How well is the Nordic model doing? A review of the economic performance of the Nordic economies

Lars Calmfors

Institute for International Economic Studies, Stockholm University

Preliminary draft, 23 October 2013. Not to be quoted.

1 Introduction

The "Nordic 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 disrespute. But recently there has been renewed international interest in the Nordic model.[1] This has happened because of the strong macroeconomic performance from the mid 1990s till the beginning of the international economic crisis in 2008 and (with the exception of Iceland and to some extent Denmark) strong resilience during the crisis.

The traditional picture of the Nordic model has been one where a generous welfare state 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. The model has delivered high employment, an equitable income distribution and gender equality. During the current international economic crisis, the Nordic countries have also earned a reputation for well-managed public finances.

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 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 triggered large

[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) and Berglund and Trägårdh (2011).

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 with the aim of building up buffers to help handle future strains on public finances 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 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 very 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.

Recent macroeconomic developments in Denmark have also differed from developments in Finland, Norway and Sweden. The downturn has been more protracted in Denmark due to an unwinding of an earlier property price boom with substantial falls in house prices, which have depressed aggregate demand.

It is obvious from the above review that the Nordic economies have gone through large changes over the last two decades. Some developments have been common to all the Nordic countries, 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 how the Nordic economies have developed 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 Is there still a distinct Nordic model?

When evaluating whether there still exists a particular Nordic model one should look both at structural characteristics of the economies and the economic outcomes. This is done in a number of diagrams that include the Nordics as well as comparable EU countries (the older member states) and the US. Each diagram contains two panels. The first panel shows arithmetic averages for various variables for the Nordic countries, Continental Europe (Austria, Belgium, France, Germany and the Netherlands), Southern Europe (Greece, Italy, Portugal and Spain), the UK and the US. The second panel shows the variables for the individual countries.

2.1 Structural characteristics

Looking first at the *size of government*, the Nordic countries stand out as the group with the highest share of government expenditure in GDP (Figure 1a), the highest share of government employment in total employment (Figure 2a) and the highest tax revenues in per cent of GDP (Figure 3a). This conforms to the established picture of the Nordic model. However, it is also seen that the differences to the other country groups are small. Total government expenditure in per cent of GDP is as high in Continental Europe and almost as high in Southern Europe and the UK as in the Nordic countries. Total tax revenues are only somewhat smaller in Continental Europe than in the Nordic countries.

Figures 1b-3b also show important differences between the Nordic countries as to the size of government. Total government expenditure as a share of GDP (Figure 1b) is much smaller in Norway (ranked 15 among the 18 countries in the diagram) and Iceland (ranked 13) than in Denmark (ranked 1), Finland (ranked 3) and Sweden (ranked 6). Iceland (ranked 12) is far below the other Nordic countries in terms of tax revenues in per cent of GDP (rank 1 for Denmark, 2 for Sweden, 5 for Norway and 7 for Finland; Figure 3b). 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 2b).

Figures 4-5, which illustrate some aspects of *social protection*, give a similar picture as the diagrams showing the size of government. Taken as a group, the Nordic countries have the highest net replacement rates in the government-(sponsored) unemployment insurance system according to Figures 4a and 5a. But for short-term unemployed (Figure 4b) there are substantial differences among the Nordic countries. Sweden is, after the reforms of unemployment insurance and the introduction of earned income tax credits in recent years, an outlier (number 14 with a replacement rate only slightly above 60 per cent), whereas replacement rates are 70-80 per cent in the other Nordic countries (with Iceland ranked 3, Denmark 5, Norway 6 and Finland 10). For long-term unemployed (Figure 5b), there is more homogeneity among the Nordic countries, although they do not top the ranking (net replacement rates for long-term unemployed are the highest in Ireland and the Netherlands).

Nor do the Nordic countries form so distinct a group when it comes to *labour market institutions*. They do with respect to trade union density (Figure 6b) which is higher in the four largest Nordic countries than in all the comparison countries. But 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 yet not as high as in Austria and Belgium; see Figure 7b) than in Denmark and Norway (70-80 per cent, which is also below the values for France, Spain, the Netherlands and Italy). Looking at the Nordics as a group (Figure 7a), it turns out, somewhat surprisingly, that the coverage of collective agreement is lower than in Continental Europe. Differences in the strictness of employment protection are quite large among the Nordic countries: Sweden and Finland are ranking as high as 6 and 7, but Denmark and Iceland as low as 12 and 15 among the countries shown (Figure 8b). A common trait of the four largest Nordic countries is the emphasis on active labour market programmes. 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). But despite this the differences among the Nordic countries with respect to employment and income protection in the case of unemployment make it questionable to talk about any general Nordic *flexicurity* model, as is often done.

The structural characteristic where the Nordic countries are most homogeneous concerns *product market regulations*. Here the Nordics form a middle group with more regulation than the UK, the US, Ireland, the Netherlands and Spain but less than in the other countries.(Figure 9b). In terms of *foreign trade dependence* the Nordic countries form a middle group together with Austria, Germany and Portugal.

When it comes to R&D expenditure, Finland, Sweden and Denmark are at the top, all with such expenditures above 3 per cent of GDP, whereas Norway spends only about half that amount and finds itself only at rank 11 of the countries shown in Figure 11b.

2.2 Economic outcomes

The Nordic countries stand out most as a distinct group when it comes to *income equality*. Here they form a well-defined cluster. Among the countries in Figure 12b, Iceland, Norway, Denmark and Finland are the ones with the lowest Gini coefficients for disposable income. Sweden ranks 7 after Belgium and Austria. Whereas the average Gini coefficient for the Nordic group is 0.25, it ranges from 0.32 for Southern Europe to 0.48 for the US. Only Continental Europe with a coefficient of 0.28 is close to the Nordic group.

The Nordic cluster is also clearly visible for the ratio of disposable income between the 90^{th} and 10^{th} percentiles although the ranking is slightly different (Iceland, Denmark and Norway are ranked 1-3, Finland 5 and Sweden 6; Figure 13b). The average P90/P10 ratio is 3 for the Nordics, but around 4 for Southern Europe, 5 for the UK and 6 for the US. Again, it is only Continental Europe that is close to the Nordic group.

The overall *employment* rate (employment in per cent of working age population 20-64 years (Figure 14a) is higher in the Nordic countries than in all the four comparison groups. Differences are larger for females than for males (Figures 15a and 16a, respectively). Looking at various age groups, the differences are the largest for 55-64 years old (nearly 10 percentage points higher employment in the Nordics than in the US and the UK, around 20 percentage points higher than in Continental Europe and almost 30 percentage points higher than in Southern Europe; Figure 19a).

The similarities among the Nordics with respect to employment are the greatest when it comes to female employment (Figure 16b). 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 55-64 years old (Figure 19b), where Iceland, Sweden and Norway form a top trio with employment rates between 70 and 80 per cent. Employment rates for this group is considerably lower, around 60 per cent, in Denmark (ranked 5) and Finland (ranked 8).

In terms of total employment (20-64 years; Figure 14b) Iceland, Norway and Sweden are ranked 1, 2 and 3, respectively, with employment rates around 80 per cent of the population, and Denmark and Finland somewhat lower, 7 and 9 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 old (Figure 18b), where the Nordics belong to a larger group of countries, including also Austria, the Netherlands, German, 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 20b) differ widely among the Nordics with Norway at the lower end (1 400 hours per year and rank 16 among the countries shown) and Iceland at the higher end (1 700 hours per year and rank 3). The Nordic countries are more similar with respect to hours worked per person of working age, still with Iceland having most working hours (Figure 21b). Comparing the Nordics as a group with other group of countries as well as with the UK and the US, working time per person in the working-age population (Figure 20a) is higher only in the US. But working time per employed person (Figure 21a) is lower than in all the comparison groups except Continental Europe.

