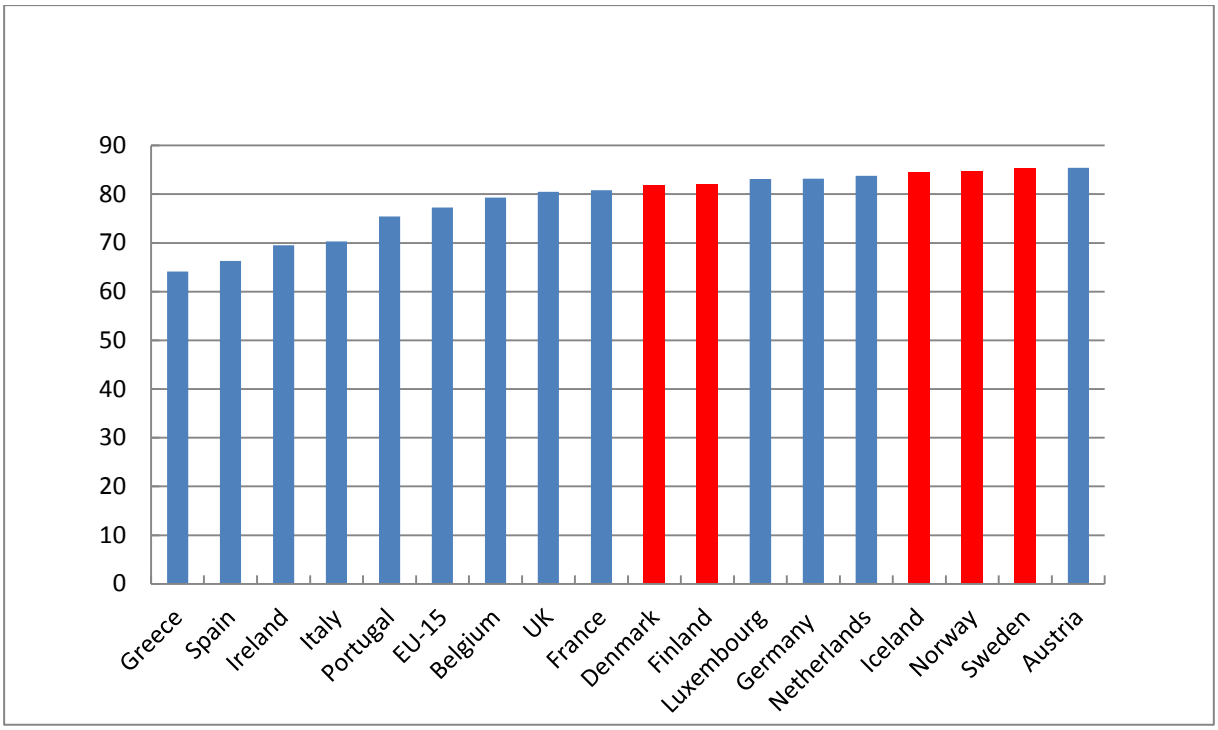
Note: See Figure 1.
Source: Eurostat.

Figure 6 Employment rate, percentage of population 15-24 years old, 2012



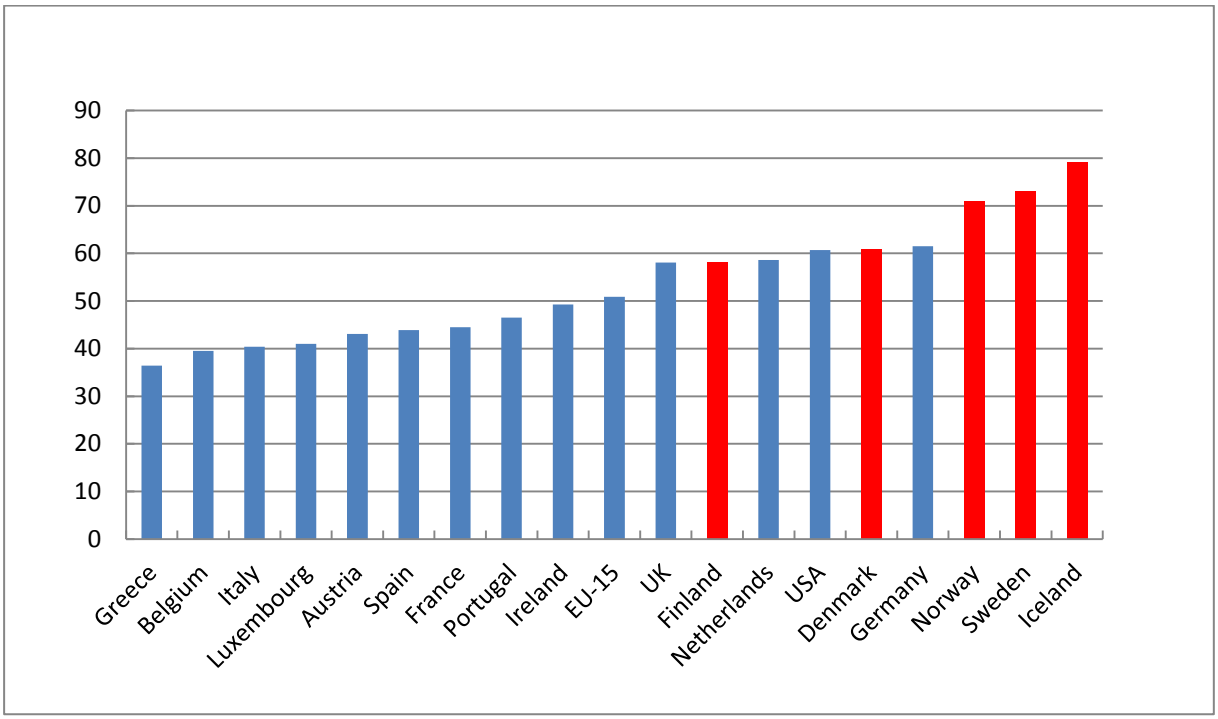
Note: See Figurre 1.
Source: Eurostat.

Figure 7 Employment rate, percentage of population 25-54 years old, 2012



Note: See Figure 1.
Source: Eurostat.

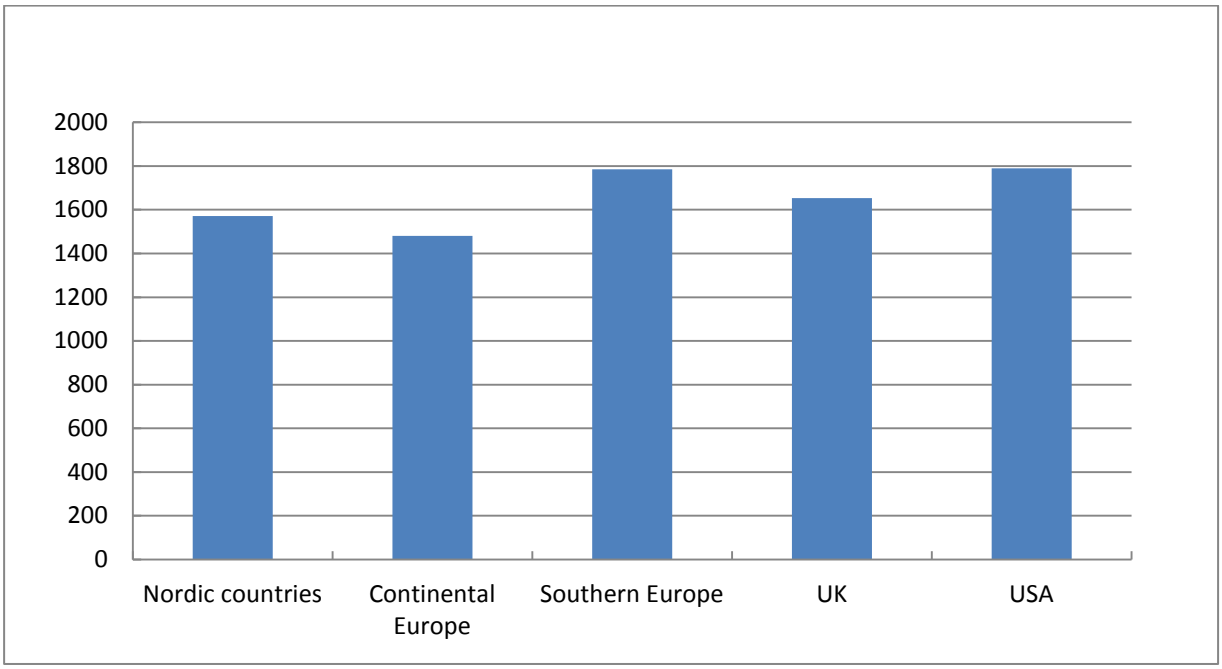
Figure 8 Employment rate, percentage of population 55-64 years old, 2012



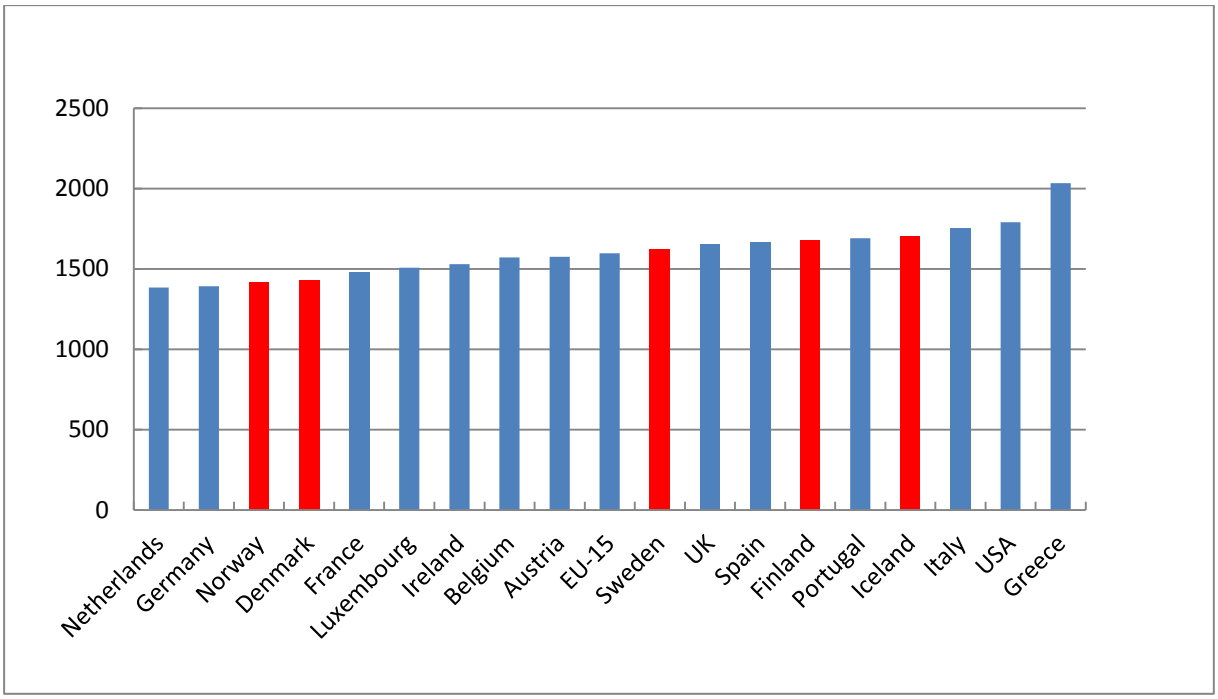
Note: See Figure 1.
Source: Eurostat.

Figure 9 Annual hours worked per employed, 2012

(a)



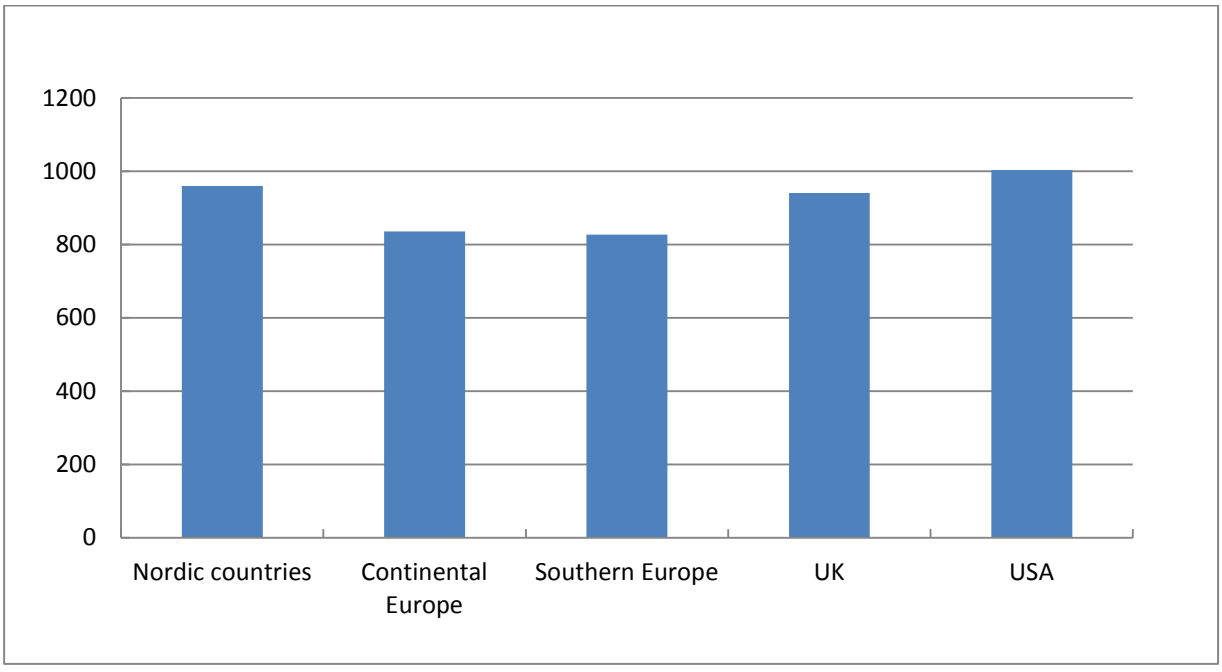
(b)



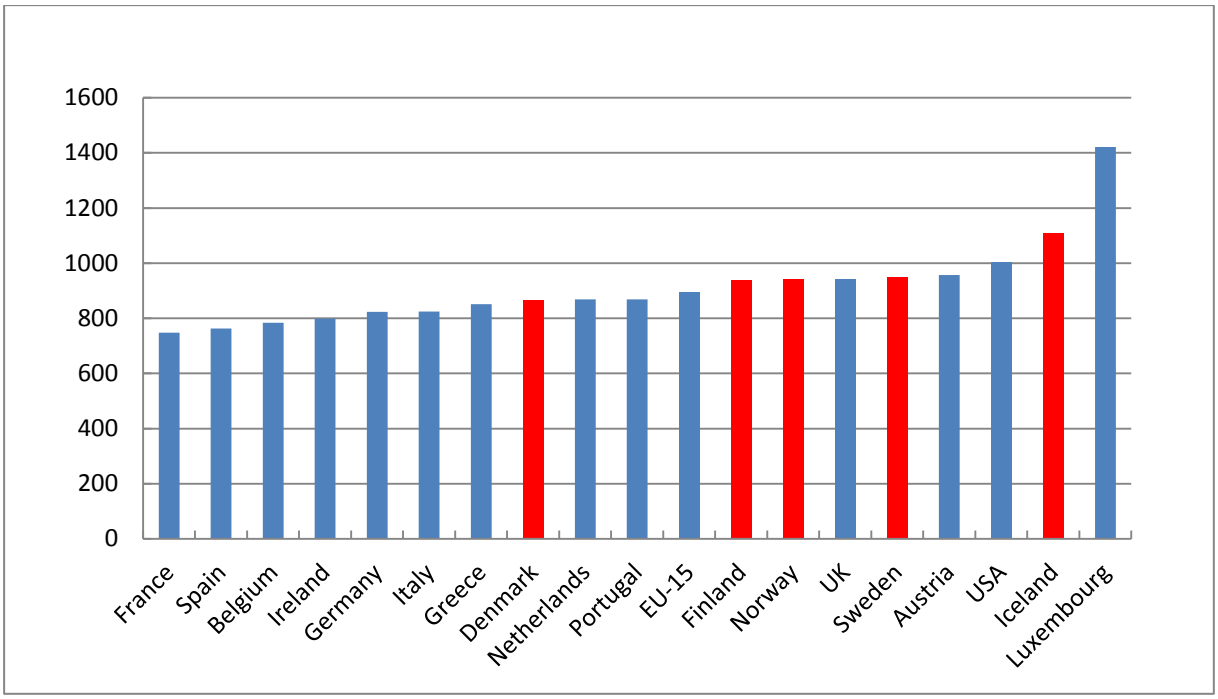
Note: See Figure 1.
Source: OECD.

Figure 10 Annual hours worked per person in working-age population 20-64 years old, 2012

(a)



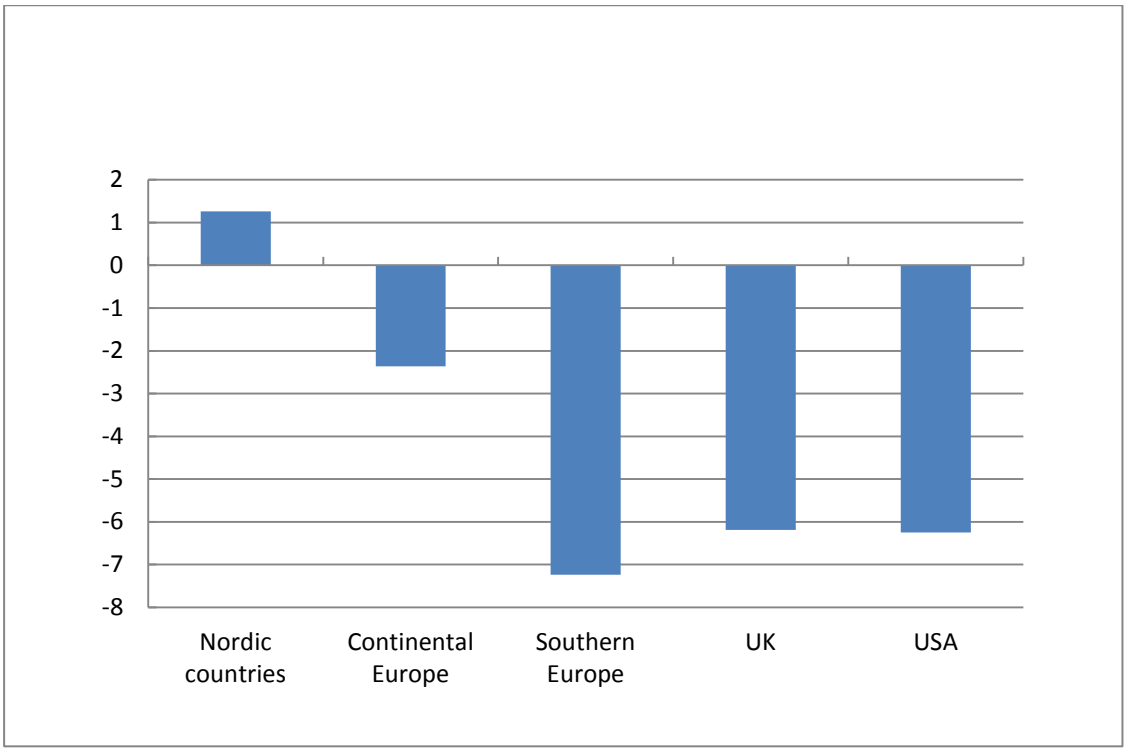
(b)



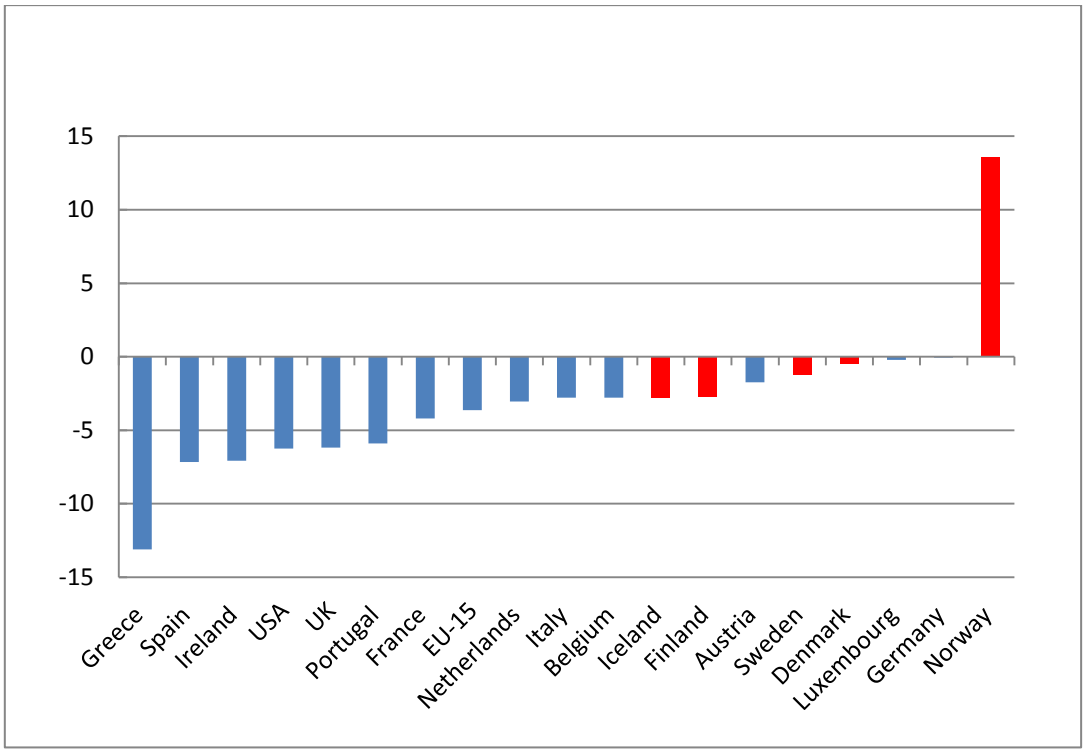
Note: See Figure 1.
Source: Eurostat.