Public finances are currently much stronger in the Nordic group than in the comparison groups. This applies to both general government net lending (the fiscal balance) and consolidated gross government debt (Figures 22a and 23a, respectively). However, Iceland is very much apart after its economic collapse in 2008. Figure 23b shows that the four largest Nordic economies all have consolidated gross government debt ratios in the range of 30-50 per cent, well below the EU debt ceiling of 60 per cent of GDP. Of the countries shown in the diagram, only Luxembourg has a lower gross consolidated government debt. But the debt

ratio in Iceland is close to 100 per cent, which is similar to both the crisis countries in the eurozone and the US.

Finally, in terms of GDP per capita (Figure 24a), the Nordic group beats all the comparison areas except the US. Iceland, Finland, Denmark and Sweden all belong to a group of mid-income countries together with France, the UK, Belgium, Germany, Ireland, Austria and the Netherlands, whereas Norway, due to its incomes from oil and gas, has the highest income among the countries shown in Figure 24b after Luxembourg.

2.3 Not as distinct a Nordic model as earlier

The conclusion from the review above is that the Nordic economies are similar in many respects, but that there are also important differences. The Nordics probably form a much less distinct and coherent group than commonly believed.

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 Iceland has a similar debt-to-GDP ratio as the crisis countries in the euro area and the US. 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).

The Nordic economies stand out less as a distinct group when it comes to structural characteristics than to economic outcomes. This is particularly clear with regard to labour market institutions. Although the Nordics are the countries with the highest trade union membership, they do not form any group of their own as to the coverage of collective agreements. There are also large differences among the Nordic countries regarding the strictness of employment protection, although they are more similar with respect to the focus on active labour market programmes. Nor do the Nordic countries any longer stand out as a distinct group when it comes to the size of government in the way they used to do. It is true

that they still have higher government employment than comparable countries. But the Nordics are no longer unique with respect to overall government expenditure (which reflects high government transfers also in many other European countries) and tax revenues. Nor do Nordic countries form any particularly generous cluster when it comes to income protection for individuals in the case of unemployment provided (or sponsored) by the state.

The structural characteristic where the Nordic economies form the most distinct cluster concerns product market regulations, where they form a homogeneous middle group with more regulation than in the UK, the US, Ireland, the Netherlands and Spain but less than in other comparable countries.

The variable where (the four) largest Nordic countries differ the most from other European countries is one that could be regarded both as a structural characteristic and an outcome variable: *trust*. Trust can be regarded as a structural feature which lowers transaction costs as well as facilitates decision-making in various areas (both in the private sector and in politics). But trust can also be seen as an outcome variable, as outcomes that are regarded as desirable by most people likely 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 trust is measured as general trust in people, trust in politicians or trust in the legal system.

3 Developments since the early 1990s

This section looks more closely at macroeconomic developments since the early 1990s. Section 3.1 summarises the performance over the whole period, whereas Section 3.2 compares developments in the Nordic countries with those in other countries during the economic crisis starting in 2008.

3.1 Developments over the 1990-2012 period

Figure 25 shows that GDP growth in all the Nordic countries except Denmark has been higher than the EU-15 average (and in Germany) over the whole 1990-2012 period. This happened despite GDP decreases in Finland, Sweden and Iceland during the economic crises in these countries in the early 1990s. All the Nordic countries suffered severe set-backs with GDP falls in 2009. The fall was by far the largest in Iceland where it was associated with the severe financial crisis and where the fall continued also in 2010. Finland and Sweden also had sharp falls, but there output rebounded again (in particular in Sweden where it in 2012 was 6 per

cent above the pre-crisis level, whereas GDP in Finland in 2012 was still 3 per cent below that level). Denmark had a less sharp fall than Finland and Sweden in the beginning of the crisis, but instead the recovery has been sluggish, still leaving output below its pre-crisis level in 2012. This is largely explained by the bursting of a house price bubble (see Section 4.6) and the high degree of trade integration with the eurozone. On the whole, GDP developments in Denmark have closely followed those in EU-15. Norway suffered only a small setback in the beginning of the 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, but with considerably higher productivity growth in Finland and Sweden than in the three other Nordic countries (Figure 26). Productivity increases measured as GDP increases per hour have been more equal among Finland, Sweden, Norway and Iceland, but here Denmark lags clearly behind (Figure 27). As should be expected during a cyclical downturn, labour productivity growth has been much slower from 2008 in all the Nordic countries.

Table 3 decomposes labour productivity growth 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 2008-2012 periods. In the first period, Finland and Sweden stand out as the countries with the highest total factor productivity growth. Only Austria and Germany come close. In contrast, total factor productivity growth during this period was low or non-existent in Norway and Denmark. In Norway the main contribution to labour productivity growth came from accumulation of ICT-capital, whereas it came from non-ICT-capital in Demark. Hence, the growth models of the four largest Nordic countries have been very different. The table also decomposes labour productivity growth in 2008-2012 into contributions from various factors, but this is less revealing for growth patterns as this period is characterised by large falls in 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 28 and 29, 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 much in line with aggregate developments in 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

strongly. The deterioriation 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 30-32 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 EU-15. The development in Sweden is 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 Finland than in EU-15, but developments over time have been similar. Long-term unemployment has been lower in all the Nordic countries than in EU-15. The most probable explanation is a larger use of active labour market programmes to prevent long periods of unemployment (cf 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 33). This improvement was stronger than in EU-15. Because of its revenues from oil and gas Norway ran large fiscal surpluses (of the order of magnitude of 7-18 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 also in Denmark, Iceland and Sweden (Figure 34). *What explains the huge deterioration of the government's net financial position in Finland in the 1990s?* 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, but subsequently the deficit has been cut very significantly (amounting to only 3.4 per cent of GDP in 2012). During the crisis there have also been large deteriorations of the fiscal balances in Denmark, Finland and Norway, whereas the deterioration has been smaller in Sweden. Deficits have emerged in Denmark, Finland and

Sweden, whereas Norway still ran a fiscal surplus of almost 14 per cent of GDP in 2012. The described developments of the fiscal balance during the crisis are reflected in the developments of government net debt. In Iceland, there has been a huge increase in government net 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 35 shows that not only Norway, but also Sweden, Finland and Denmark have had large current account surpluses for most of the 1990-2012 period, indicating an excess of domestic saving over investment. Here Iceland is the odd man out with large current account deficits over many of the last 15 years. Sweden and Norway have sustained their current account surpluses during the current 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 5 per cent in 2012.

Figure 36 shows how the international competitiveness of the Nordic economies (relative unit labour costs in manufacturing) has developed since the early 1990s *(Diagram to be revised so that it goes back to 1990)*. Developments have differed strongly. In Finland and Sweden relative unit labour costs have fallen over the period. Initially this was achieved through nominal exchange rate depreciations in the early 1990s, but later the explanation has been a combination of high productivity growth and wage moderation. However, from 2007/08 relative unit labour costs have developed differently in Finland and Sweden. Whereas they continued their downward trend in Sweden, helped both by a weakening of the currency in the beginning of the crisis and wage moderation, they increased in Finland. In Norway relative unit labour costs have been increasing since the early 1990s. This can be seen as a Dutch disease phenomenon (increased oil wealth driving up aggregate demand and hence domestic wages and prices relative to other countries). In Denmark relative costs increased in 2000-2009, which was a period with low unemployment. Danish relative costs started falling first in 2010 as a response to the prolonged downturn,

The relative cost developments described above are reflected in the developments of export market shares shown in Figure 37. In both Denmark and Norway export market shares have trended downwards from the early 1990s, whereas they increased in both Finland and Sweden in the 1990s and then remained rather stable up till 2009. After that Finnish and Swedish developments have differed, with Finland losing market shares and Sweden gaining them, as should be expected from the differential relative cost developments described above.