Figure 11 Government net lending, percentage of GDP, 2013

(a)



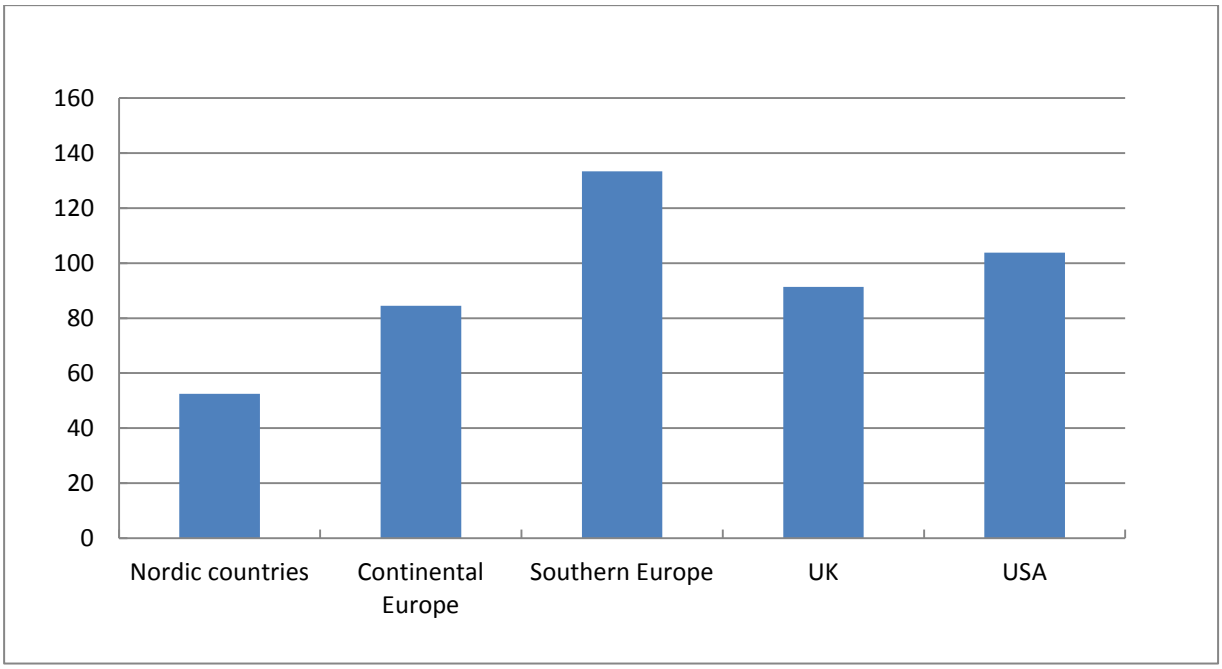
(b)



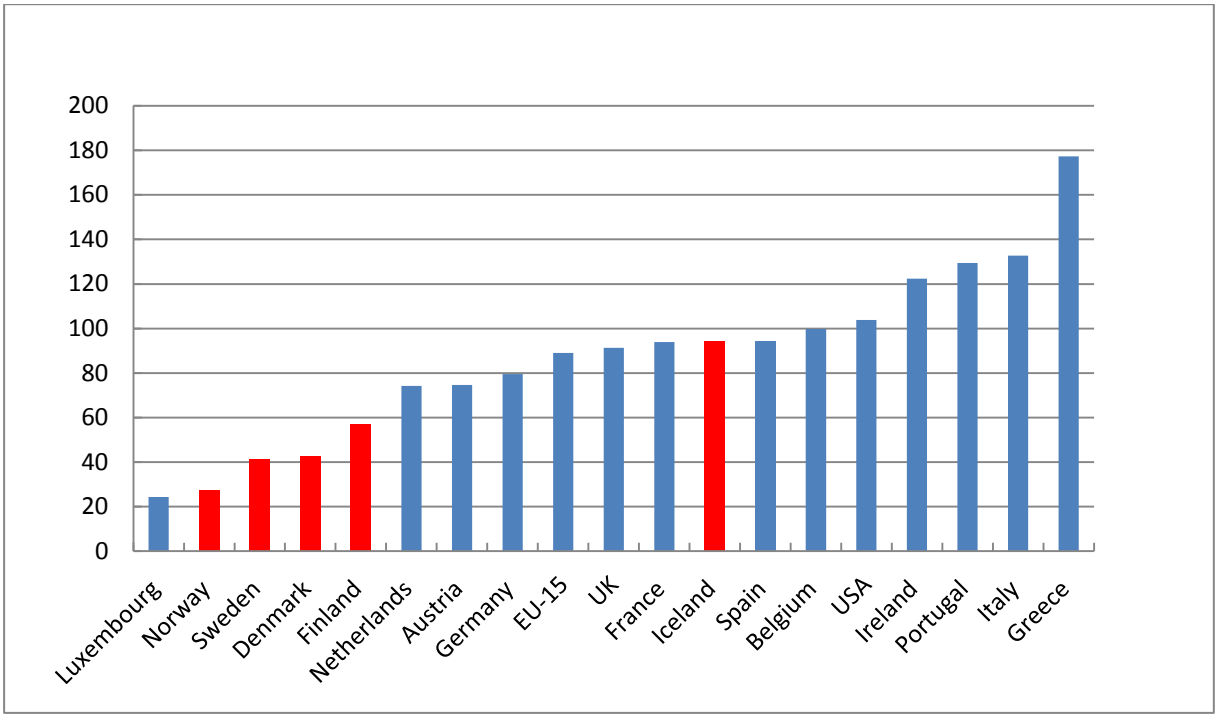
Note: See Figure 1. 2013 data are preliminary estimates.
Source: Ameco.

Figure 12 Consolidated government gross debt, percentage of GDP, 2013

(a)



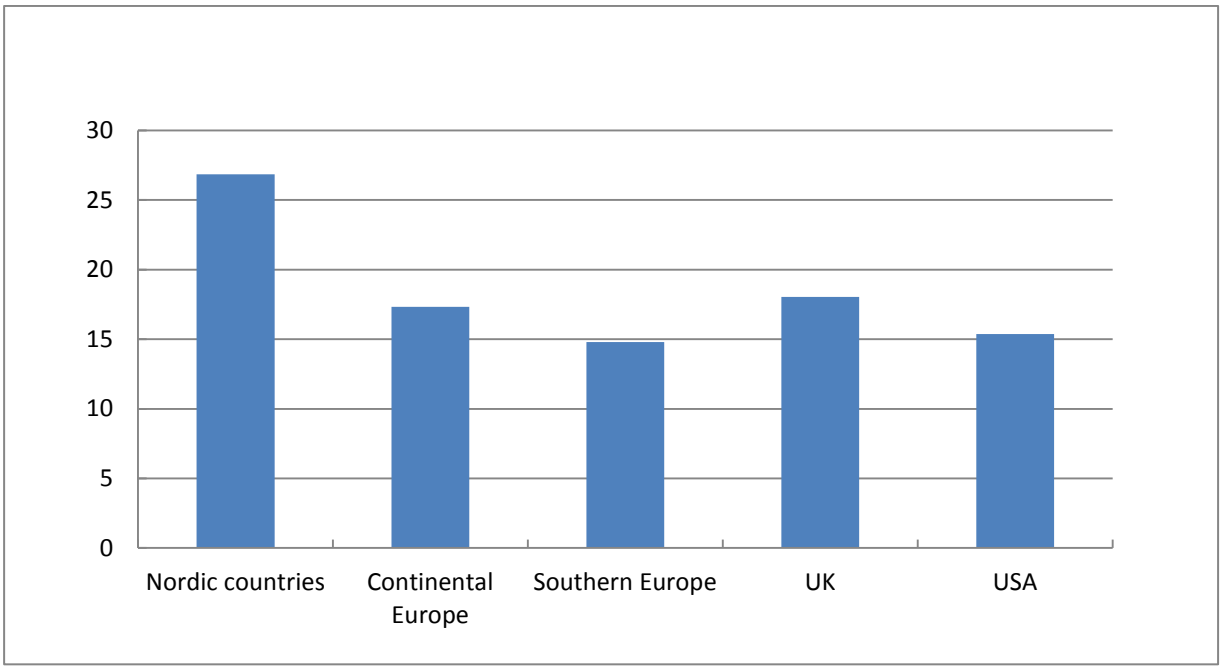
(b)



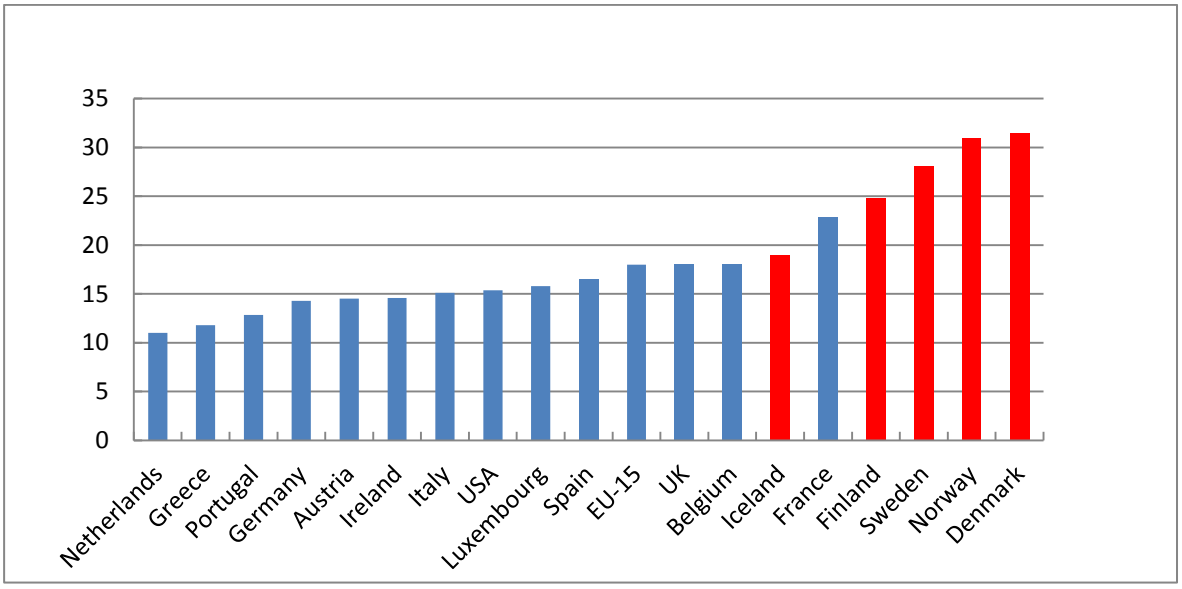
Note: See Figure 1. Consolidated general government gross debt (Maastricht debt) is defined as the general government total debt after internal claims and liabilities in the sector have been netted out. 2013 data are preliminary estimates.
Source: Ameco.

Figure 13 General government employment, percentage of total 20-64 years old, 2012

(a)



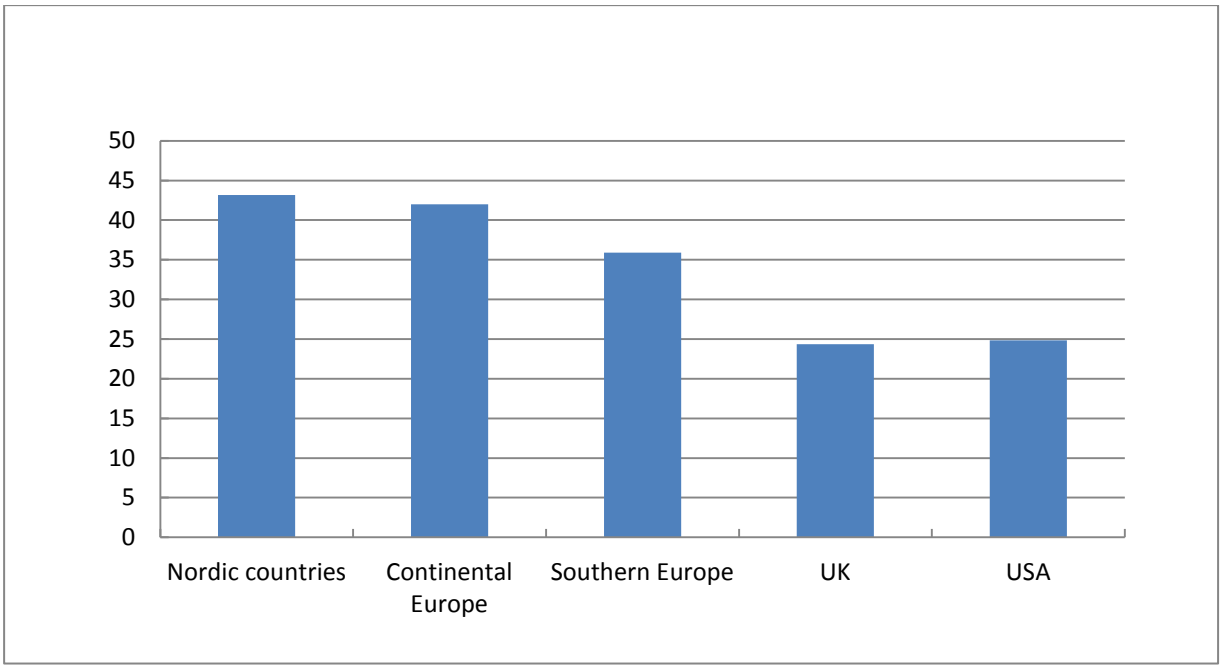
(b)



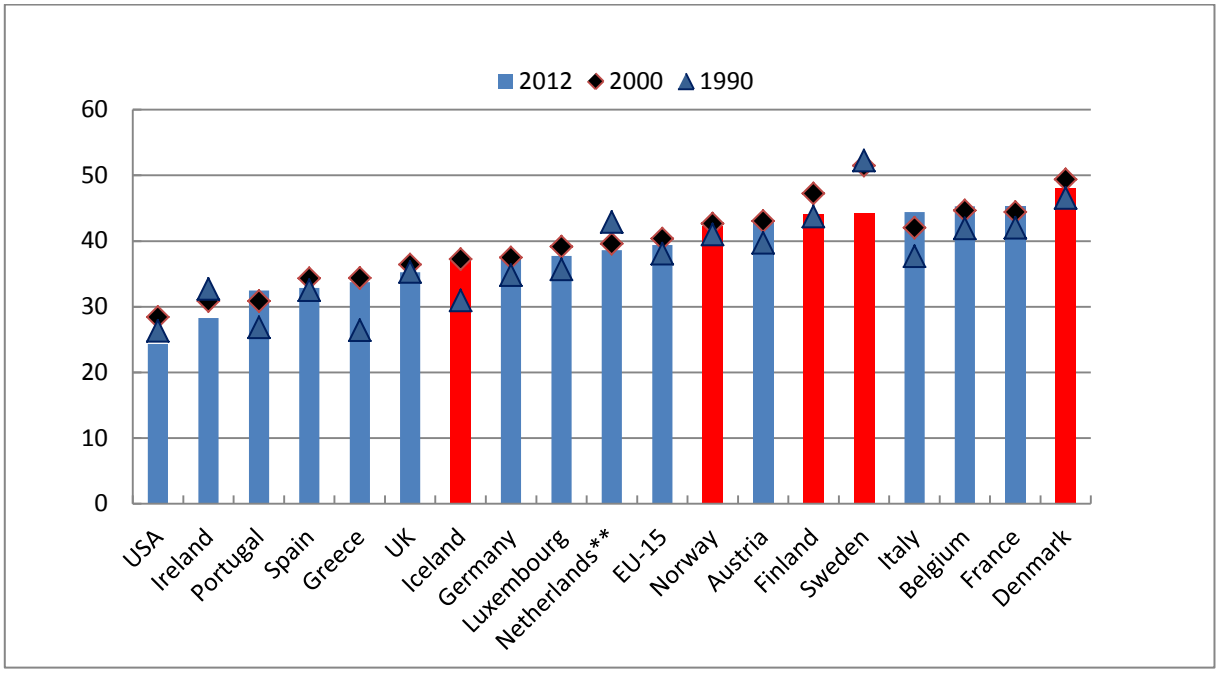
Note: See Figure 1.
Source: OECD Economic Outlook.

Figure 14 Total tax revenue, percentage of GDP, 2012

(a)



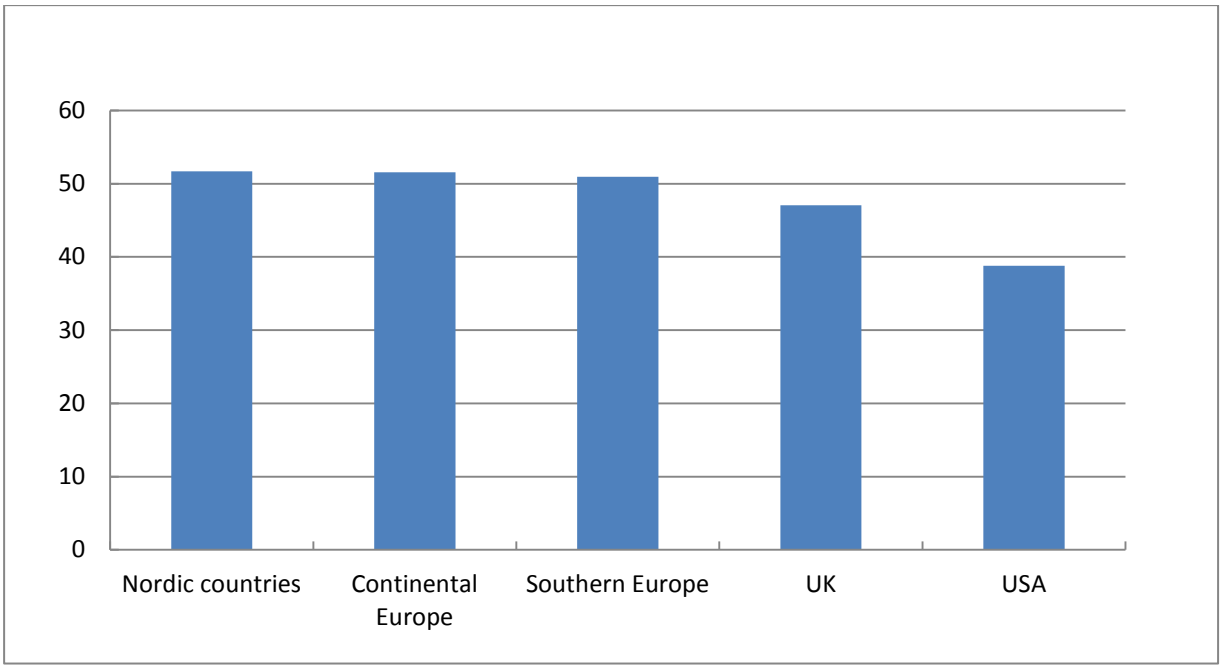
(b)



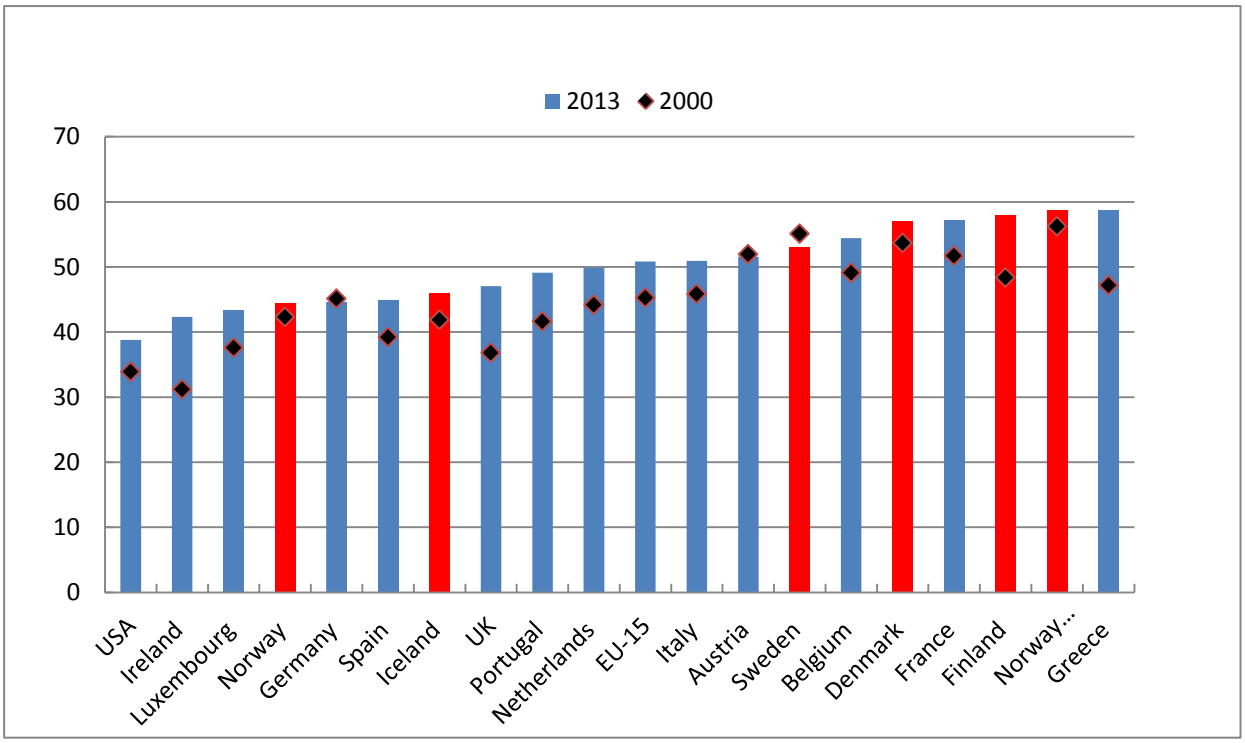
Note: See Figure 1.
Source: OECD.

Figure 15 Total government expenditure, percentage of GDP, 2013

(a)



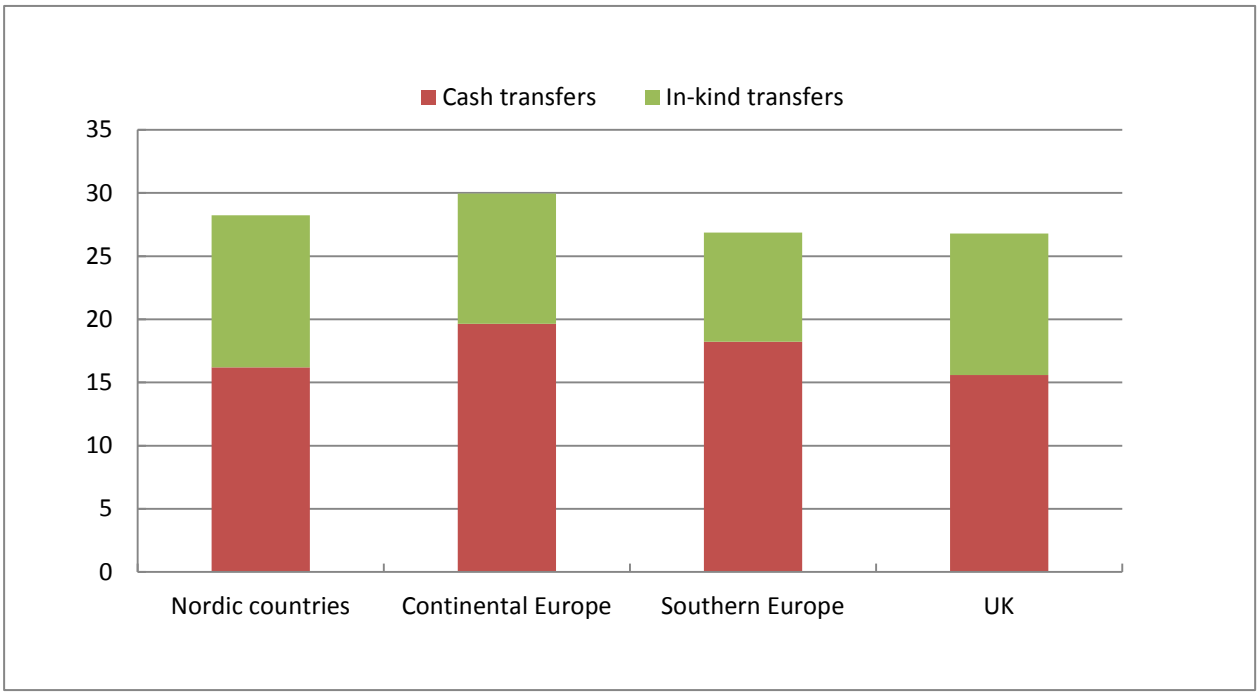
(b)



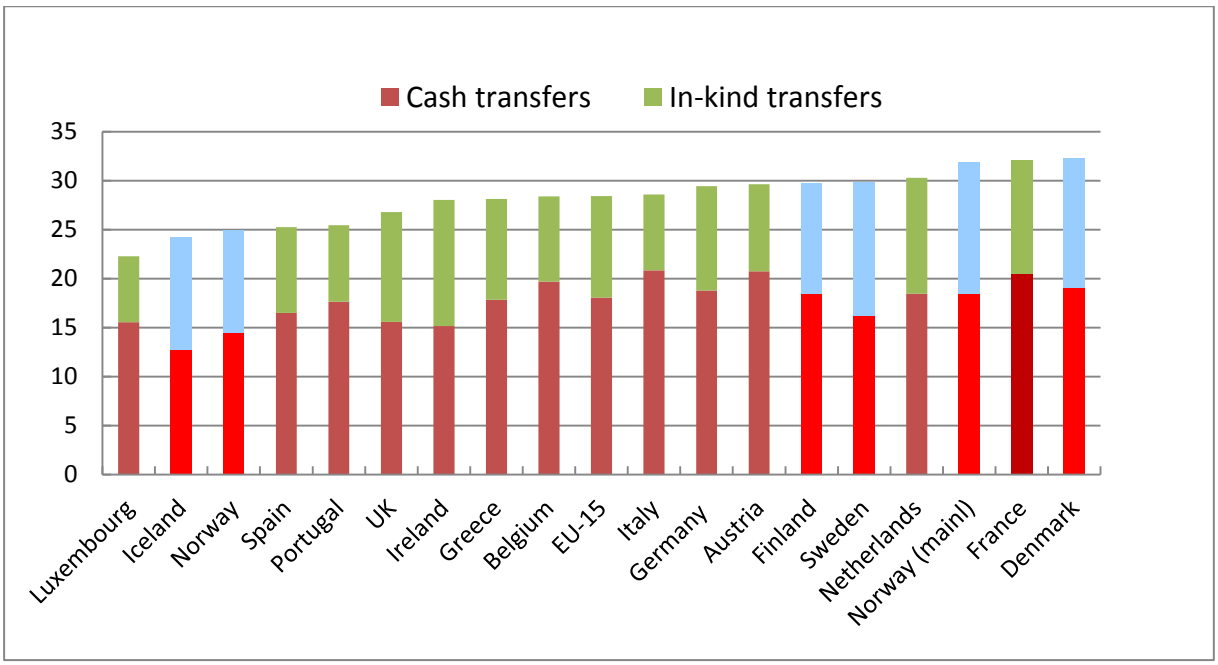
Note: See Figure 1. 2013 data are preliminary estimates.
Source: Ameco.

Figure 16 Total social protection transfers, percentage of GDP, 2010

(a)



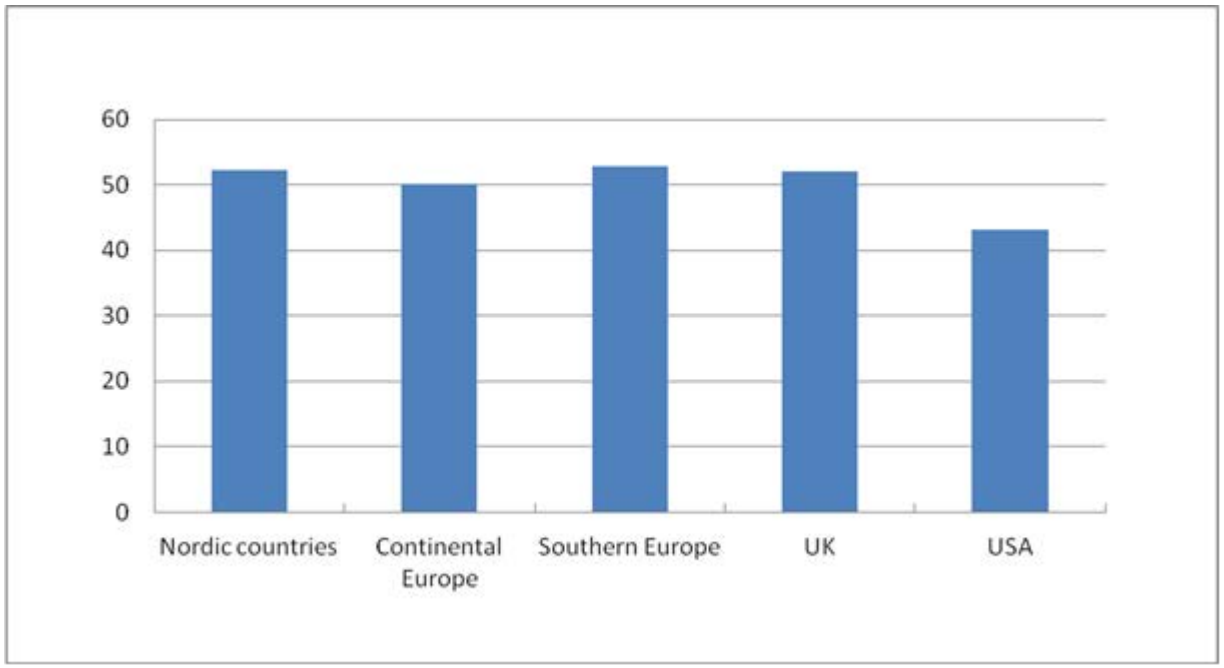
(b)



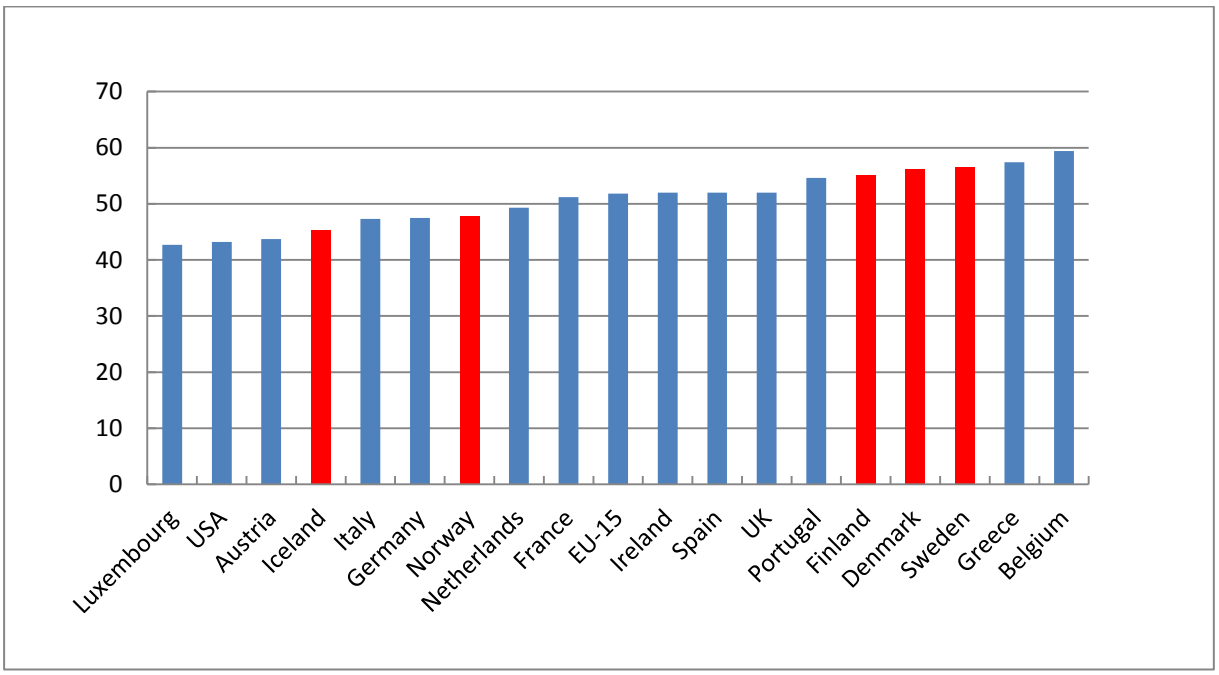
Note: Cash transfers refer to sickness and disability benefits, maternity allowances, unemployment benefits, pensions etc. In-kind transfers refer to public services like education, health and old age care etc. See also Figure 1. *Source*: Eurostat.

Figure 17 Top marginal income tax rates, per cent. 2012

(a)



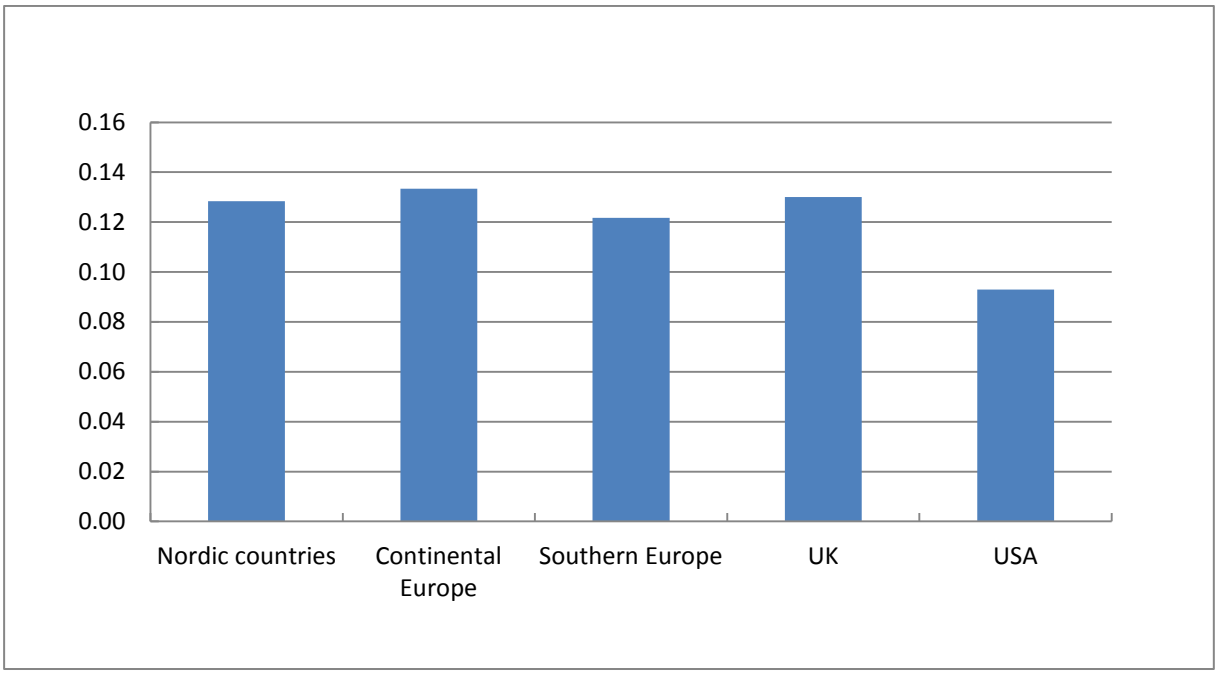
(b)



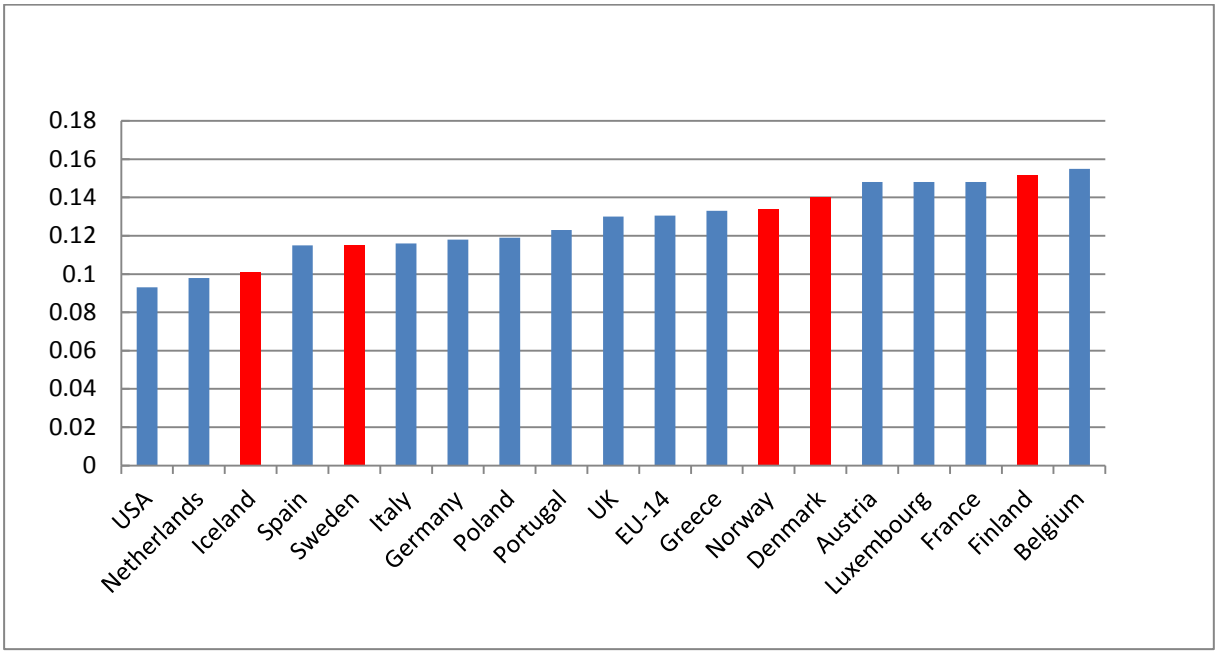
Note: The top marginal income tax rate refers to personal income tax and employee social security contributions (all-in-rate). See also Figure 1.
Source: OECD Taxation of Wage (2012).

Figure 18 Redistribution through taxes and transfers, 2010

(a)



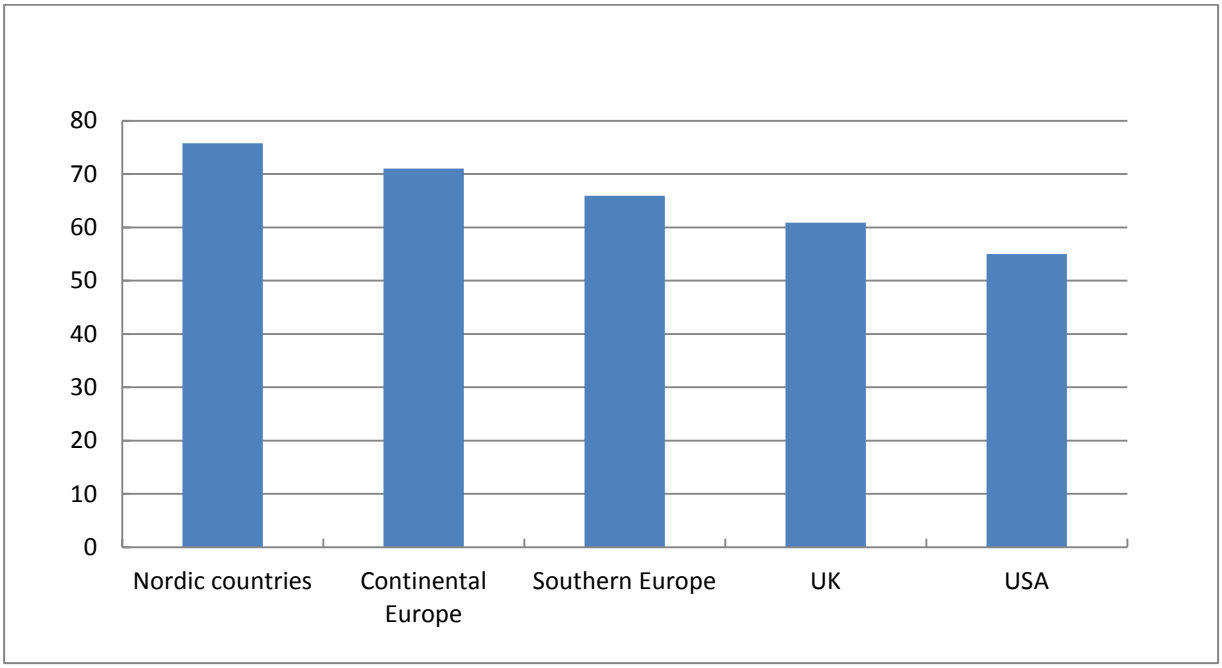
(b)



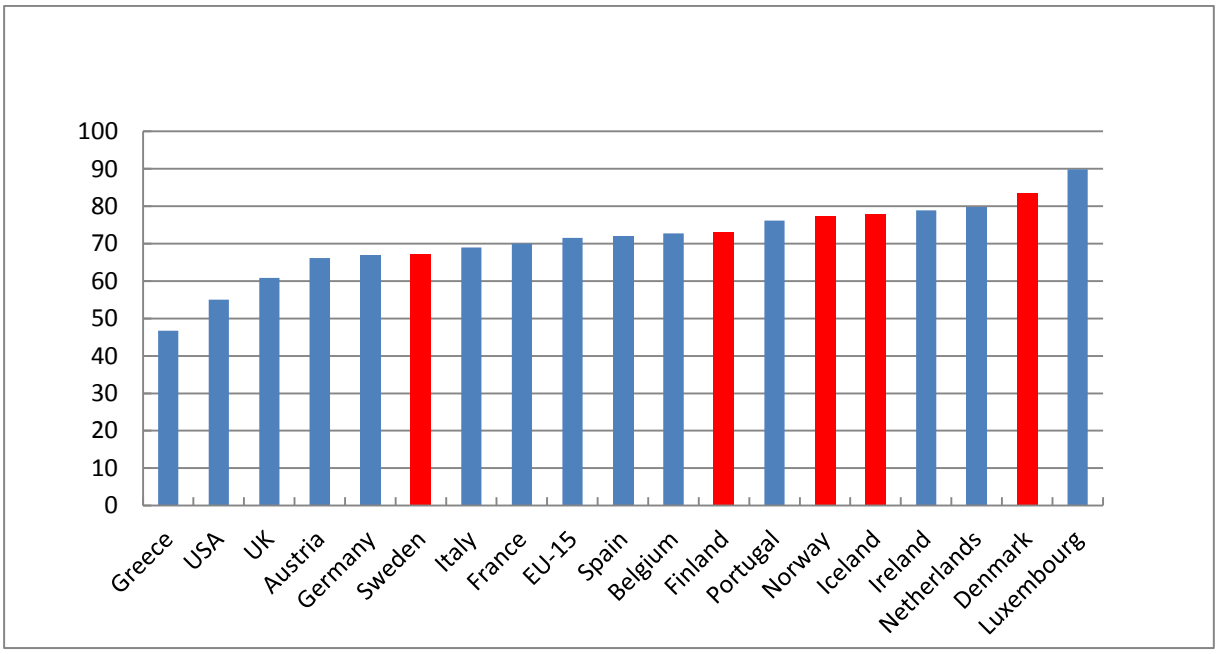
Note: Redistribution is measured by the difference in the Gini coefficient between household market income and disposable income for the working-age population. See also Figure 1. EU-14 refers to Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.
Source: OECD.