3.2 Recent developments in the Nordic countries relative to developments elsewhere

How well have the Nordic countries been doing during the current economic crisis compared with other countries? Table 4 summarises developments of GDP, the labour market (employment rate, labour force participation rate and unemployment), public finances (government net lending and consolidated government gross debt) and income distribution (Gini coefficient and P90/P10 disposable income ratios) over the 2008-2012 period. Because the Icelandic situation has been so special, averages are given for both all the Nordic countries and the Nordic countries excluding Iceland.

Compared with Southern Europe the Nordic countries as a group (both including and excluding Iceland) has, of course, been doing much better in terms of GDP, labour markets and public finances (the first six columns in Table 4). But compared with Continental Europe, deteriorations of the economic situation has in several respects been larger in the Nordic countries (again 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 (although the difference is slight if Iceland is excluded). The only variable in the table where developments have been more favourable concerns government debt, which has increased by less in the Nordic countries (also when including Iceland) than in Continental Europe.

Table 3 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 than in Denmark, Finland 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 less in Sweden than in Norway (see also Section 4.7).

Consolidated gross government debt has been more or less stable in Sweden during the crisis, whereas it has increased considerably in Iceland, Finland and Denmark. The increase in government debt in Iceland is of about the same magnitude as in Southern Europe, the UK and the US. 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).

Iceland has had the most unfavourable GDP development, with a 6.3 per cent fall over the 2008-2012 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 3) 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, of course, the reduction in incomes of "capitalists" in this country during the deep crisis.

4 Future challenges

As described above, the Nordic countries did very well in the 1993-2008 period. Both GDP and labour productivity grew faster than in comparable countries. The employment situation improved. Public finances strengthened. During the crisis that started in 2008 all the Nordic countries have been strongly affected. The financial crisis in Iceland led to a large fall in GDP and a large rise in unemployment. Denmark has also been hit by a deep downturn. Norway and Sweden have done the best among the Nordics during the crisis with output in 2012 above the pre-crisis levels. Finland occupies a medium position when it comes to the effects of the current crisis.

Still, current employment levels in all the Nordic countries are high in an international comparison (in particular for females and older people). Income equality is still greater than elsewhere. Public finances are strong in all the Nordic countries except Iceland where government debt has risen to similar levels as in the crisis countries in the eurozone.

It is important to identify future challenges to good economic performance in the Nordic countries. Below challenges in seven areas are discussed:

1. Productivity growth
2. The schooling system

3. The tax system
4. The sustainability of public finances
5. The fiscal frameworks
6. Financial stability
7. 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. Productivity growth in the ICT-sector played an important role for the high overall productivity growth in these countries. 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 elsewere and total factor productivity growth has been negative (see Table 1). 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 (GDP per employed person) actually fell in both Norway and Sweden already *before* the outbreak of the international financial crisis (see Figure 26). A possible hypothesis is that technological developments, contributing to labour productivity growth, are now slower than earlier, especially in the ICT-sector (Konjunkturinstitutet 2012). 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 been slowed down. In Finland aggregate productivity growth is hampered both because productivity growth in the ICT-sector has slowed down 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. So could an improved allocation of R&D

spending. 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).

4.2 Human capital accumulation

The stock of human capital used in production is an important determinant of labour productivity. According to OECD (2013) differences in the average 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 measures 15-year olds' reading ability and their proficiency in mathematics and reading. Table 5 shows how the rankings of a number of countries have developed over time. Finland has occupied a stable top position regarding all the three measures, whereas the other Nordic countries are ranked significantly lower, indicating a substantial potential for improvement. Iceland and Denmark do substantially worse in reading and science than in mathematics, whereas Norway and Sweden do substantially worse in mathematics and science than in reading. Looking at trends, Norway has improved its position substantially over the four PISA studies in both mathematics and reading. However, what stands out most is the downward trend for Sweden in all the 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, 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 quick 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) in various countries (OECD 2013). 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 6 shows that the Nordic countries as a group come out much better in the PIAAC than in the PISA studies. Finland still performs the best among the Nordic countries (number 2 according to all the measures), but Sweden, Norway and Denmark (except in literacy) now also come out very well. Sweden even tops the ranking regarding problem-solving in technology-rich environments. The better results for 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 2013).

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).

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 distorted. Capital income taxation distorts the incentives for saving and investment.

Figure 3 showed that the four largest Nordic countries all have high tax revenues relative to GDP (in the range of 42-47 per cent). Figure 38 shows that developments in the Nordic countries have differed over time. Over the last decade the ratio of taxes to GDP have fallen

substantially in Sweden and Finland, whereas it has remained fairly stable in Denmark and Norway, and increased in Iceland.[3]

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 taxes are raised in as efficient a way as possible, i.e. that the tax system is designed so that the distortionary costs of raising revenues are minimised. Here, there appears to be room for improvements in all the Nordic countries.

A common problem 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).. Taxing the imputed rents from owner-occupied housing directly or doing so indirectly through a tax on the market value of such property would make it possible to reduce labour taxes which are much more distortionary. In particular, it would be possible in this way to balance the income distribution effects from reductions in the marginal tax rates for high-income earners (which create the largest distortions). Pressures for such tax cuts are likely to be increasing as the international mobility of highly educated labour increases. This, as well as the international tax competition driving down corporate tax rates, provides a strong case for increased taxation of less mobile tax bases such as real estate. However, tax reform of this type represents a major political challenge, as it seems to be a very difficult task to communicate its benefits to voters who tend to dislike real estate taxes (see, for example, Swedish Fiscal Policy Council 2011, 2012).

Applying uniform VAT rates across the economy would also represent an important social efficiency gain. Today VAT rates tend to be lower for foodstuff and several activities of a recreation type which goes against optimal-taxation considerations. According to them, consumption of goods with low price elasticity (such as food) and of recreation activities (which are complements to leisure) should rather be taxed more heavily than other types of consumption (Swedish Fiscal Policy Council 2011, 2012). For political-economy reasons the opposite often holds today. To do away with this also represents a major political challenge.

A third 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

[3] The effects of the size of the government sector on growth is 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.

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 should be 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.

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 39 the rises in the Nordic countries is expected to be smaller (by 5-7 percentage points) 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 40 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 and meet their intertemporal budget constraints (according to which the present value of future fiscal surpluses must equal current debt). As can be seen, there is a very large fiscal gap for Finland (around 6 per cent of GDP), whereas the gaps are much smaller for Denmark and Sweden.

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 exit age from the labour market. Although there are important differences among the Nordic countries' pension systems, they are all in need of reform to address the issue of sustainability. Denmark has come furthest in this respect by having introduced an explicit mechanism linking the retirement age to longevity (OECD 2012a). A similar reform is now being discussed in Sweden (Pensionsåldersutredningen 2013). The Swedish pension system is sustainable in the "formal" sense that it builds on defined contributions, which implies that benefits will gradually be adjusted downwards when longevity increases. Such a development is not, however, likely to be politically sustainable. This is a strong argument for linking the retirement age to longevity also in Sweden. But this is more complicated than in the case of

Denmark, as there 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).

Although reforms of the earlier very generous systems of early retirement have been made in all the four largest Nordic economies, more needs to be done in especially Finland and Norway, but also in Denmark, in order to increase the effective retirement age (OECD 2012a,b,c). 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. This is very clear from the recent Swedish experiences of tightening the rules for disability pensions and sickness benefits (see Swedish Fiscal Policy Council 2010).

4.5 Fiscal frameworks

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, which at present all have fiscal deficits (not to mention Iceland). This is desirable in the current economic downturn. 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 (in Denmark, Finland and Norway).