Figure 19 Net income replacement rate for short-term unemployed (first year), per cent, 2010

(a)



(b)

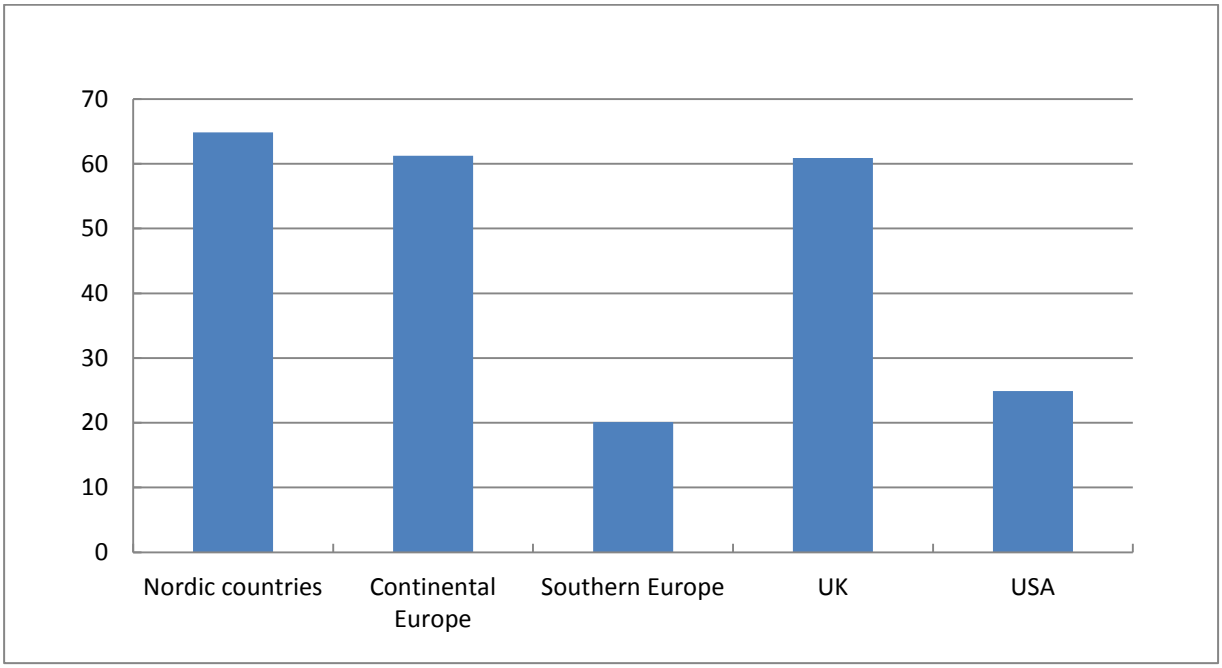


Note: See Figure 1. The net replacement rate is the after-tax unemployment compensation as a percentage of the previous after-tax wage. The replacement rate is calculated as an arithmetical average for singles (at 67 and 100 per cent of the average wage) with no children and with two children and for one-earner couples (at 67 and 100 per cent of the average wage) with no children and with two children.

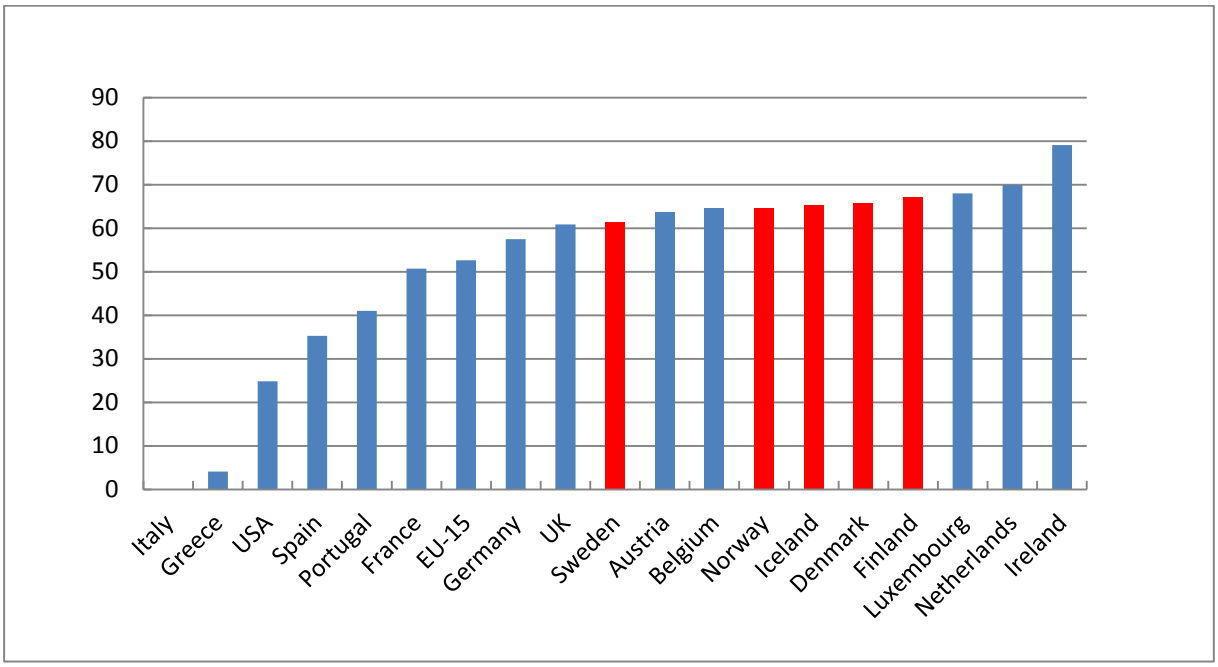
Source: OECD.

Figure 20 Net income replacement rate for long-term unemployed (after 5 years), per cent, 2010

(a)



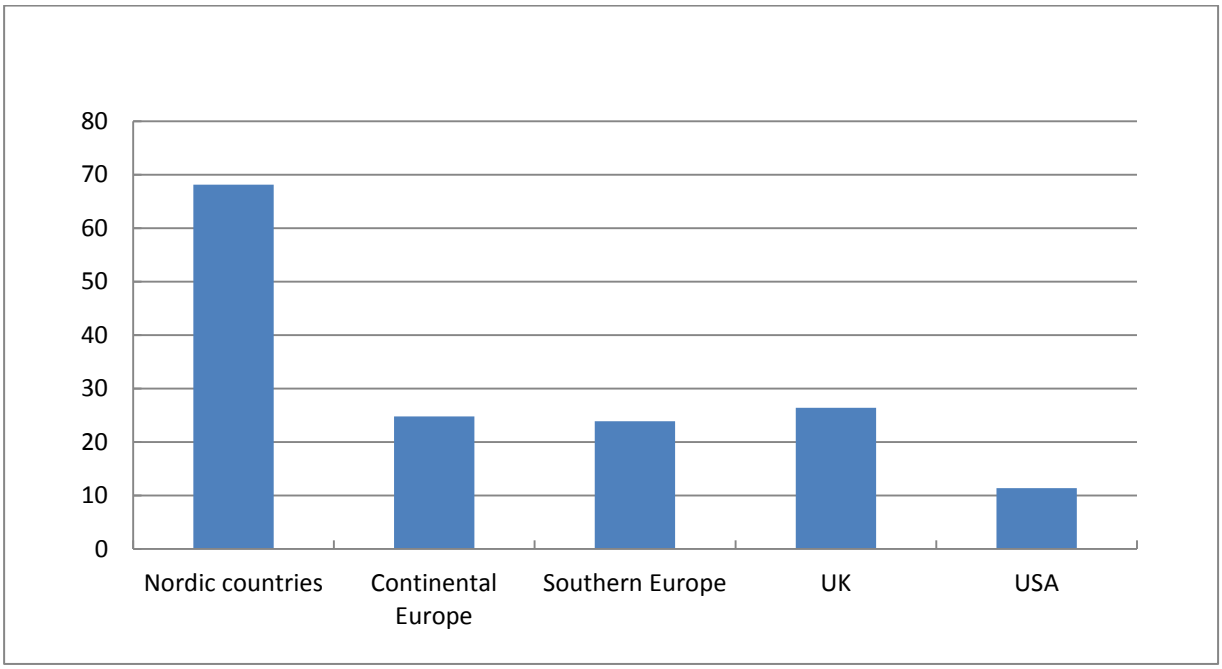
(b)



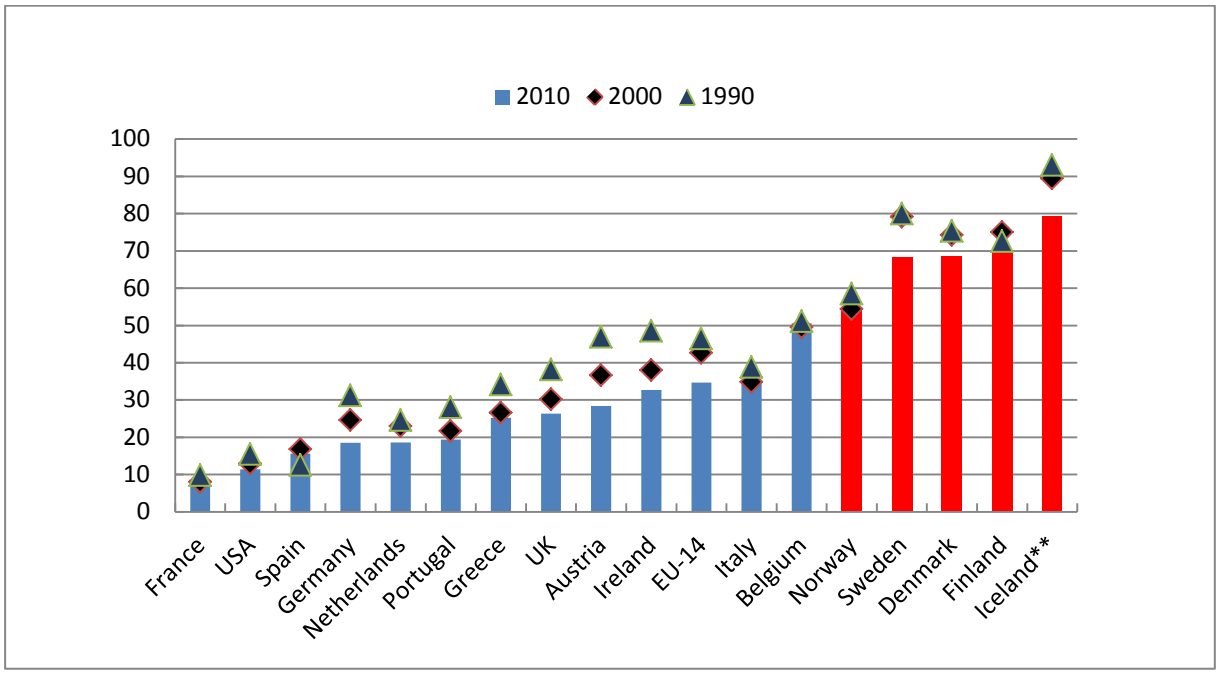
Note: See Figures 1 and 19. The replacement rate is calculated as an arithmetical average for singles (at 67 and 100 per cent of the average wage) with no children and with two children and for one-earner couples (at 67 and 100 per cent of the average wage) with no children and with two children.
Source: OECD.

Figure 21 Trade union density, percentage of employees, 2010

(a)



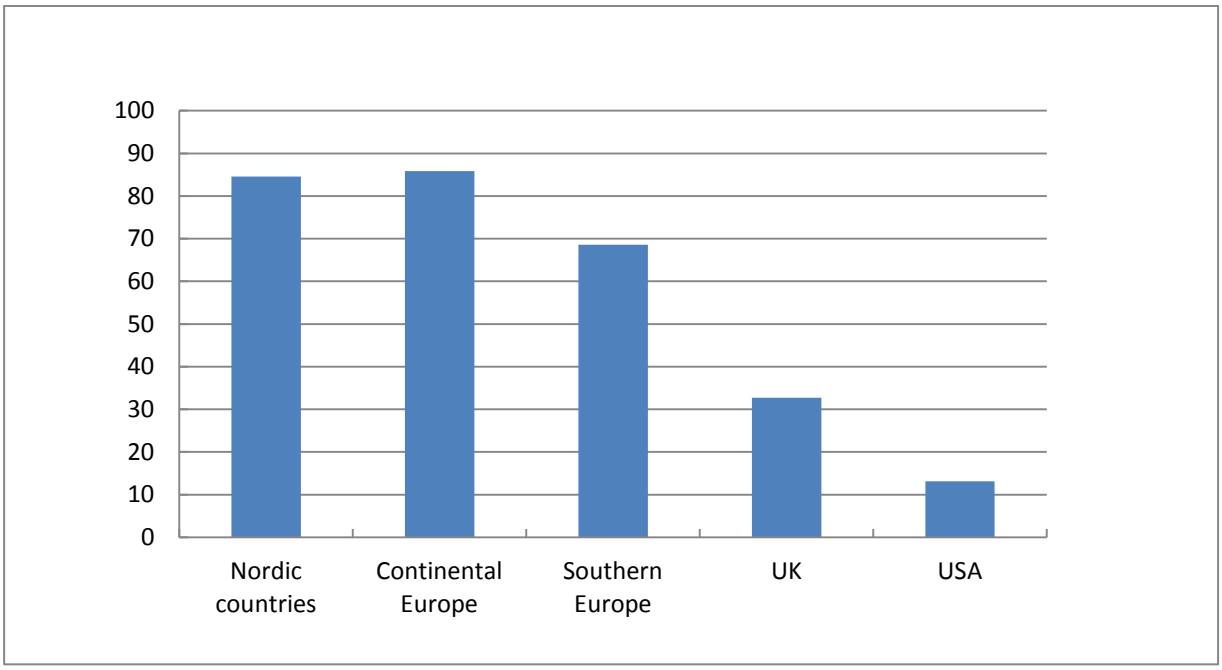
(b)



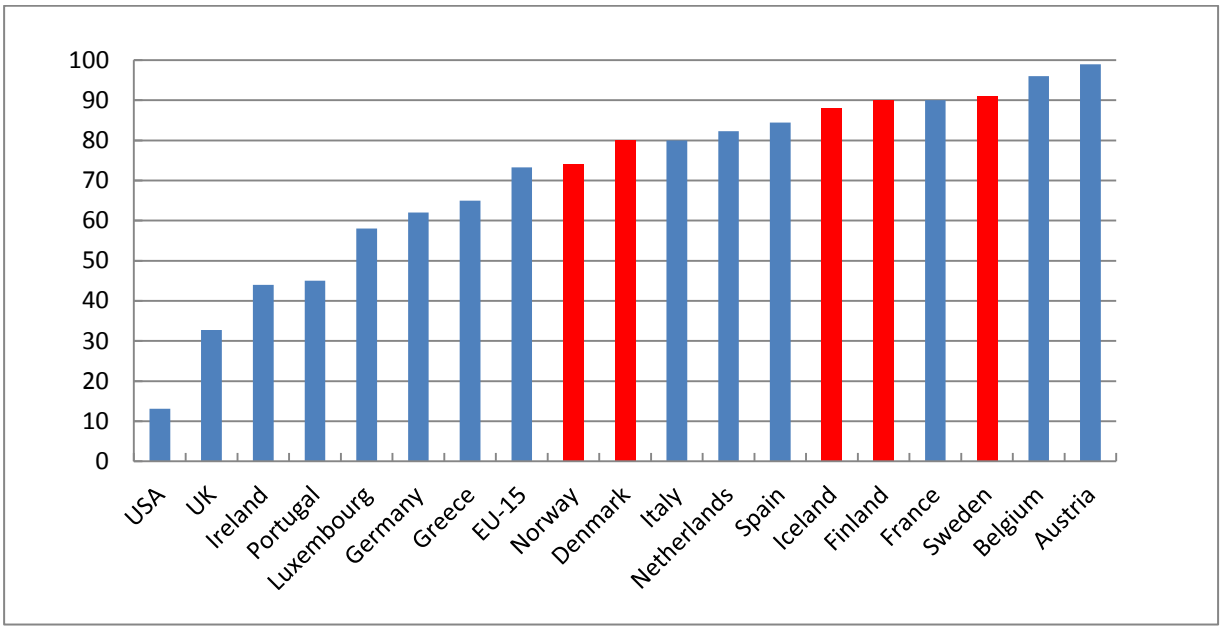
Note: See Figure 1. Trade union density is defined as the percentage of employees who are unionised. EU-14 refers to Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the UK. The figure for Iceland refers to 2008.
Source: OECD.

Figure 22 Coverage of collective bargaining agreements, percentage of employees, 2010 or latest

(a)



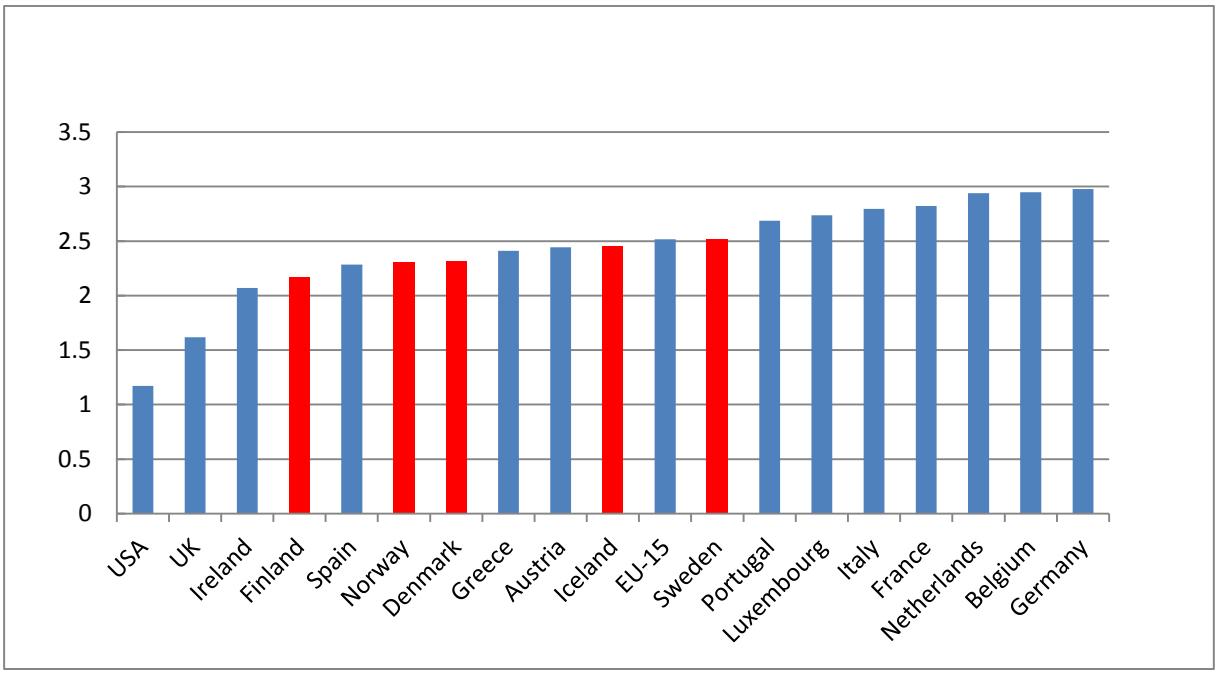
(b)



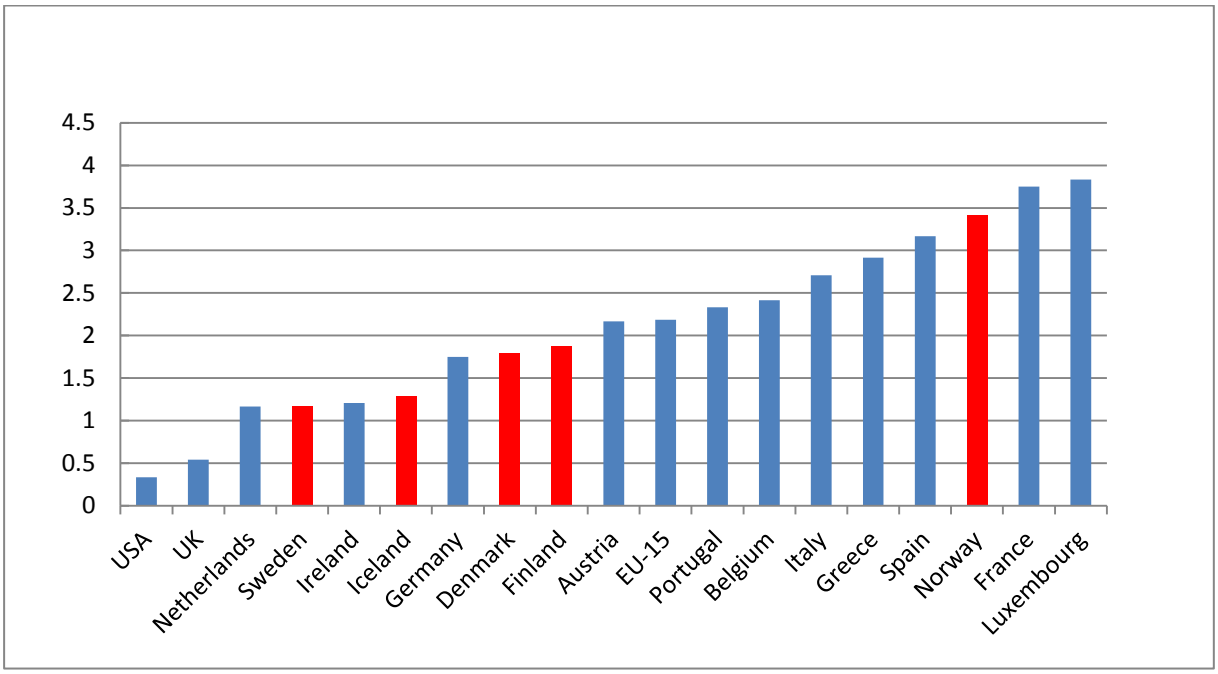
Note: See Figure 1.
Source: OECD.

Figure 23 Strictness of employment protection, 2013

(a) Permanent workers



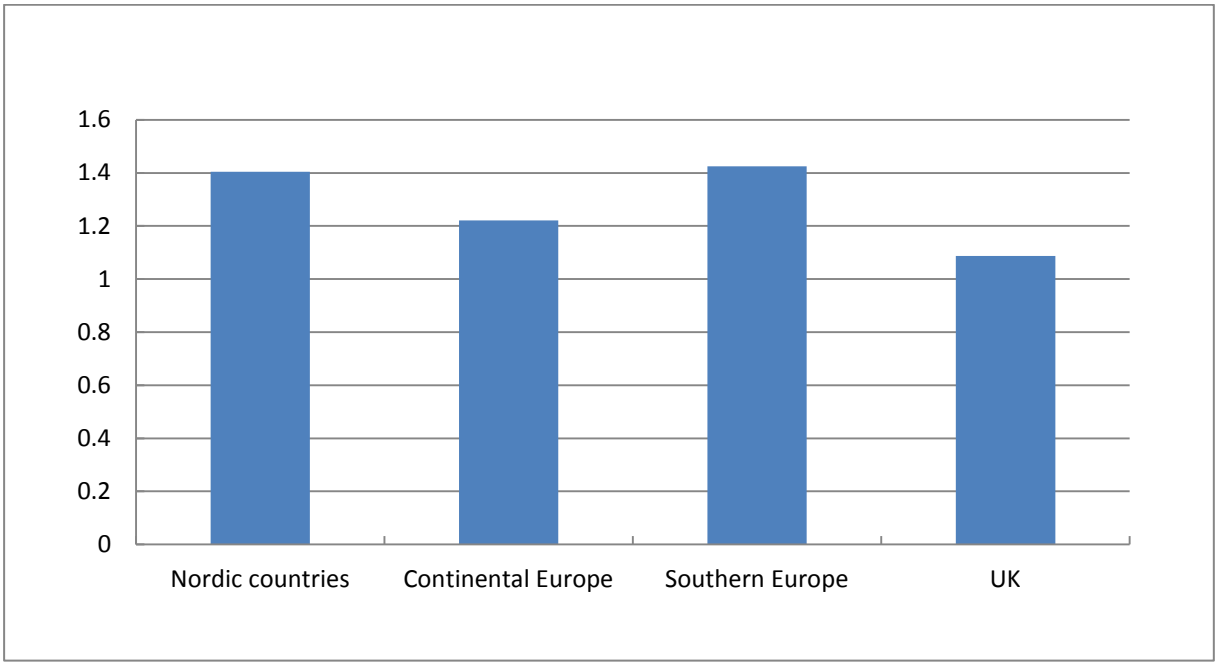
(b) Temporary workers



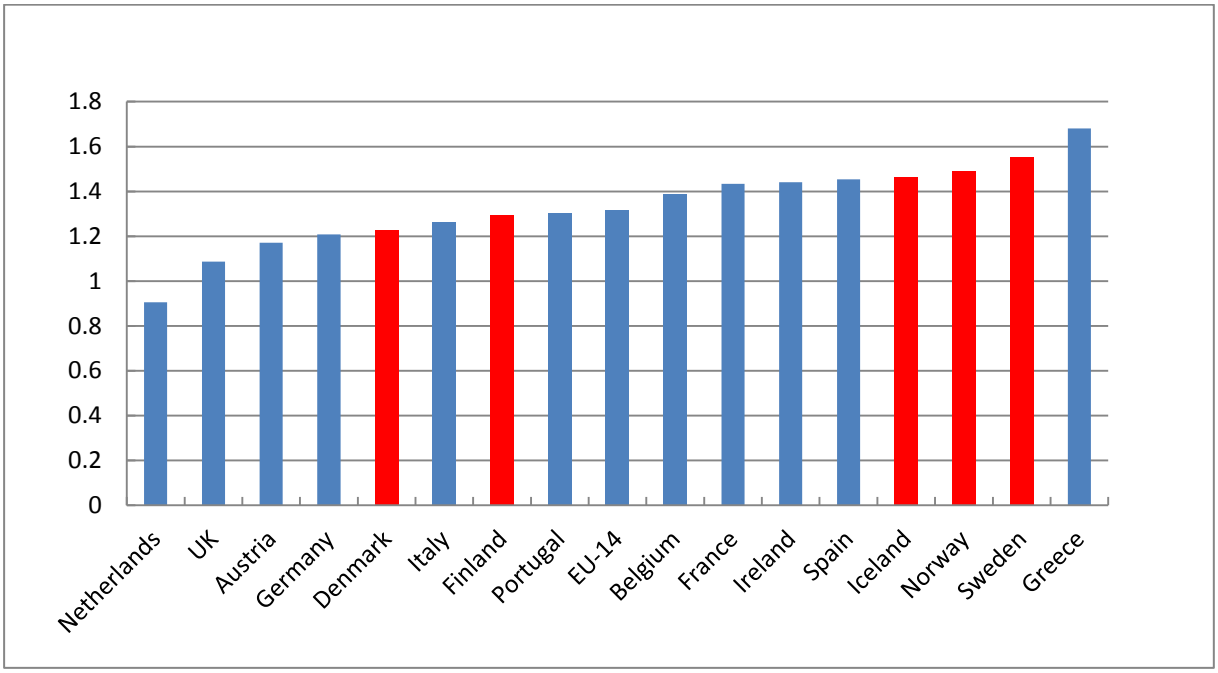
Note: See Figure 1. The strictness measures are synthetic indicators of regulation on dismissals and the use of temporary contracts. The range is 0-6.
Source: OECD Employment and Labour Market Statistics.

Figure 24 Product market regulation, 2013

(a)



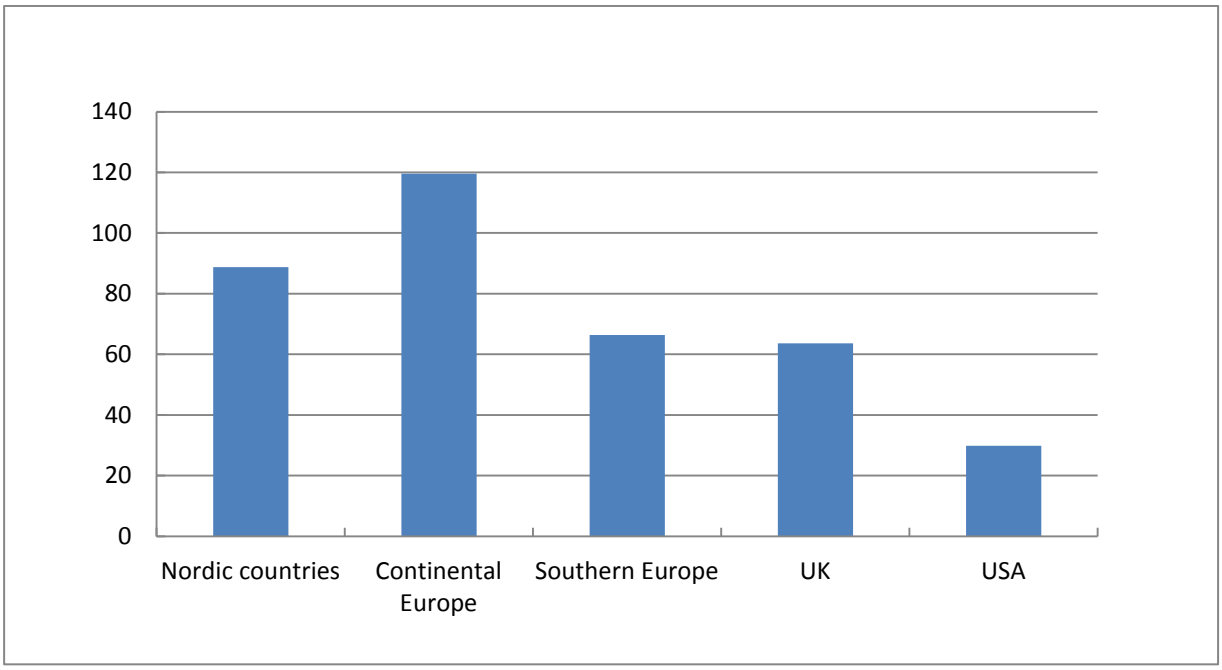
(b)



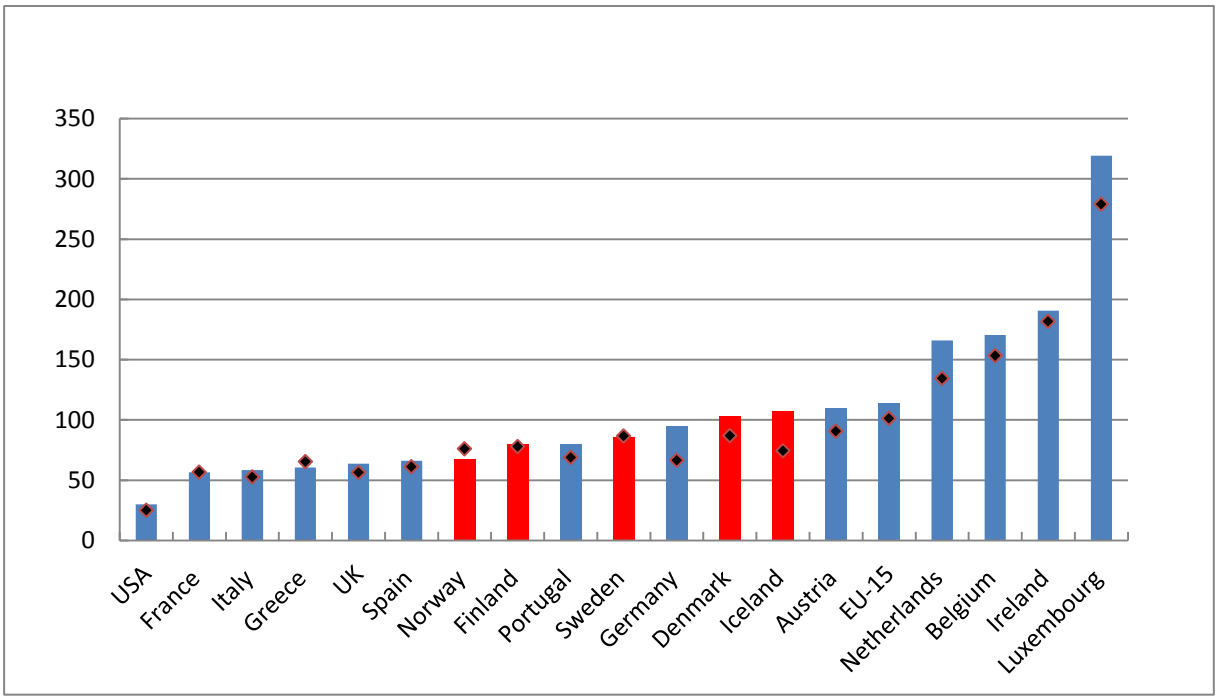
Note: See Figure 1. The indicator is a composite index of a large number of indicators of three dimensions: state controls, barriers to entrepreneurship, and barriers to trade and investment.
Source: OECD.

Figure 25 Sum of exports and imports, percentage of GDP, 2013

(a)



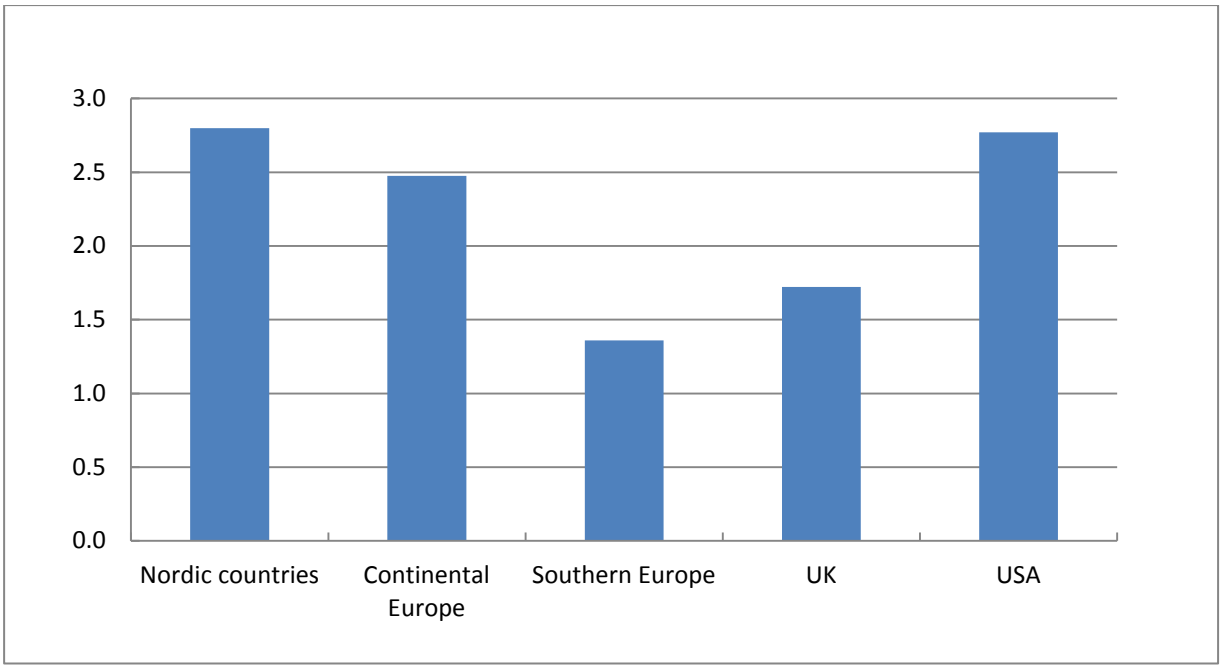
(b)



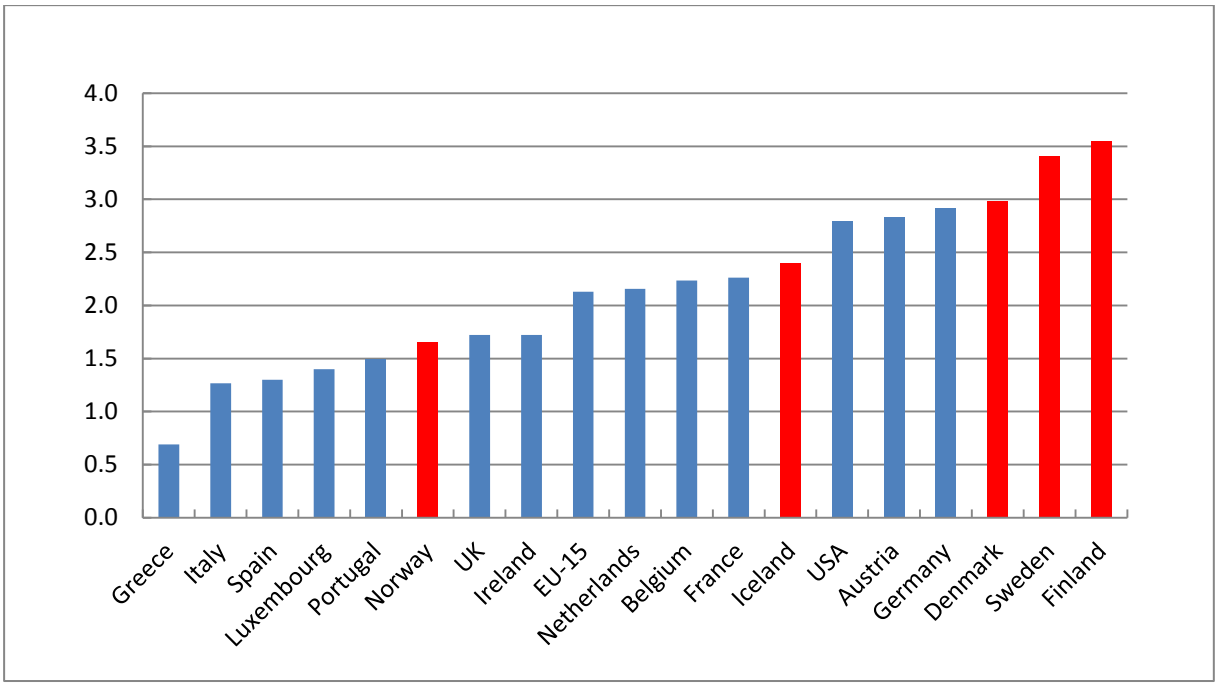
Note: See Figure 1 2013 data are preliminary estimates.
Source: Ameco.

Figure 26 R&D expenditure, percentage of GDP, 2012

(a)



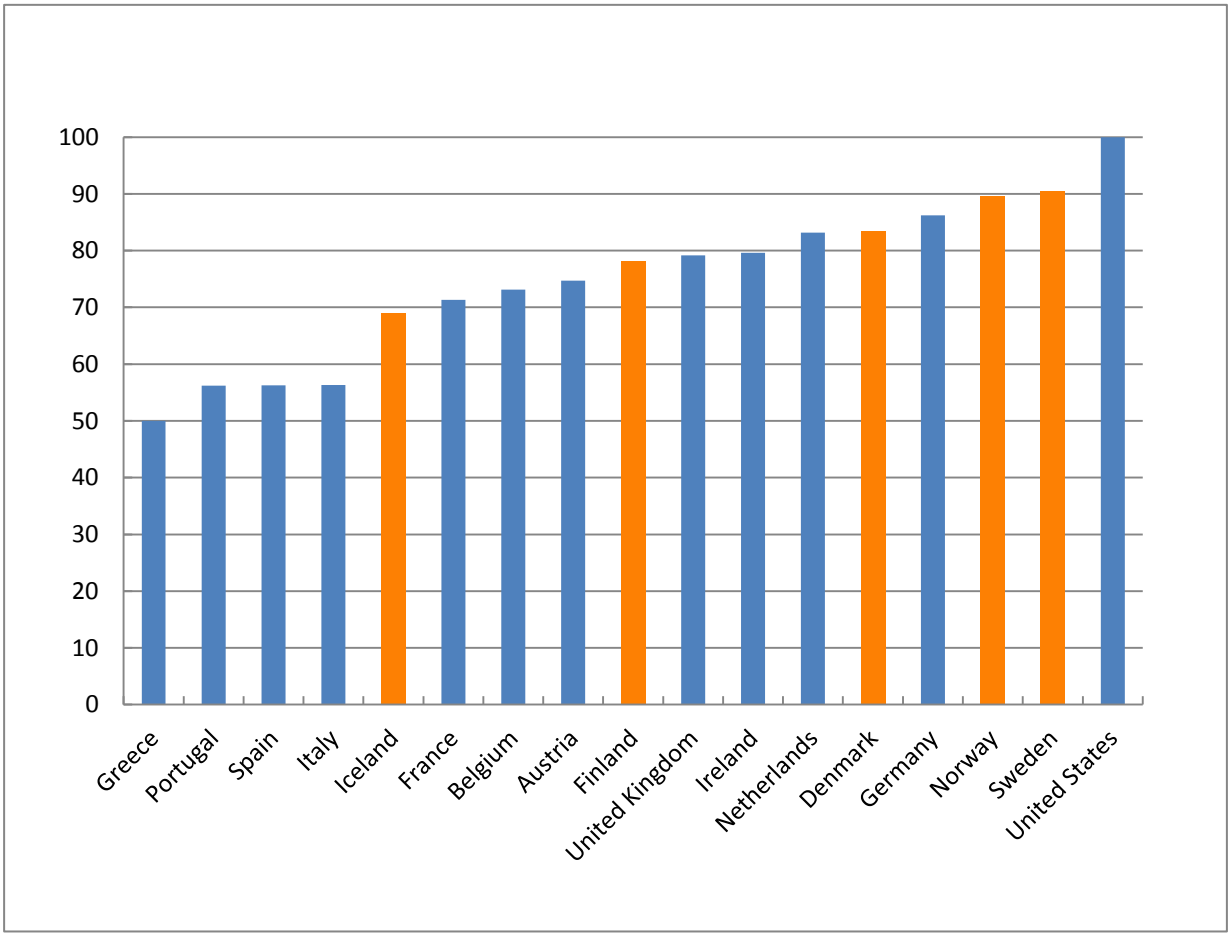
(b)



Note: See Figure 1. Southern Europe refers to Italy, Portugal and Spain, and EU-14 to Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK. The figure for Iceland is for 2011.