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. However, also in this country the mandate could be sharpened: now 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. Efficient monitoring would also seem to require much more resources and a long-term budget to protect the council from political pressures (Calmfors and Wren-Lewis 2011, Calmfors 2012b, 2013). Denmark's Economic Council functions partly as a fiscal council, but it could be given a clearer mandate to perform such a task (OECD 2012a). Finland, Norway and Iceland would probably be well advised to set up such institutions (OECD 2012b,c).[4]

4.6 Financial stability

Iceland provides a vivid illustration of how a financial crisis can cause a deep recession (Gylfason et al. 2010, OECD 2011). There the banking sector was allowed too overexpand relative to the size of the economy. The sector also grew far beyond the management capabilities of the banks as well as beyond the regulatory capacity of the country. The banks engaged in risky lending, there was large exposure to owners and far too much dependence on wholesale funding instead of deposits. The main problem was insufficient microprudential supervision. The problems were, however, compounded by a lack of macroprudential oversight, which meant that the systemic risks associated with exposure to a few major investment groups were not identified.

Denmark provides another – but much less dramatic example – of financial instability. Rapid credit expansion fuelled a house price boom, which came to an end in 2008. The interaction of house price falls, attempts by households to restore their balance sheets and deleveraging by banks has contributed to a prolonged downturn in the country.

[4] Norway has set up an Advisory Panel, which gives "expert judgement 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).

Figures 41 and 42 show that private-sector debt and house prices followed similar paths in all the Nordic countries before 2007-08. This raises the problem of whether there are also imbalances in housing and credit markets in Sweden, Norway and Finland that could trigger future financial crises or whether, for example, high house prices in these countries can be motivated by such fundamental factors as supply shortages arising from zoning restrictions, construction requirements and rent control.

How to deal with the risks associated with elevated house prices and financial instability represents a major challenge for all the Nordic countries. Various reports have pointed to the risks associated with a mismatch between households' liquid assets (non-pension, non-housing ones) and their liabilities entailing large risks in the case of house price falls (see e.g. IMF 2013). The risks of overborrowing by households for the purpose of house purchases can be reduced through more stringent loan-to-value regulations and amortisation requirements.

Nordic banks are to a larger extent than banks in other countries dependent on wholesale funding because households prefer to save in institutional forms via pension and investment products and not in the form of bank deposits to the same extent as in most other countries.. At the same time the banks in Sweden and Denmark are very large relative to the economies (publicly listed banks have assets of around 350 per cent of GDP in Sweden and 250 per cent in Denmark). thisimplies that the failure of an individual bank is likely to have severe macroeconomic repercussions.

The vulnerability of banks can be reduced through higher capital requirements (preferably also countercyclical) and higher risk weights for mortgage loans. Such developments are underway in all the Nordic countries. Financial supervision in general is being sharpened as elsewhere. More emphasis is being put on macroprudential as opposed to microprudential supervision. New tools are being developed. But there are critical trade-offs to be handled (Calmfors 2013b). Will the new macroprudential tools be sufficient to address financial stability or should central bank interest rate setting also be used for this purpose (in the countries with a flexible exchange rate where this is an option, i.e. in Iceland, Norway and Sweden)? This has been a controversial issue leading to sharp divisions of opinion in the Executive Board of the Swedish *Riksbank.* What should be the respective roles of the central bank and the financial supervisory authority in each country? Another issue is how much financial regulation should be tightened. There is an obvious risk that it is made so stringent

that the function of credit and capital markets to allocate capital to different uses is seriously impaired.

A specific problem is the large cross-border activities of the Nordic banks within the region. This represents a large risk for transmission of shocks arising in a banks's subsidiary or branch in one country to the other Nordic countries. This could be an argument for more of ex ante agreements on burden sharing among the Nordic countries when it comes to dealing with banks in distress (IMF 2013).

Section 4.3 argued in favour of abolishing the favourable tax treatment for home ownership from the point of view of a more efficient tax system. Another argument for phasing out these tax advantages is that it would weaken the incentives for households to borrow for the purpose of house purchases and thus reduce the risks of financial instability.

4.7 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 29, which shows that unemployment has not come down again to the earlier levels after the crises in the first half of the 1990s in Finland and Sweden. It is an important challenge, especially in Iceland and Denmark where recent unemployment rises have been the largest, to avoid that these rises become permanent.

A standard prescription to prevent unemployment from becoming entrenched is to use labour market activation programmes. Unfortunately, large-scale such programmes often deliver only disappointing results because of locking-in effects and low efficiency. An important issue is whether activation programmes should 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 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.

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. Figures 43 and 44 for Sweden are illustrative: they show how 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.

Finland and Sweden have higher youth unemployment than the other three Nordic countries (Figure 30). 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.

Denmark and Finland both have considerably lower employment rates among 55-64 years old than Iceland, Norway and Sweden (Figure 19). Although measures have been taken to reduce the access to early retirement in Denmark and Finland (OECD 2012a,b), it remains a challenge 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 still need to be addressed (OECD 2012b,c).

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 compensated only to 20-30 per cent by the increased tax revenues from higher employment; see Swedish Fiscal Policy Council 2010, 2011).

Table 1 Expenditure on active labour market programmes, 2011

	Per cent of GDP	Per cent of total expenditures on the unemployed	Share of active programme participants in unemployment
Denmark	2.26	0.58	0.52
Finland	1.02	0.41	0.32
Norway	-	-	0.5
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	-

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					2008-2012				
	Labour productivity	Labour composition	ICT-capital	Non-ICT-capital	TFP	Labour productivity	Labour composition	ICT-capital	Non-ICT-capital	TFP
Denmark	1.5	0.2	0.5	0.8	0.0	0	0.1	0	0.7	-0.8
Finland	3.0	0.2	0.2	0.8	1.8	-0.4	0.2	0.3	0.9	-1.8
Norway	2.4	0.2	1.6	0.5	0.2	0.3	0.1	1.7	0.4	-2.0
Sweden	2.8	0.3	0.7	0.5	1.4	0.6	0.1	0.6	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	0.4	-1.0
France	1.9	0.3	0.8	0.3	0.4	0.1	0.2	0.9	0.1	-1.0
Germany	1.7	0.0	0.3	0.3	1.1	0.4	0.1	0.2	0.4	-0.3
Italy	1.0	0.2	0.7	0.3	-0.1	-0.5	0.1	0.2	0.1	-0.9
Netherlands	2.0	0.3	0.5	0.5	0.7	-0.1	0.1	0.3	0.2	-0.6
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	-0.6	0.2	0.4	0.1	-1.2
US	2.4	0.3	0.7	0.8	0.6	0.9	0.2	0.3	0.4	0.1

Table 4 Changes 2008-2012

	GDP	Employment rate	Participation rate	Unemployment	Government net lending	Consolidated gross government debt	Gini coefficient	P90/P10
Denmark	-3.6	-5.4	-2.7	4.1	-7.4	12.4	4.1	0.1
Finland	-3.1	-2.4	-1.7	1.3	-6.6	19.1	0.4	0
Iceland	-6.3	-4.1	-6.1	3.0	10.1	28.6	-18.9	-0.4
Norway	3.2	-2.3	-1.4	0.7	-4.9	-18.6	-0.4	-0.1
Sweden	5.8	-1.2	-0.2	1.8	-2.9	-0.6	3.9	0.1
Nordics	-0.8	-3.1	-2.4	2.2	-24	8.2	-2.2	-0.1
Nordics excluding Iceland	0.6	-2.8	-1.5	2.0	-5.5	3.1	2.0	0.0
Austria	1.6	0.7	0.4	0.5	-1.5	9.6	2.3	0
Belgium	1.2	-1.2	-0.3	0.6	-3.0	10.4	1.2	0.1
France	0.1	-1.6	0.1	2.4	-1.5	22.0	3.4	0.2
Germany	2.5	3.6	0.9	-2.0	0.2	15.1	-0.3	0.1
Netherlands	-2.1	-2.2	-0.6	2.2	-4.5	12.7	0.7	0.1
Continental Europe	0.7	-0.1	0.1	0.7	-2.0	14.0	1.4	0.1
Southern Europe	-9.1	-10.6	-0.6	10.4	-2.3	40.2	1.9	0.2
UK	-1.0	-1.3	-0.1	2.3	-1.3	37.7	-0.3	-0.2
US	3.2		-2.0	2.3	2.5	31.6	0.5	0.2

Note: The Gini coefficient applies to household real disposable income.

Table 5 Proficiency of 15-year olds, rankings according to PISA scores

	2000 Math	2003 Math	2006 Math	2009 Math	2000 Reading	2003 Reading	2006 Reading	2009 Reading	2000 Science	2003 Science	2006 Science	2009 Science
Denmark	7	7	5	7	10	11	10	12	16	18	12	11
Finland	2	1	1	1	1	1	1	1	1	1	1	1
Iceland	8	6	8	6	6	12	13	6	10	12	14	13
Norway	13	14	15	8	9	7	14	4	9	16	16	10
Sweden	9	9	10	12	5	3	4	8	5	8	10	14
Austria	11	11	7	10	11	13	11	19	7	13	7	15
Belgium	6	3	4	4	8	6	6	3	12	7	8	8
Czech Republic	12	5	6	13	13	14	15	18	6	3	5	9
France	5	8	14	9	7	10	12	10	8	6	13	12
Germany	14	13	9	5	16	15	8	9	14	10	3	3
Greece	19	19	19	19	18	19	19	16	18	17	19	19
Ireland	10	12	11	15	3	2	2	11	4	9	9	7
Italy	17	18	18	18	15	18	17	15	17	15	17	17
Netherlands	1	2	2	3	2	4	5	2	3	2	2	2
Poland	16	15	12	11	17	9	3	5	15	11	11	6
Portugal	18	17	17	16	19	17	16	14	19	19	18	16
Spain	15	16	16	17	14	16	18	17	13	14	15	18
Switzerland	4	4	3	2	12	8	7	7	11	5	6	4
United Kingdom	3	10	13	14	4	5	9	13	2	4	4	5

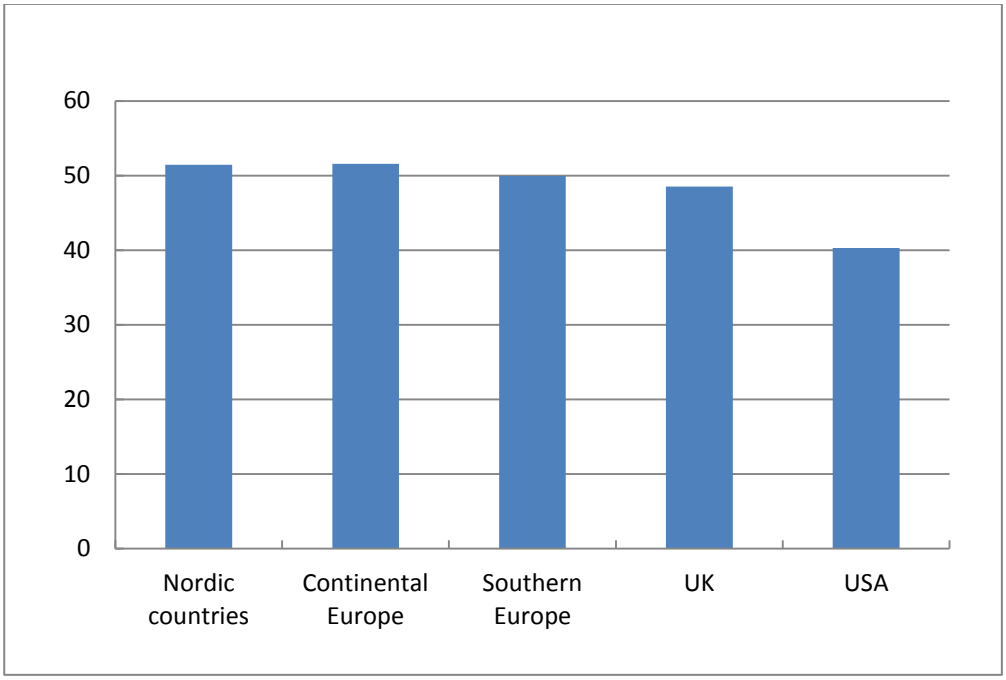
Table 6 Proficiency of adult populations, rankings according to PIAAC scores

	Numeracy	Literacy	Problem-solving in technology-rich environments
Denmark	5	12	5
Finland	2	2	2
Norway	5	6	4
Sweden	4	5	1
Australia	12	4	6
Austria	9	15	11
Canada	13	10	7
Czech Republic	8	8	10
Estonia	10	7	13
France	17	18	-
Germany	11	13	8
Ireland	16	17	15
Italy	19	20	-
Japan	1	1	9
Korea	14	11	17
Netherlands	3	3	2
Poland	15	16	16
Slovak Republic	7	9	14
Spain	20	19	-
US	18	13	12

Note: The PIAAC study was carried out in 2011-12. The ranking of problem-solving in technology-rich environments is based on the proportion of the population with skills at the two highest levels out of four.
Source: OECD (2013).

Figure 1 Total government expenditure, percentage of GDP, 2012

(a)



(b)

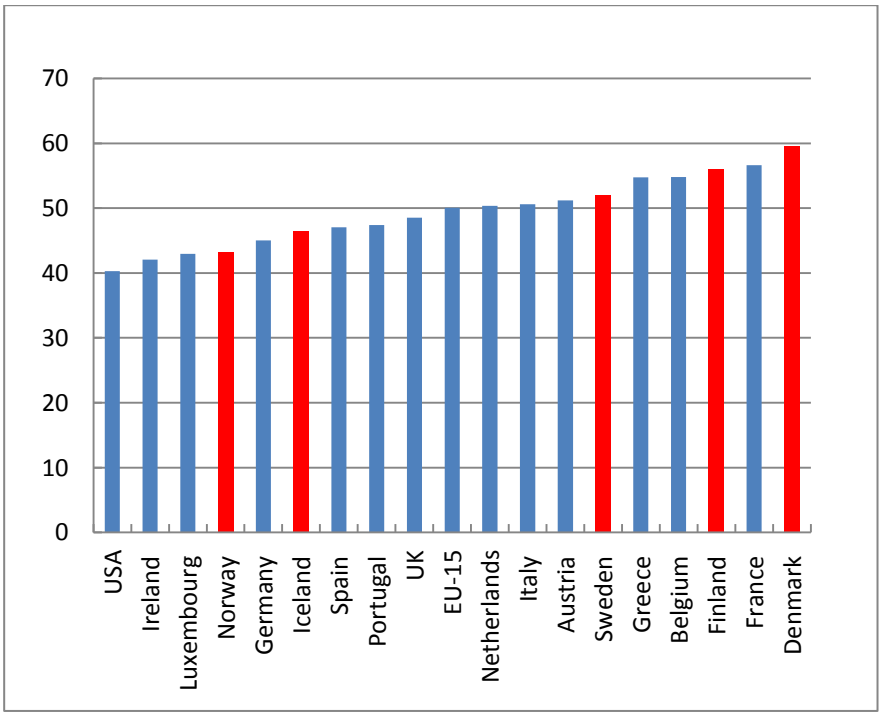
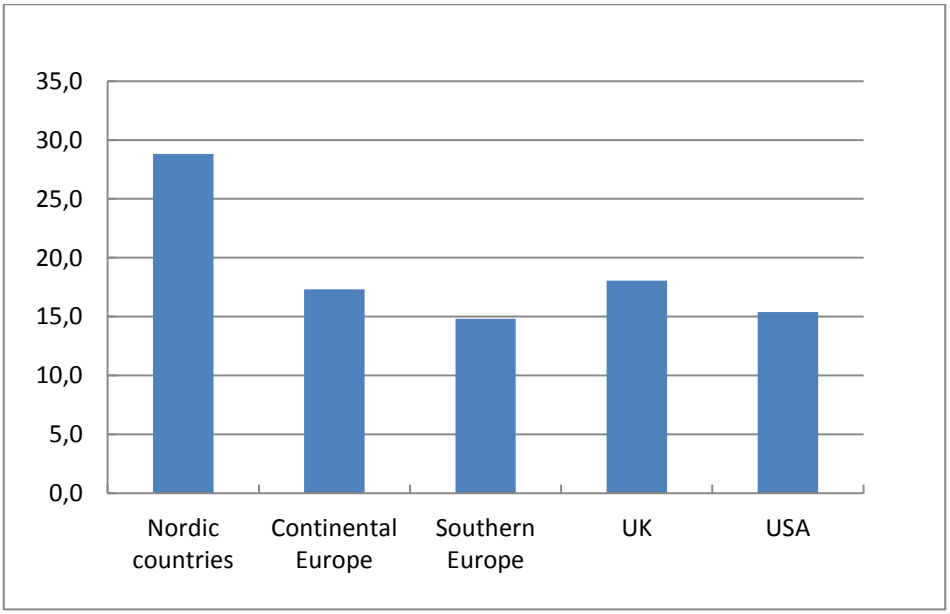