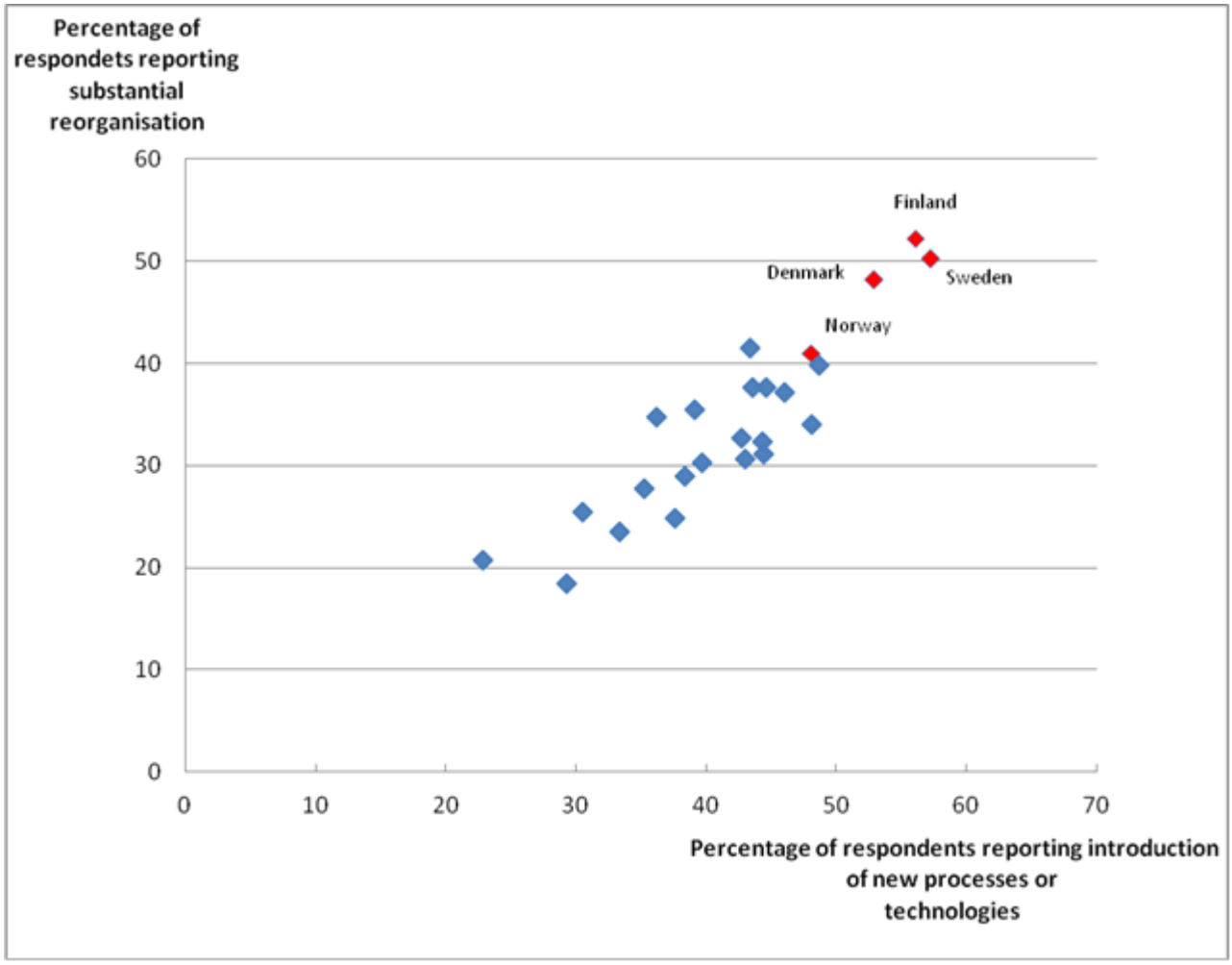
Source: OECD.

Figure 27 IMD World Competitiveness Index



Note: The index aggregates 110 variables that aim to reflect infrastructure, macroeconomic environment, financial market development, technological readiness, health and primary education, higher education and training, market size, business sophistication, goods and market efficiency and innovation.
Source: IMD (2013).

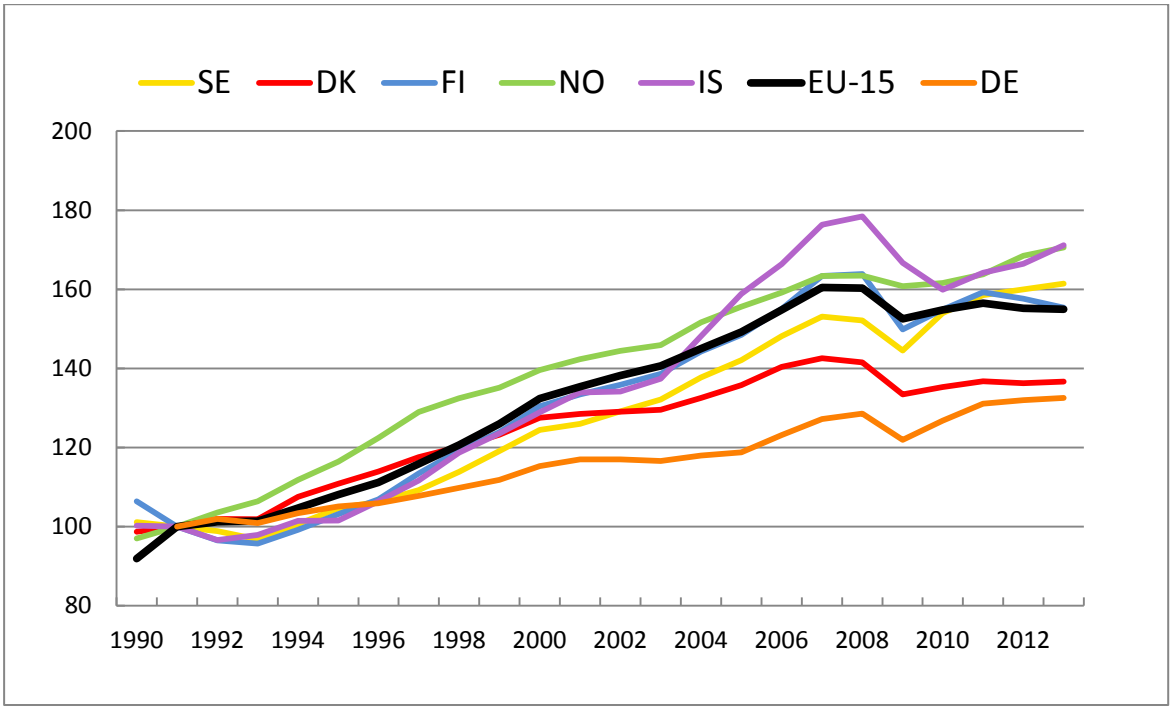
Figure 28 Organisational change and new technology, 2010



Note: New processes or technologies are defined as different kinds of new work processes (for example, teamworking), new monitoring systems, new machinery, new computer software etc. Substantial restructuring or reorganisation is defined as dismissals, reorganisation of business units, closing of a branch, etc.

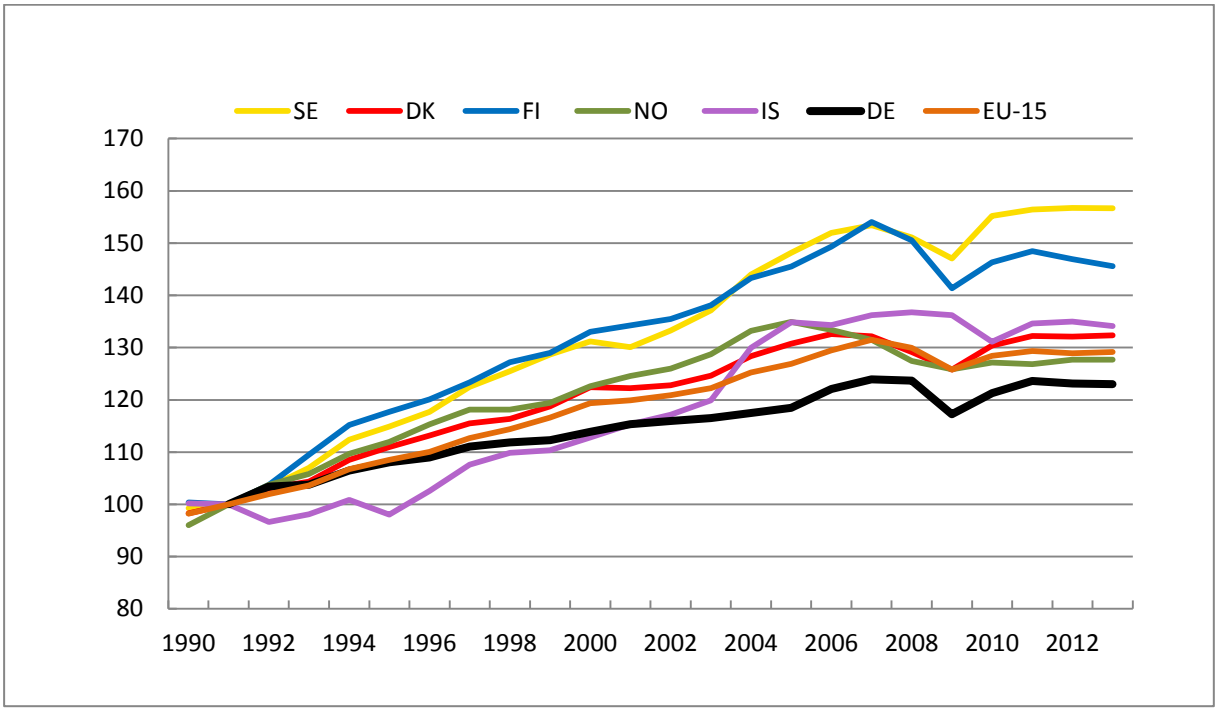
Source: European Working Conditions Survey (2010).

Figure 29 GDP, 1991 = 100



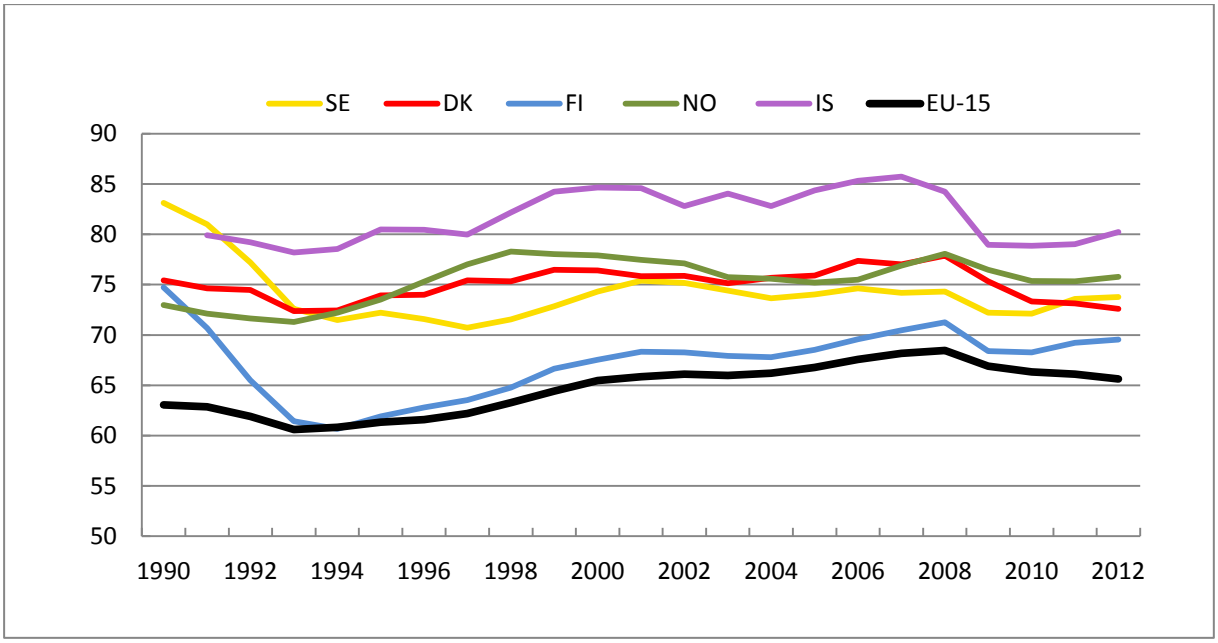
Note: See Figure 1. SE = Sweden, DK = Denmark, FI = Finland, NO = Norway, IS = Iceland and DE = Germany. 2013 data are preliminary estimates.
Source: Ameco.

Figure 30 Labour productivity: GDP per employed person, 1991=100



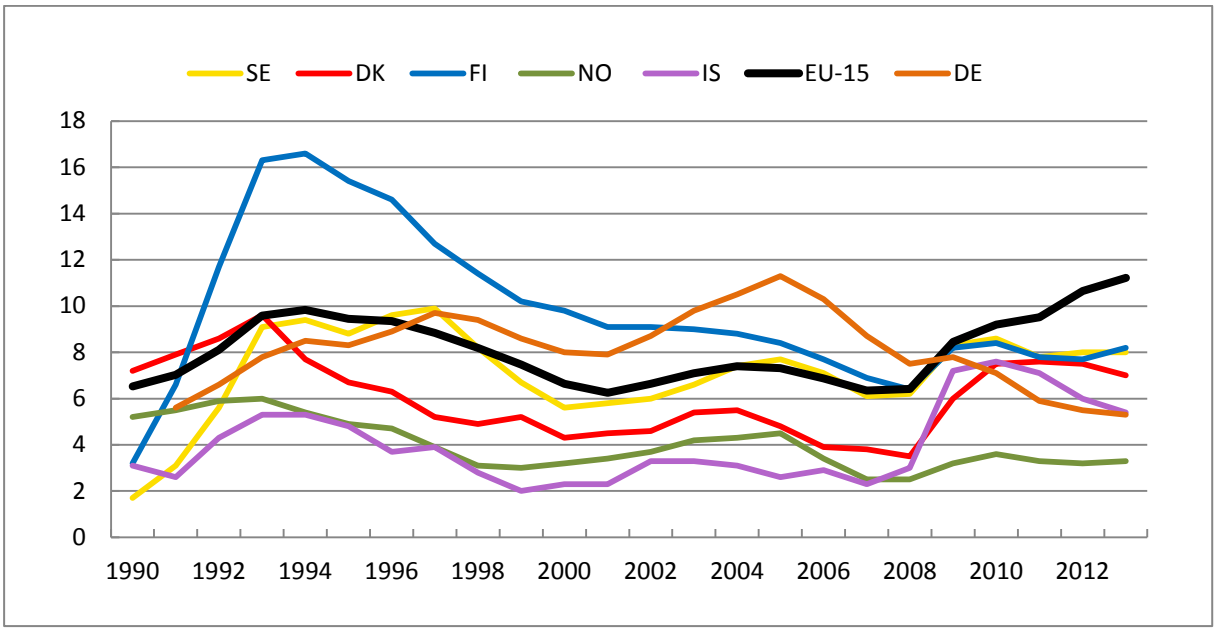
Note: See Figures 1 and 29. 2013 data are preliminary estimates.
Source: Ameco.

Figure 31 Employment, percentage of population 15-64 years old



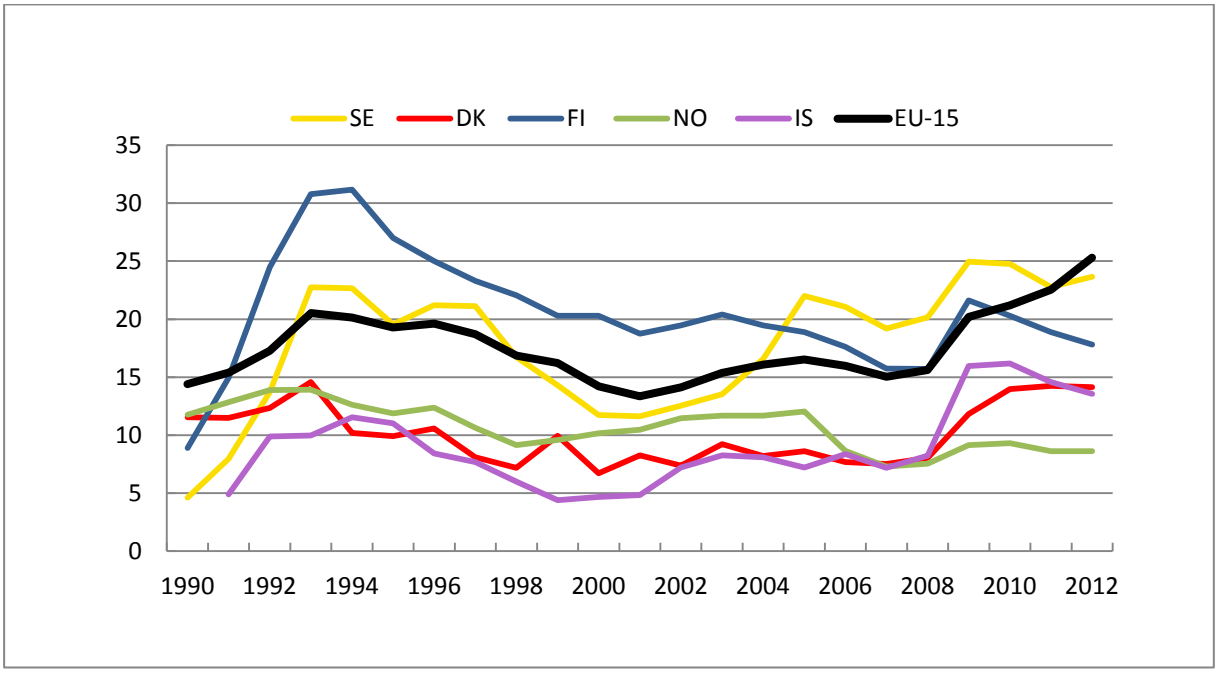
Note: See Figures 1 and 29.
Source: OECD Labour Force Statistics.

Figure 32 Unemployment, percentage of labour force



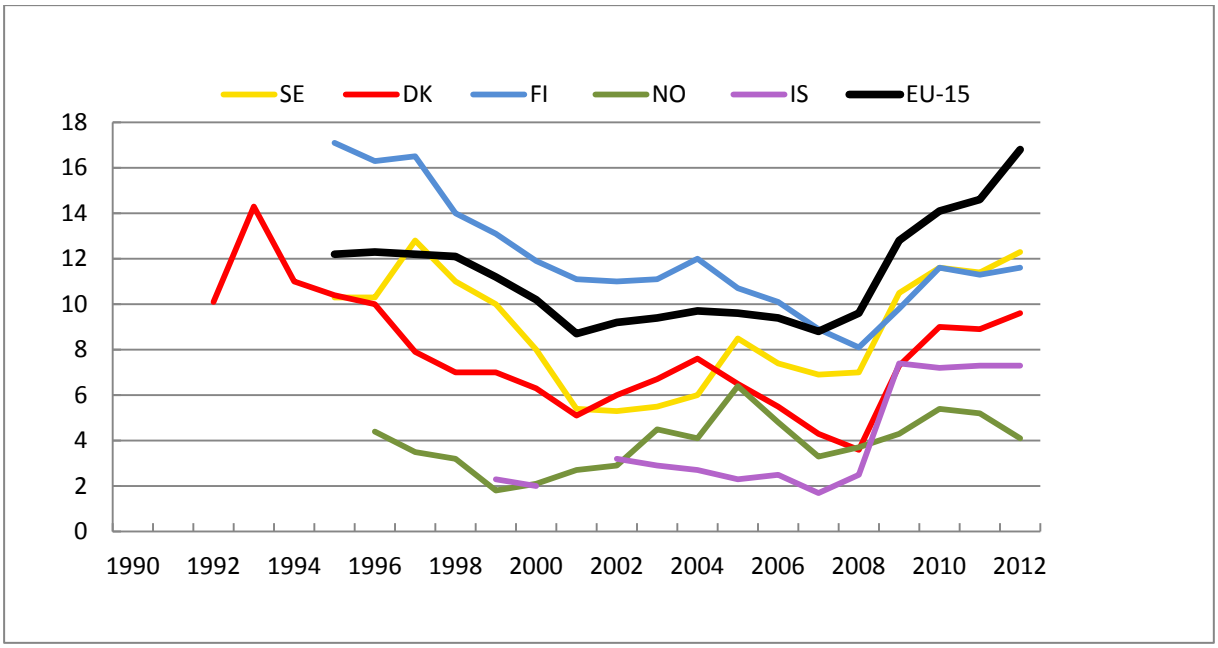
Note: See Figures 1 and 29. r 2013 data are preliminary estimates.
Source: Ameco.

Figure 33 Youth unemployment rate, percentage of labour force 15-24 years old



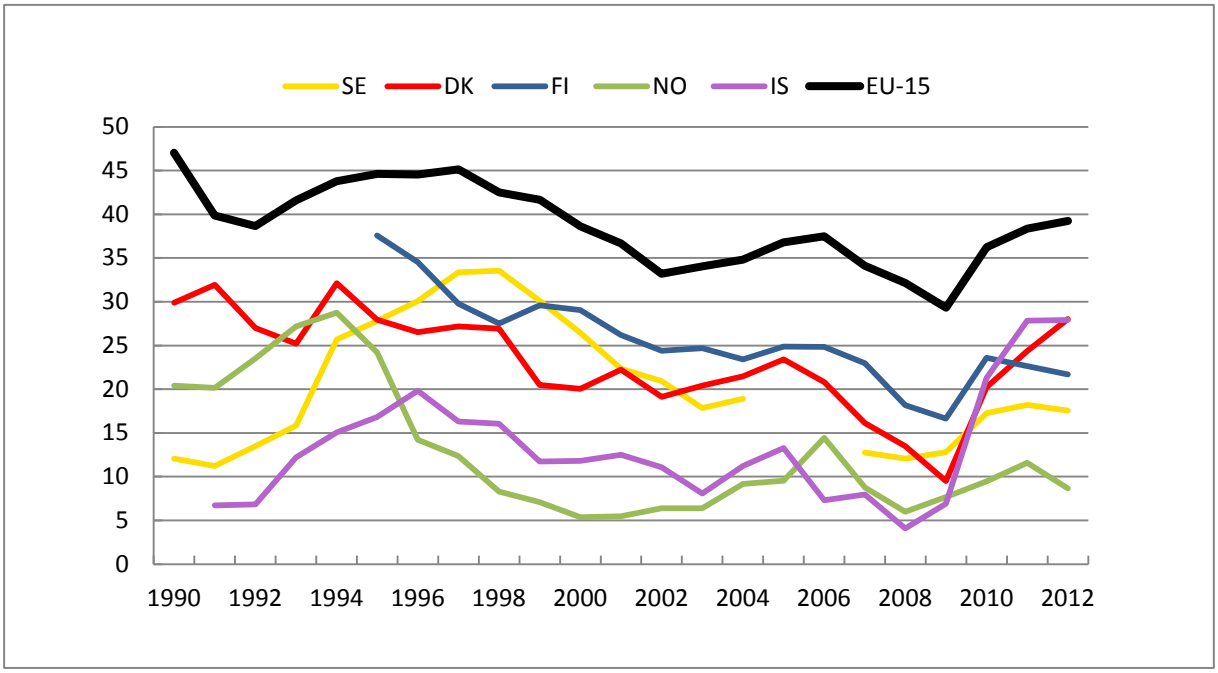
Note: See Figures 1 and 29. 2013 data are preliminary estimates.
Source: OECD.