Figure 2 Government employment, percentage of total employment, 2012

(a)



(b)

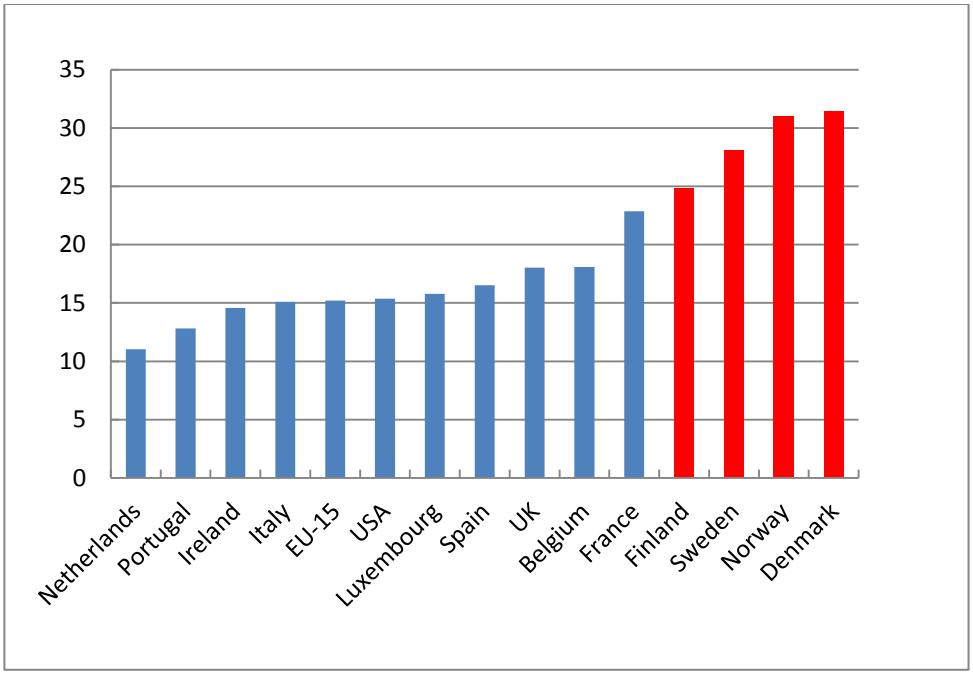
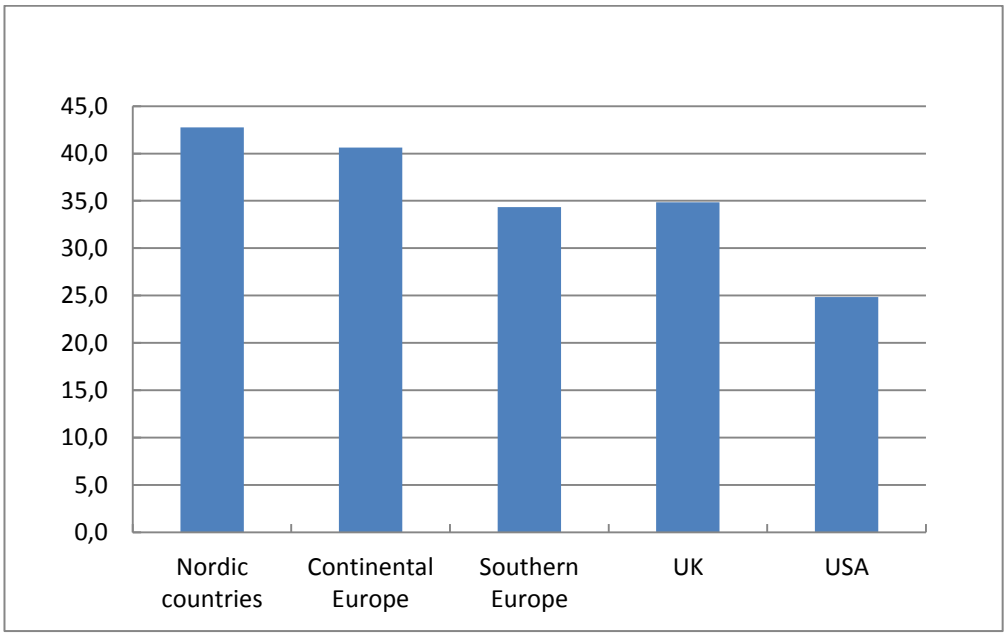


Figure 3 Total tax revenues, percentage of GDP

(a)



(b)

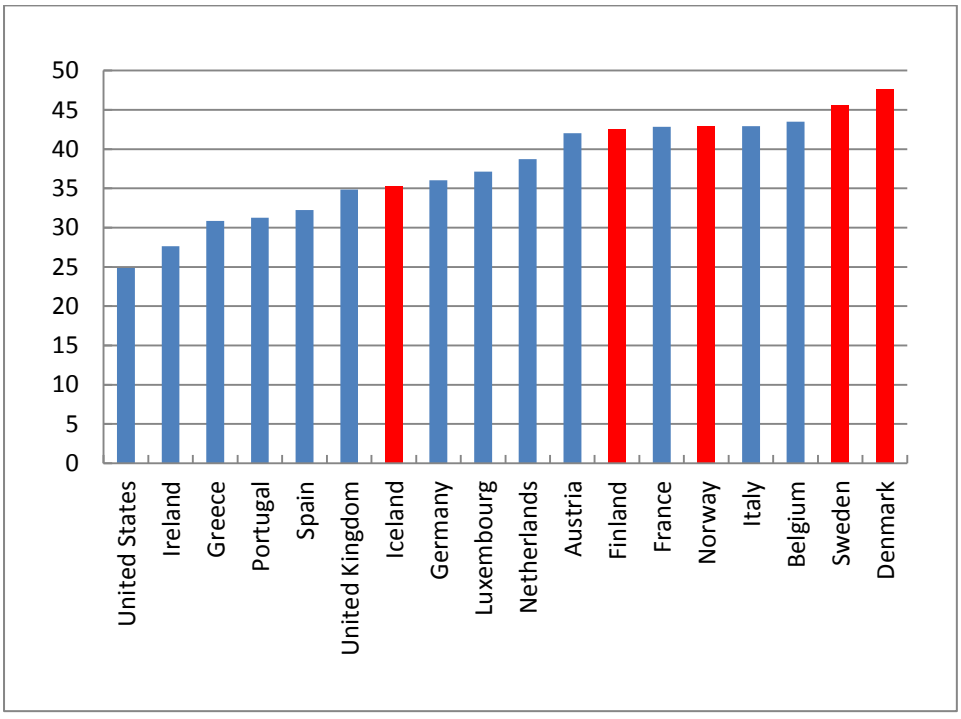
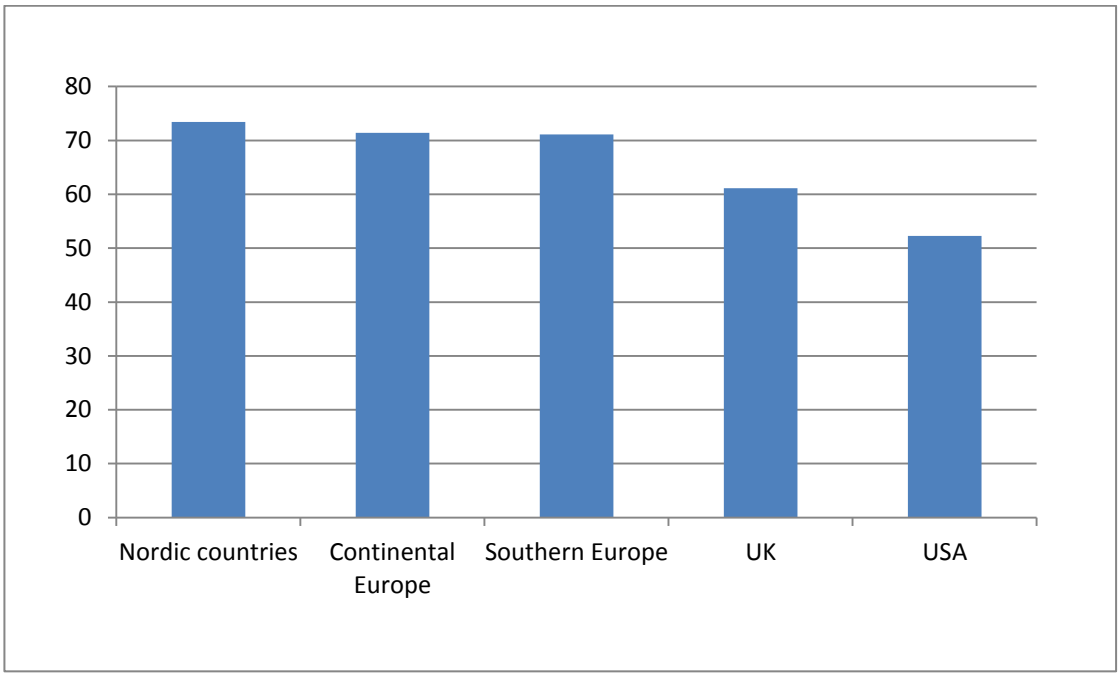
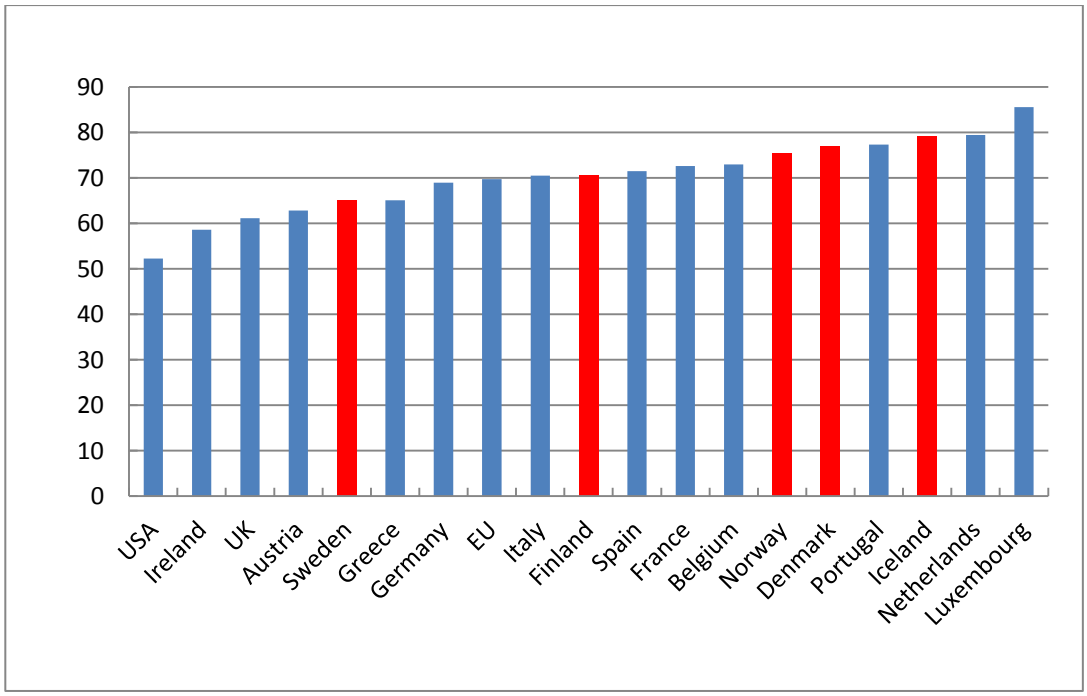


Figure 4 Net income replacement rate for short-term unemployed (first year), 2009

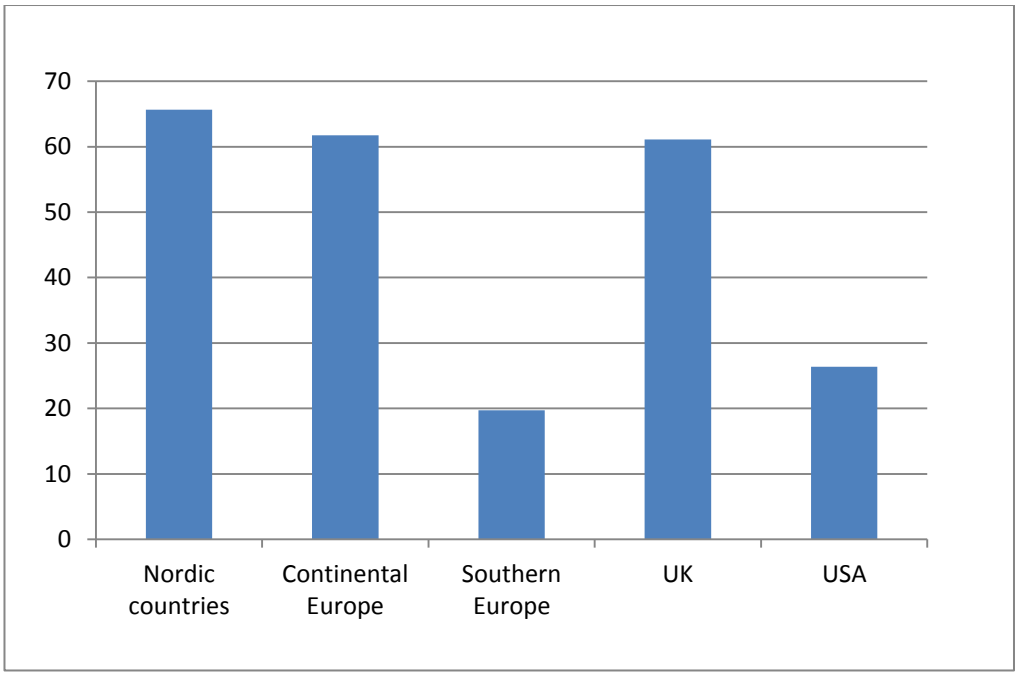
(a)