Figure 34 Unemployment of unskilled workers, percentage of unskilled labour force



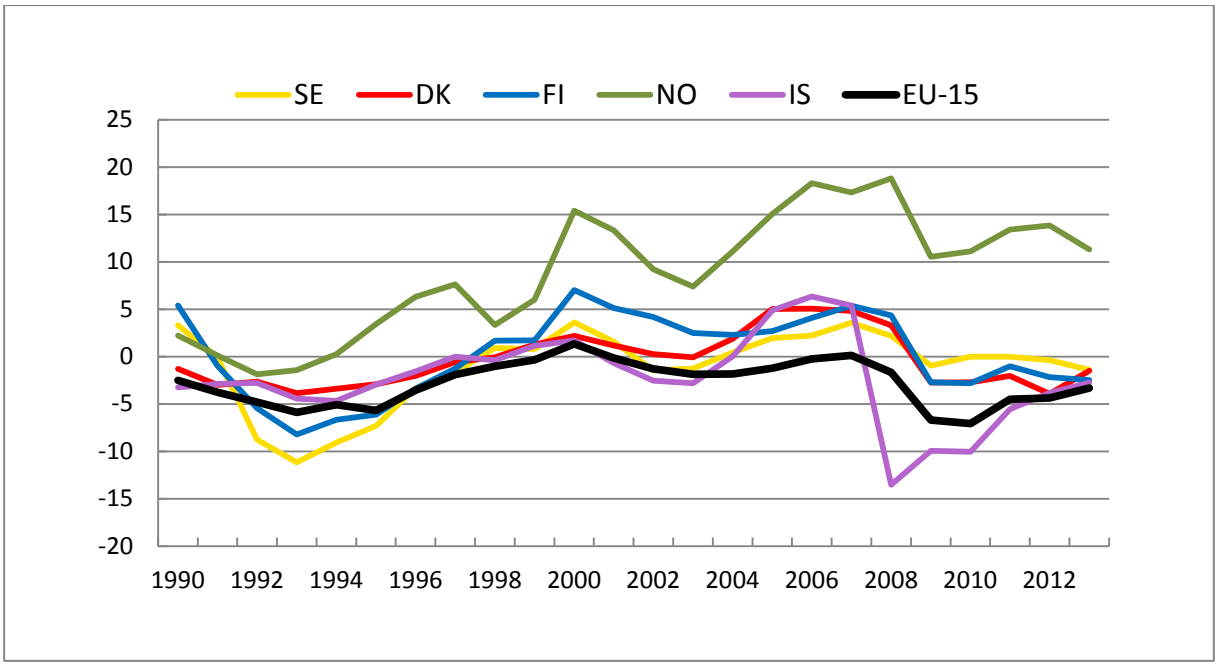
Note: See Figures 1 and 29. Low-skilled persons are defined as those with maximum pre-primary, primary or lower secondary education.
Source: Eurostat.

Figure 35 Long-term unemployment, percentage of unemployed



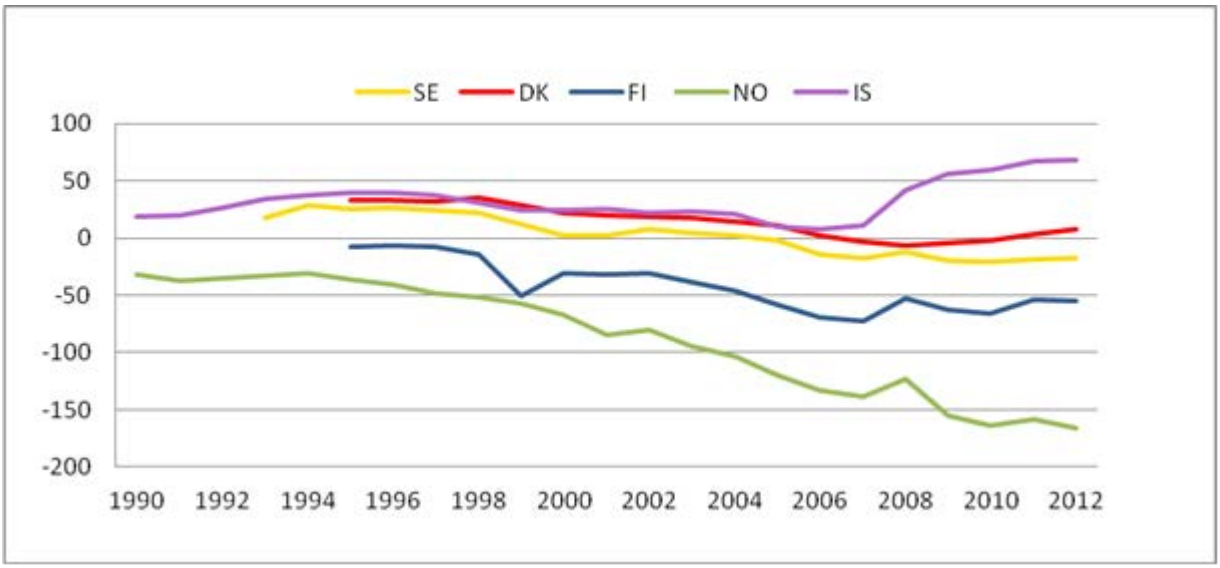
Note: See Figures 1 and 29. Long-term unemployed are defined as those who have been unemployed for twelve months or more.
Source: OECD.

Figure 36 Government net lending, percentage of GDP



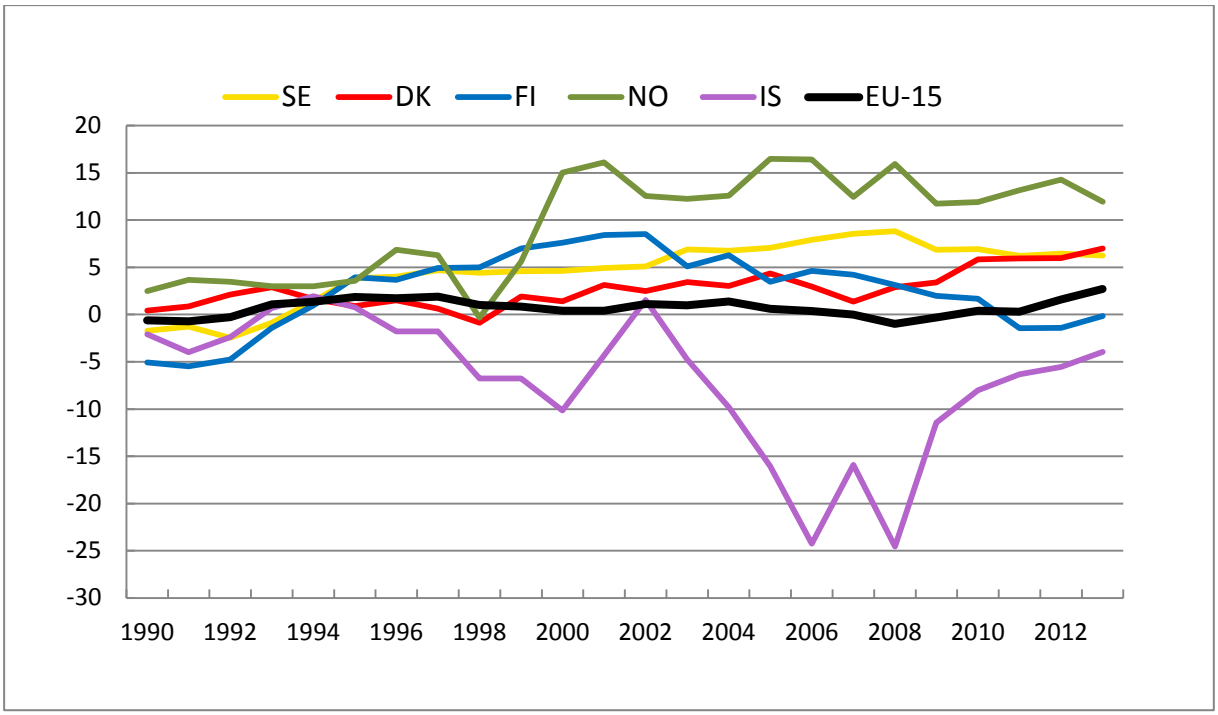
Note: See Figures 1 and 29. 2013 data are preliminary estimates.
Source: OECD.

Figure 37 General government net debt, percentage of GDP



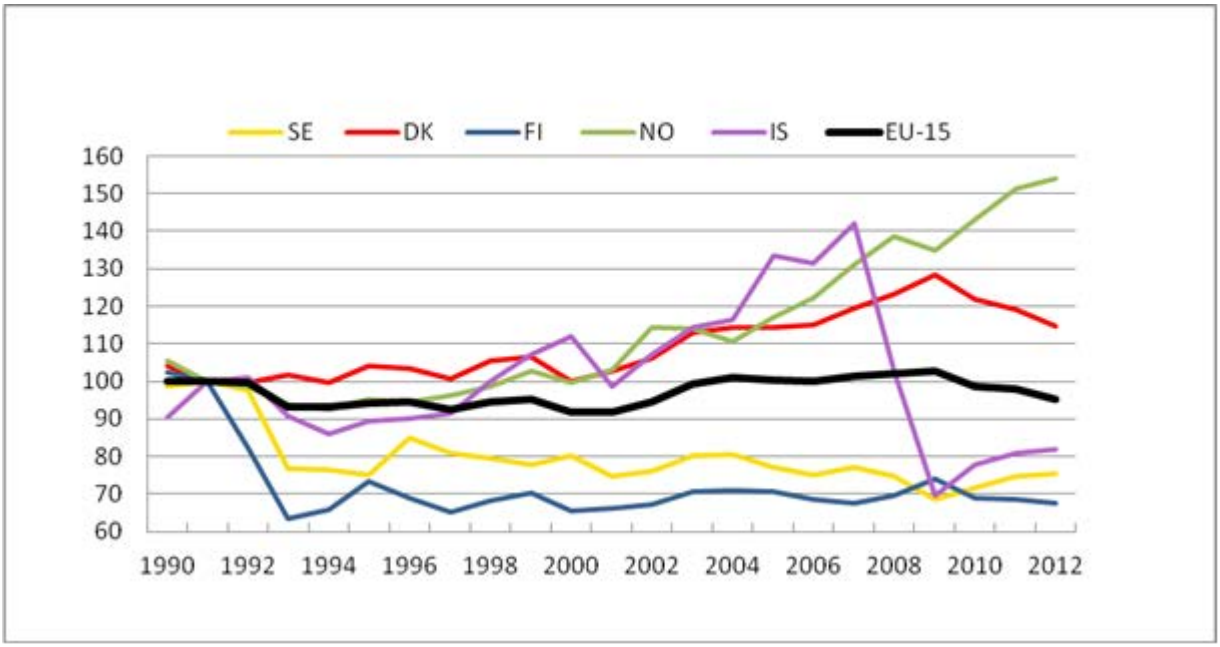
Note: See Figure 29. General government net debt is defined as general government gross debt less financial assets.
Source: IMF, World Economic Outlook Database and for Finland Bank of Finland. Consistent data are not available for Finland prior to 1995.

Figure 38 Current account, per cent of GDP



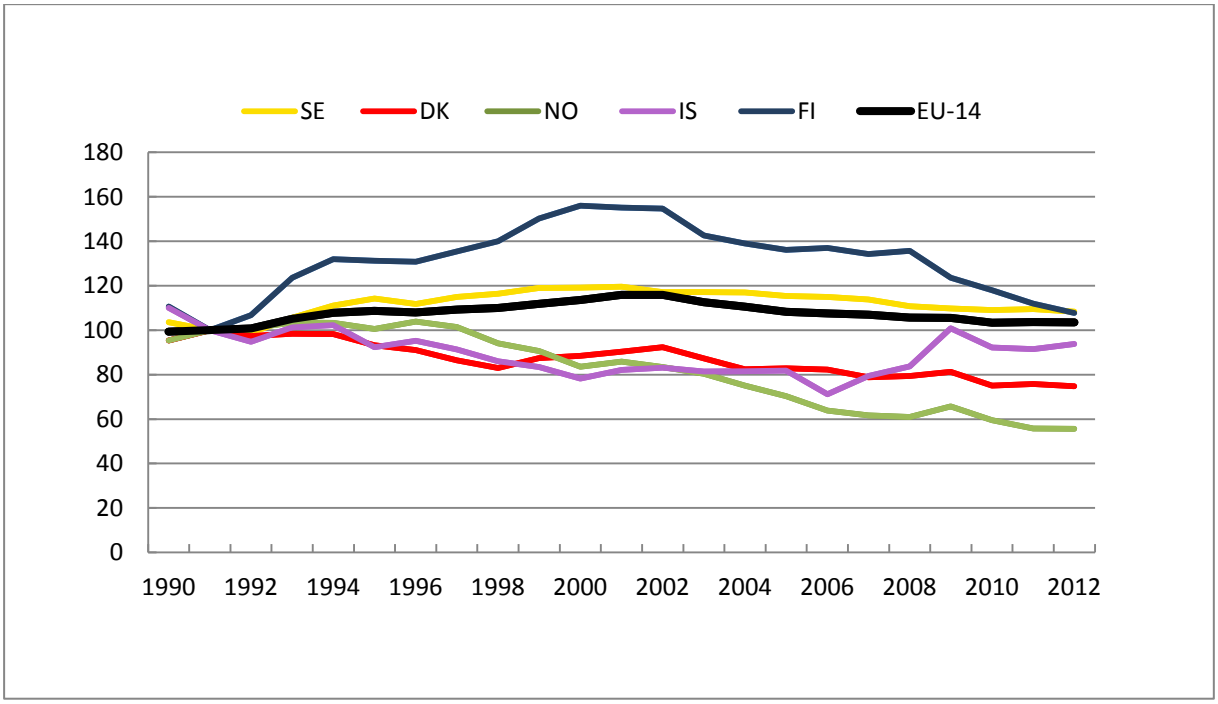
Note: See Figures 1 and 29. 2013 data are preliminary estimates.
Source: Ameco.

Figure 39 Relative unit labour costs, total economy, 1991 = 100.



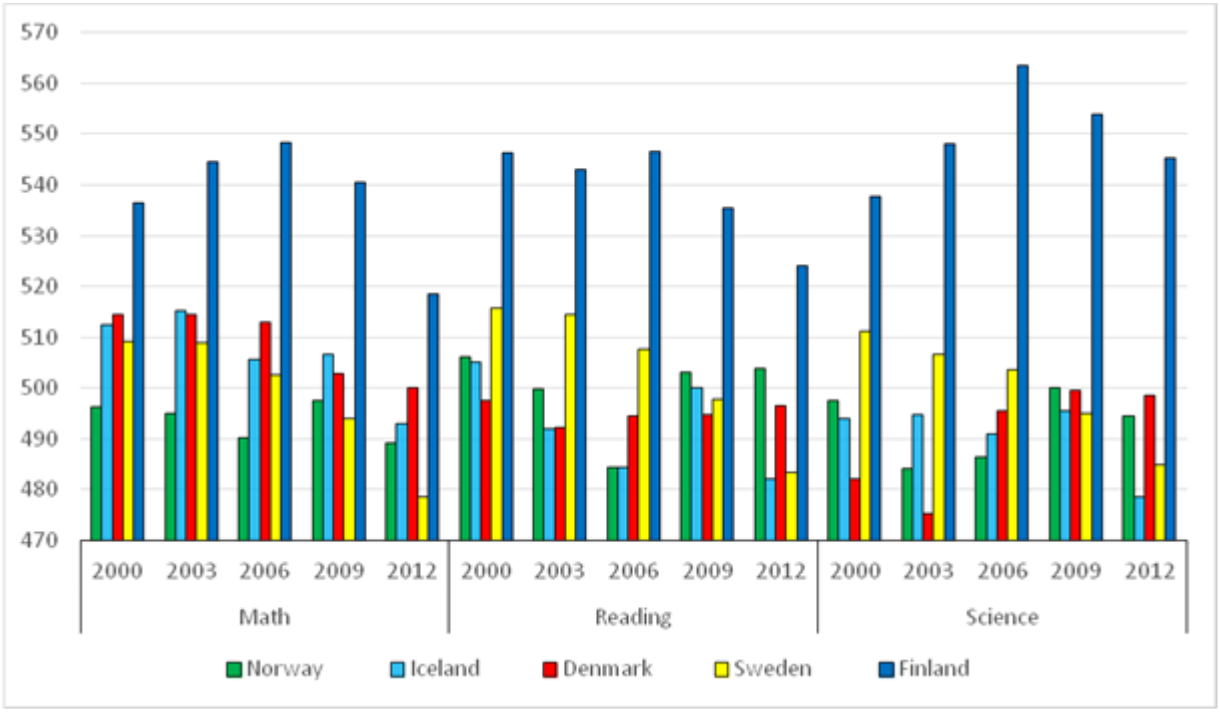
Note: See Figures 1 and 29. Unit labour costs in common currency relative to a weighted average of 34 OECD countries and 15 non-OECD countries (double weighting).
Source: OECD.

Figure 40 Export market shares, 1991 = 100



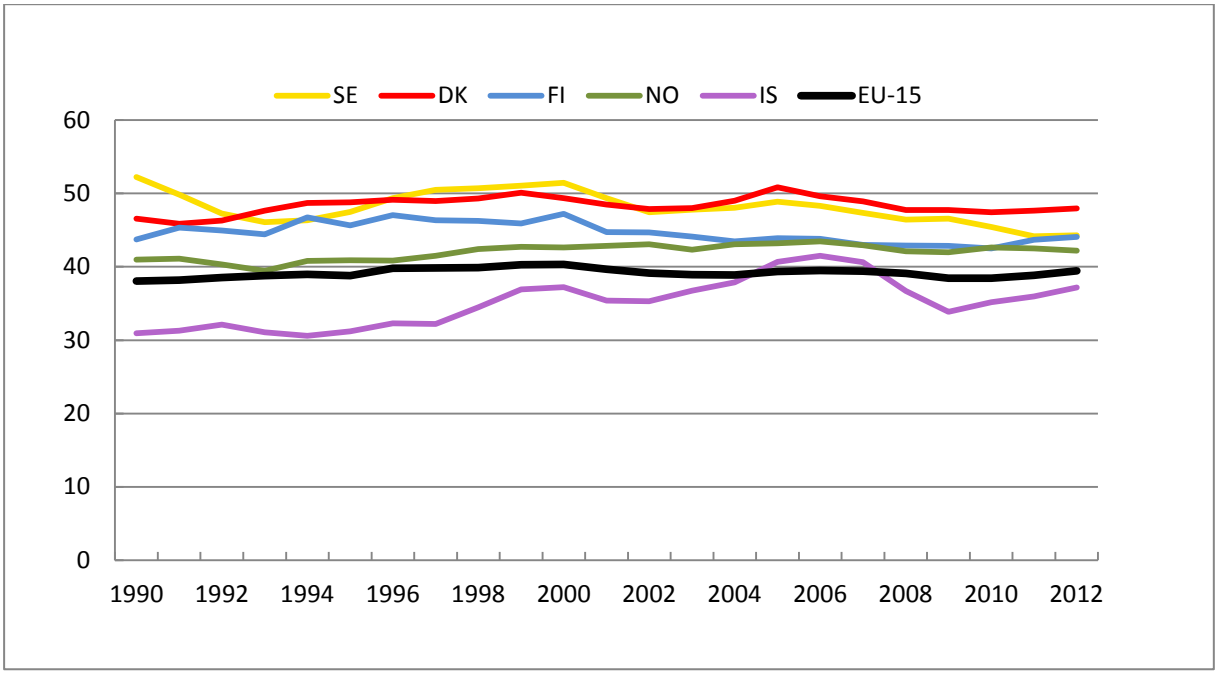
Note: Weighted export market shares (36 countries). See also Figure 30. EU-14 refers to Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.
Source: European Commission.

Figure 41 PISA scores in the Nordic countries



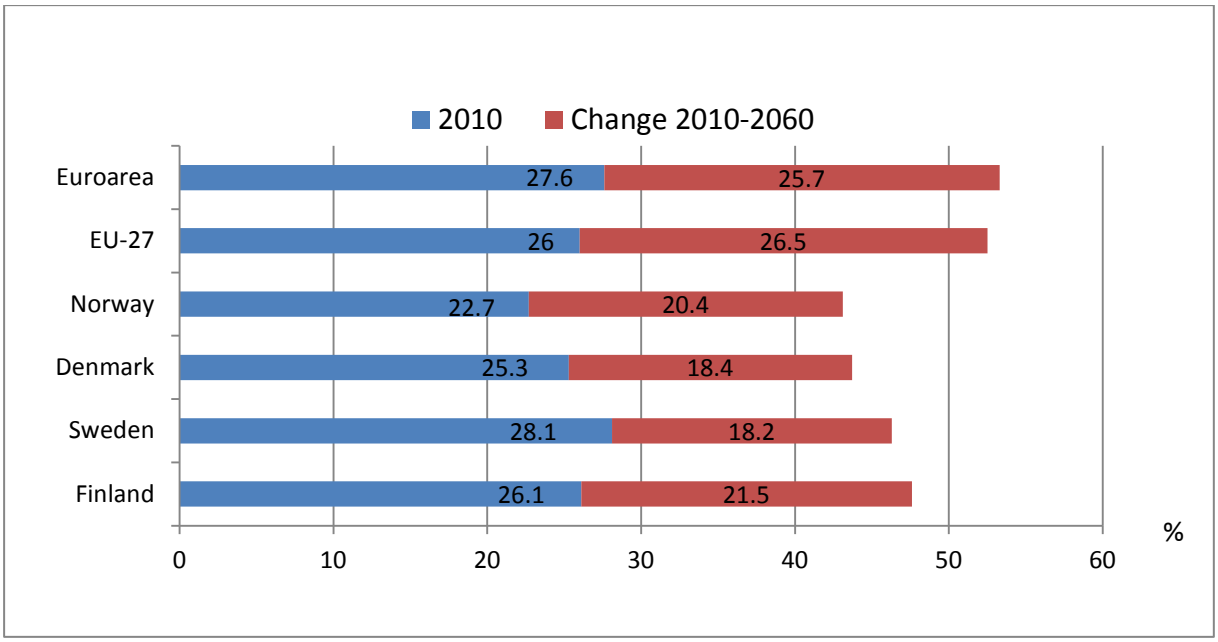
Note: 500 denotes the average score for OECD countries in each study. The staple for each Nordic country thus shows the performance of that country relative to the OECD average in the field that year.
Source: OECD (2013b).

Figure 42 Tax revenues, per cent of GDP



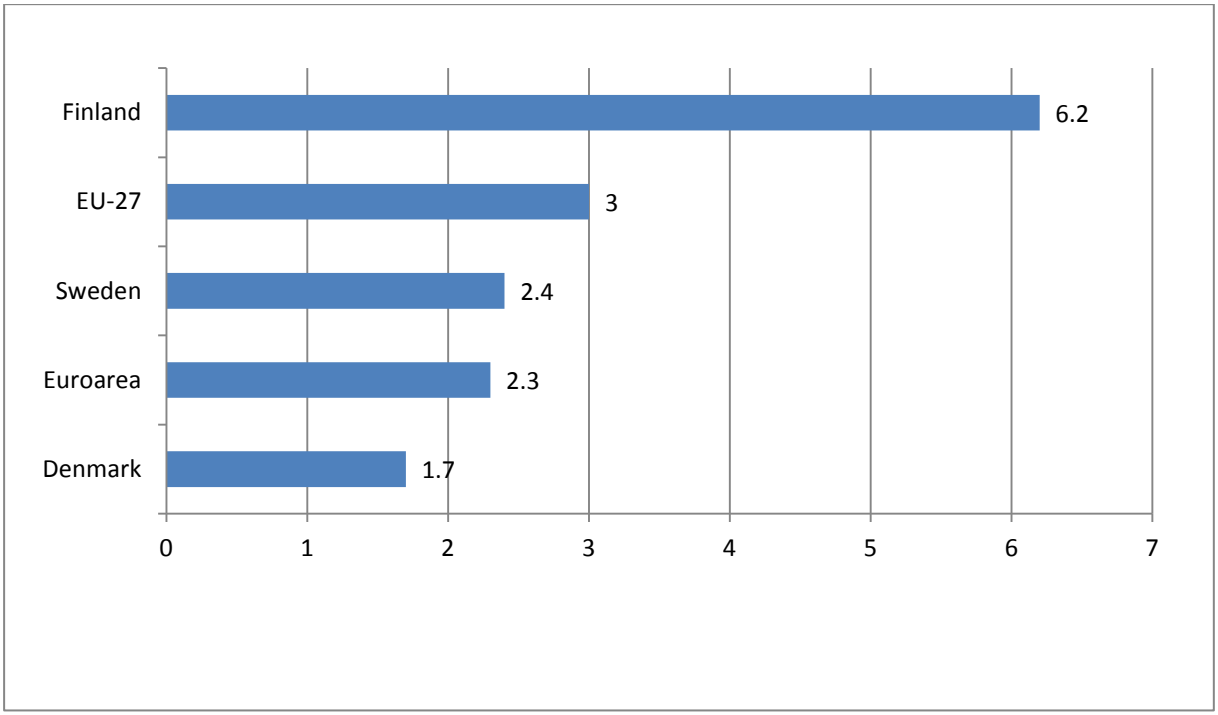
Note: See Figures 1 and 30.
Source: OECD.

Figure 43 Old-age dependency ratio, 2010 and 2060



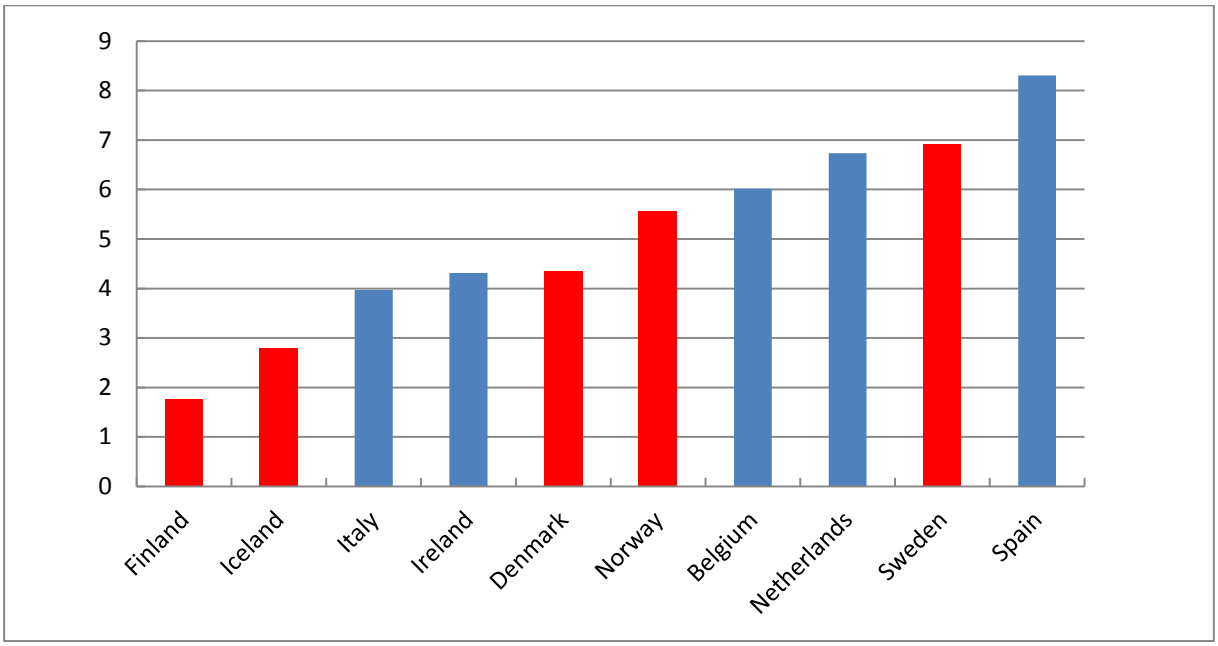
Note: The old-age dependency ratio measures the ratio between the population 65+ years old and the population 15-64 years old.
Source: European Commission (2012).

Figure 44 Sustainability gap, S2 indicator



Note: The S2 indicator measures the permanent tax increase in per cent of GDP needed for the government to finance projected future expenditure if the government is to remain solvent.
Source: EU Commission: Report on Public finances in EMU 2013.

Figure 45 Foreign-born outside Europe, percentage of total population, 2012



Source: Eurostat.

Table 1 Expenditure on active labour market programmes, 2011

	Per cent of GDP	Per cent of total expenditure on the unemployed	Share of participants in active programmes in total unemployment
Denmark	2.26	0.58	0.52
Finland	1.02	0.41	0.32
Norway	-	-	0.50
Sweden	1.09	0.63	0.41
Nordic countries	1.46	0.54	0.44
Austria	0.75	0.37	0.36
Belgium	1.59	0.43	0.43
France	0.93	0.40	0.35
Germany	0.79	0.43	0.30
Netherlands	1.11	0.41	0.35

Continental Europe	1.03	0.41	0.36
Italy	0.41	0.23	0.45
Portugal	0.59	0.31	0.36
Spain	0.88	0.24	0.49
Southern Europe	0.63	0.32	0.40
US	0.14	0.20	-

Note: The entries for the Nordic countries, Continental Europe and Southern Europe are all arithmetical averages. The expenditure data for Norway do not include administration and the Public Employment Service.
Source: OECD.

Table 2 The degree of trust

	In people	In politicians	In the legal system
Denmark	6.8	4.9	7.2
Finland	6.5	4.4	6.9
Norway	6.7	4.9	6.8
Sweden	6.3	4.9	6.4
Nordics	**6.6**	**4.8**	**6.9**
Belgium	5.0	3.8	4.9
France	4.3	3.2	4.9
Germany	4.6	3.3	5.4
Netherlands	6.0	5.2	5.8
Continental Europe	**5.0**	**3.9**	**5.3**
Greece	4.0	1.3	3.8
Italy	5.1	2.8	5.1
Portugal	3.7	2.0	3.3
Spain	5.1	2.7	4.3
Southern Europe	**4.5**	**2.2**	**4.1**
UK	5.3	3.3	5.0

Note: The table shows the average score on a 0-10 scale, where 0 is no trust and 10 is complete trust.

Source: European Social Survey (2010).

Table 3 Contributions to labour productivity growth (GDP per employed person)

	1995-2007					2008-2013				
	Labour productivity	**Labour composition**	**Non-ICT-capital**	**ICT-capital**	**TFP**	**Labour productivity**	**Labour composition**	**Non- ICT-capital**	**ICT-capital**	**TFP**
Denmark	**1.5**	**0.2**	**0.5**	**0.8**	**0.0**	**-0.4**	**0.1**	**0**	**0.3**	**-0.7**
Finland	**3.0**	**0.2**	**0.2**	**0.8**	**1.8**	**-0.4**	**0.2**	**0.2**	**1.0**	**-1.7**
Norway	**2.4**	**0.2**	**1.6**	**0.5**	**0.2**	**0.5**	**0.1**	**1.6**	**0.4**	**-1.7**
Sweden	**2.8**	**0.3**	**0.7**	**0.5**	**1.4**	**0.7**	**0.1**	**0.5**	**0.6**	**-0.6**
Austria	2.4	0.3	0.5	0.4	1.2	0.7	0.1	0.3	0.3	0
Belgium	1.6	0.3	0.7	0.5	0.1	0	0.2	0.4	0.5	-1.0
France	1.9	0.3	0.8	0.3	0.4	0.2	0.2	0.6	0.1	-0.7
Germany	1.7	0.0	0.3	0.3	1.1	0.4	0.1	0.2	0.4	-0.2
Italy	1.0	0.2	0.7	0.3	-0.1	-0.6	0.1	0	0.1	-0.8
Netherlands	2.0	0.3	0.5	0.5	0.7	-0.3	0.1	0.3	0.2	-0.8
Spain	1.8	0.5	1.2	0.5	-0.4	0.7	0.3	0.7	0.3	-0.6
UK	2.6	0.5	0.6	0.8	0.7	-0.5	0.1	0.6	0.2	-1.4
US	2.4	0.3	0.7	0.8	0.6	1.1	0.1	0.3	0.4	0.3

Source: The Conference Board, Total Economy Data Base.

Table 4 Changes 2008-2013(2)

	GDP	Employment rate	Participation rate	Unemployment	Government net lending	Consolidated gross government debt	Gini coefficient	P90/P10
Denmark	-3.4	-5.4	-2.7	3.5	-4.8	9.0	4.1	0.1
Finland	-5.2	-2.4	-1.7	1.8	-6.8	23.2	0.4	0.0
Iceland	-4.1	-4.1	-6.1	2.4	10.8	23.9	-18.9	-0.4
Norway	4.4	-2.3	-1.4	0.8	-7.5	-20.8	-0.4	-0.1
Sweden	6.1	-1.2	-0.2	1.8	-3.6	2.7	3.9	0.1
Nordics	-0.4	-3.1	-2.4	2.1	-2.4	7.6	-2.2	-0.1
Nordics excluding Iceland	0.5	-2.8	-1.5	2.0	-5.7	3.5	2.0	0.0
Austria	1.9	0.7	0.4	1.1	-1.3	10.8	2.3	0.0
Belgium	1.3	-1.2	-0.3	1.4	-1.7	10.7	1.2	0.1
France	0.8	-1.6	0.1	3.0	-0.9	25.7	3.4	0.2
Germany	3.1	3.6	0.9	-2.2	0.1	12.8	-0.3	0.1
Netherlands	-3.2	-2.2	-0.6	3.6	-3.5	15.8	0.7	0.1
Continental Europe	0.8	-0.1	0.1	1.4	-1.4	15.2	1.4	0.1
Greece	-22.9	-16.8	-0.1	19.6	-7.6	64.4	2.4	0.2
Italy	-7.6	-3.2	0.0	5.5	-0.4	26.7	1.3	0.1
Portugal	-6.9	-9.0	-2.0	8.0	-2.0	57.7	-2.5	-0.3
Spain	-6.7	-13.2	-0.5	15.1	-2.2	54.2	6.6	0.7
Southern Europe	11.0	-10.6	-0.6	12.1	-0.7	50.7	1.9	0.2
UK	-0.5	-1.3	-0.1	2.0	-1.9	39.5	-0.3	-0.2
US	6.3		-2.0	1.6	0.6	30.5	0.5	0.2

Note: The Gini coefficient applies to household real disposable income. Changes are measured in percentage points. Data for GDP, unemployment, government net lending and consolidated gross government debt refer to 2008-2013. All other data refer to 2008-2012.

Table 5 Proficiency of adult populations, average PIAAC scores 2012 (relative rankings in parenthesis)

	Numeracy	Literacy	Problem-solving in technology-rich environments
Austria	275 (6)	269 (8)	284 (5)
Denmark	**278 (5)**	**271 (5)**	**283 (6)**
Finland	**282 (1)**	**288 (1)**	**289 (1)**
France	254 (9)	262 (10)	- (-)
Germany	272 (7)	270 (6)	283 (7)
Ireland	256 (8)	267 (9)	277 (9)
Italy	247 (11)	250 (12)	- (-)
Netherlands	280 (2)	284 (2)	286 (3)
Norway	**278 (4)**	**278 (4)**	**286 (3)**
Spain	246 (12)	252 (11)	- (-)
Sweden	**279 (3)**	**279 (3)**	**288 (2)**
United States	253 (10)	270 (7)	277 (8)

Note: The PIAAC study was carried out in 2011-12. The scale ranges from 0 to 500.
Source: OECD (2013a).

References

Andersen, T.M., Holmström, B., Honkapohja, S., Korkman, S., Söderström, H.T. and Varttia, P. (2007), *The Nordic Model*, The Research Institute of the Finnish Economy.

Arnold, J., Brys, B., Heady, C., Johansson, Å., Schwellnus, C. and Vartia, L. (2011), "Tax Policy for Economic Growth", *Economic Journal* 121.

Arulampalam, W., Devereux, M. and Maffini, G. (2007), The Incidence of Corporate Income Tax on Wages, Oxford University Centre for Business Taxation, Working Paper 07.

Bassanini, A., Nunziata, L. and Venn. D. (2009), ”Job Protection Legislation and Productivity Growth in OECD Countries”, *Economic Policy* 58.

Bengtsson, N., Edin, P-A. and Holmlund, B. (2013), Löner, sysselsättning och inkomster – ökar klyftorna i Sverige?, Presentation, UCLS lönebildningskonferens, 21 October.

Berggren, H. and Trägårdh, L. (2011), Social Trust and Radical Individualism: The Paradox at the Heart of Nordic Capitalism, in *The Nordic Way, Shared Norms for the New Reality*, World Economic Forum, Davos.

Bergh, A. and Henrekson, M. (2012), *Varför går det så bra för Sverige?*, FORES.

Blanchard, O., Jaumotte, F. and Loungani, P. (2013), "Unemployment, Labour-Market Flexibility and IMF Advice: Moving beyond Mantras", www.voxeu.org, 18 October.

Bützer, S., Jordan, C. and Stracca, L. (2013). Macroeconomic Imbalances: A Question of Trust?, European Central Bank Working Paper 1584.

Corrado, C., Haskel, J., Jona-Lasinio, C. and Iommi, M. (2012), “Intangible Capital and Growth in Advanced Economies: Measurement, Methods and Comparative Results”, www.INTAN-Invest.net.

Calmfors, L. (2012), Sweden – Watchdog with a Broad Remit, CESifo Working Paper No. 3725.

Calmfors, L. (2013a), “Sweden – from Macroeconomic Failure to Macroeconomic Success”, in Maguire, M. and Wilson, G. (eds.), in *Business and Government Volume IV: Challenges and Prospects*, Routledge.

Calmfors, L. (2013b), “The Swedish Macroeconomic Policy Framework”, forthcoming in Pierre, J. (ed.), *Handbook in Swedish Politics*, Oxford University Press.

Calmfors, L. (2014), ”Skattereform kräver tryck i välfärdsfrågan”, i Bergstrand, M. (red.), *En skattereform för 2000-talet*, pmj, Stockholm.

Calmfors, L. and Wren-Lewis, S. (2011), “What Should Fiscal Councils Do?”, *Economic Policy* 27.

Economist (2013*)*, The Nordic countries, Special report, 2 February.

Eklund, K. (2011), "Nordic Capitalism: Lessons Learned", in *The Nordic Way, Shared Norms for the New Reality*, World Economic Forum, Davos.

European Commission (2012), *Ageing Report*, Brussels,

European Commission (2013), *Public Finances in EMU*, Brussels.

Finanspolitisk redogörelse (2013), Bilaga 2, Proposition 2012/13:100, Sveriges Riksdag, Stockholm.

Gordon, R.J. (2012), ”Is US Economic Growth over? Faltering Innovation Confronts the Six Headwinds”, *CEPR Policy Insight*, No. 63.

Gylfason, T., Holmström, B., Korkman, S., Söderström, H.T. and Vihriälä, V. (2010), *Nordics in Global Crisis*, The Research Institute of the Finnish Economy.

Hagemann, R. (2010), Improving Fiscal Performance through Fiscal Councils, OECD Working Papers No. 829.

Hansson, Å. (2014), ”Så får vi ett effektivt skattesystem” i Bergstrand, M. (red.), *En skattereform för 2000-talet*, pmj, Stockholm.

Holmström, B., Korkman, S. and M. Pohjola (2014), Soumen talouskriisin luonne ja toipumisen edellytykset (The Character of the Finnish Economic Crisis and the Preconditions for Recovery), Paper Presented to the Economic Council in Finland, 25 February.

IMD (2013), *World Competitiveness Yearbook*, World Competitiveness Center, IMD Business School.

IMF (2013), *Taxing Times*. *Fiscal Monitor*, Washington D.C.

Konjunkturinstitutet (2012), *Lönebildningsrapporten*, Stockholm.

Konjunkturrådet (2014), *Hur får vi råd med välfärden?*, SNS, Stockholm.

Korkman, S. (2012), The Nordic Model as a Benchmark, mimeo.

Korkman, S. and Suvanto, A. (2013), Finland and Sweden in Cross-Country Comparison: What Are the Lessons?, mimeo.

Kramarz, F. and Nordström Skans, O., When Strong Ties Are Strong: Family Networks and Youth Labour Market Entry”, CEPR Discussion Paper 9620.

Lodin, S-O, (2014), ”Skattepolitisk följetong i behov av ny översyn” i Bergstrand, M. (red.), *En skattereform för 2000-talet*, pmj, Stockholm.

Roine, J. and Waldenström, D. (2011), "Common Trends and Shocks to Top Incomes: A Structural Breaks Approach", *Review of Economics and Statistics* 93.

Kleven, H., Landais, C., Saez, E. and Schultz, E. (2013), Migration and Wage Effects of Taxing Top Earners: Evidence from the Foreigners’ Tax Scheme in Denmark, CEPR Discussion Paper 9410.

OECD (2011), *Economic Survey of Iceland*, Paris.

OECD (2012a), *Economic Survey of Denmark*, Paris.

OECD (2012b), *Economic Survey of Finland*, Paris.

OECD (2012c), *Economic Survey of Norway*, Paris.

OECD (2013a), *Skills Outlook*, Paris.

OECD (2013b), *PISA 2012*, Paris.

OECD (2013c), *Employment Outlook*, Paris.

Pensionsåldersutredningen (2013), *Åtgärder för ett längre arbetsliv*, SOU 2013:25, Stockholm.

Schnabel, C. (2013), "Trade Unions in Europe: Dinosaurs on the Verge of Extinction", www.voxeu.org, 13 November.

Swedish Fiscal Policy Council (2008), *Swedish Fiscal Policy*, Stockholm.

Swedish Fiscal Policy Council (2009), *Swedish Fiscal Policy*, Stockholm.

Swedish Fiscal Policy Council (2010), *Swedish Fiscal Policy*, Stockholm.

Swedish Fiscal Policy Council (2011), *Swedish Fiscal Policy*, Stockholm.

Swedish Fiscal Policy Council (2012), *Swedish Fiscal Policy*, Stockholm.

Sörensen, P.B, (2010), *Swedish Tax Policy: Recent Trends and Future Challenges*, Report to ESO, 2010:4, Ministry of Finance, Stockholm.

Van Ark, B., Hao, J., Corrado, C. and Hulten, C. (2009), "Measuring Intangible Capital and Its Contribution to Economic Growth in Europe", EIB Papers, Vol. 14.

WEF (2013), *The Global Competitiveness Report 2013-2014*, World Economic Forum.

Wölfl, A., Wanner, I., Kozluk, T. and Nicoletti, G. (2010), Ten Years of Product Market Reform in OECD Countries – Insights from a Revised PMR Indicator, OECD Economics Department Working Paper No. 695.

Åsbrink, E. (2014), "Dags för en ny skattereform" i Bergstrand, M. (red.), *En skattereform för 2000-talet*, pmj, Stockholm.