(b)



(a)


70
60
50
40
30
20
10
0
Nordic countries
Continental Europe
Southern Europe
UK
USA

(b)

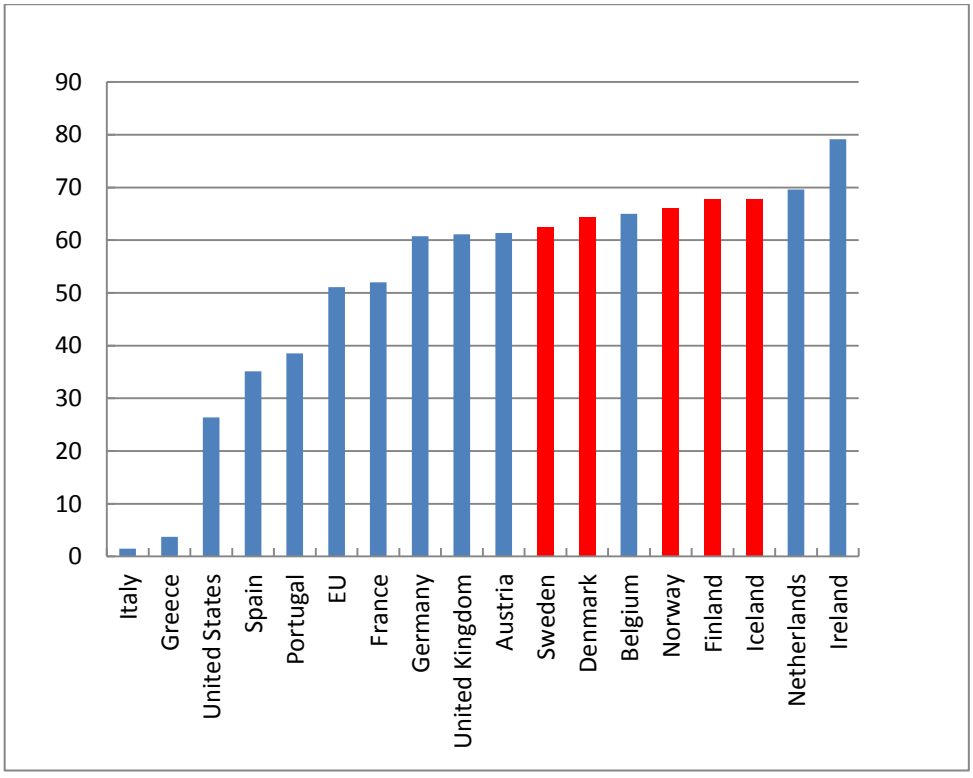
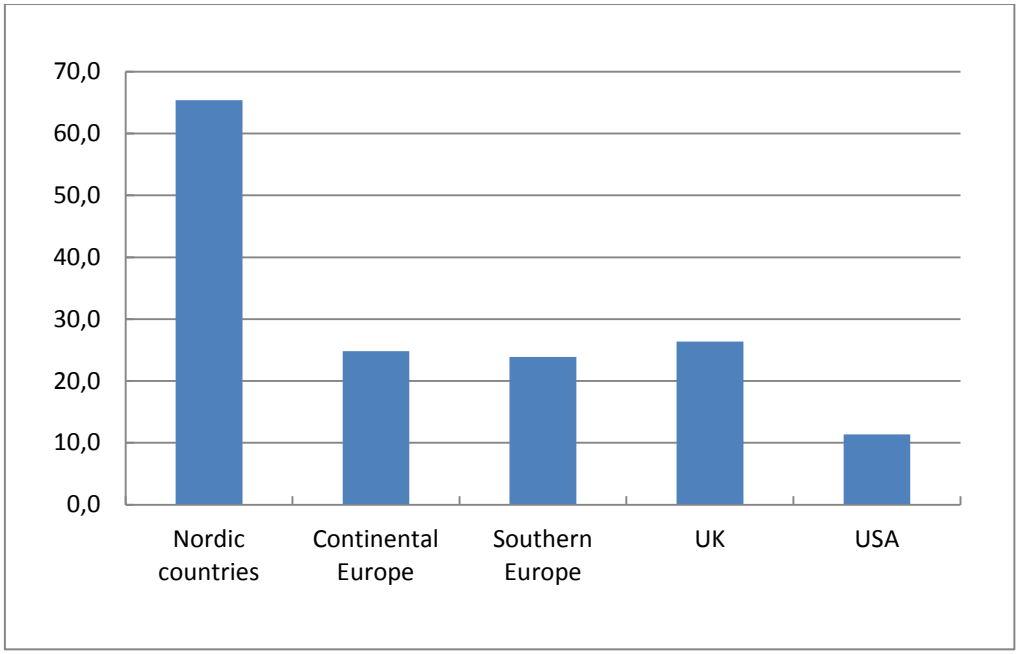

90
80
70
60
50
40
30
20
10
0
Italy
Greece
United States
Spain
Portugal
EU
France
Germany
United Kingdom
Austria
Sweden
Denmark
Belgium
Norway
Finland
Iceland
Netherlands
Ireland

Figure 6 Trade union density, percentage of employees, 2010

(a)



(b)

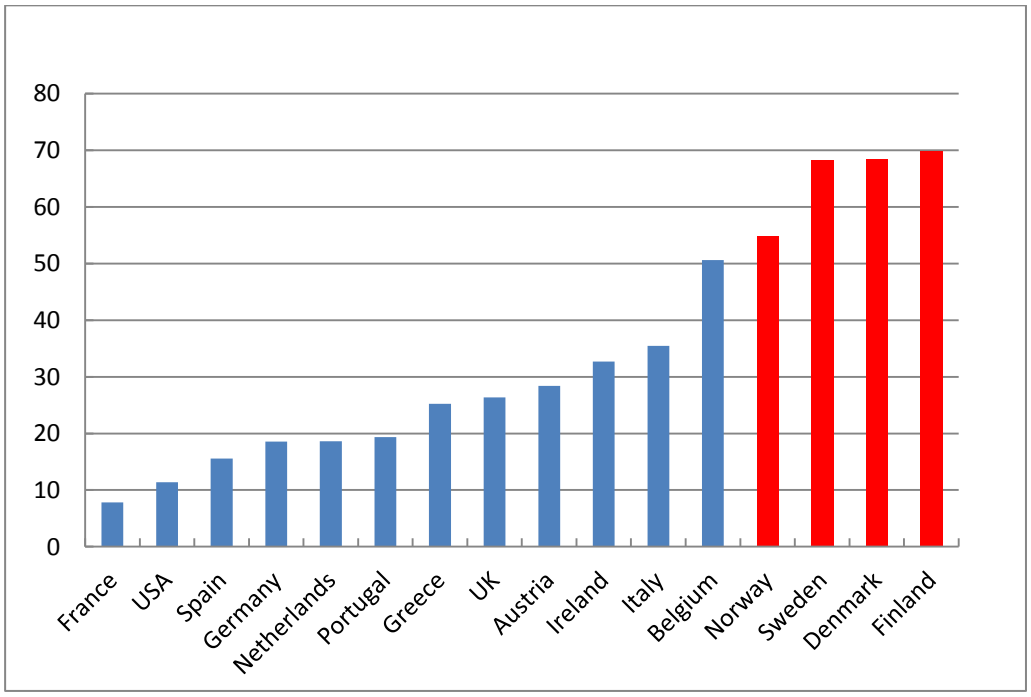
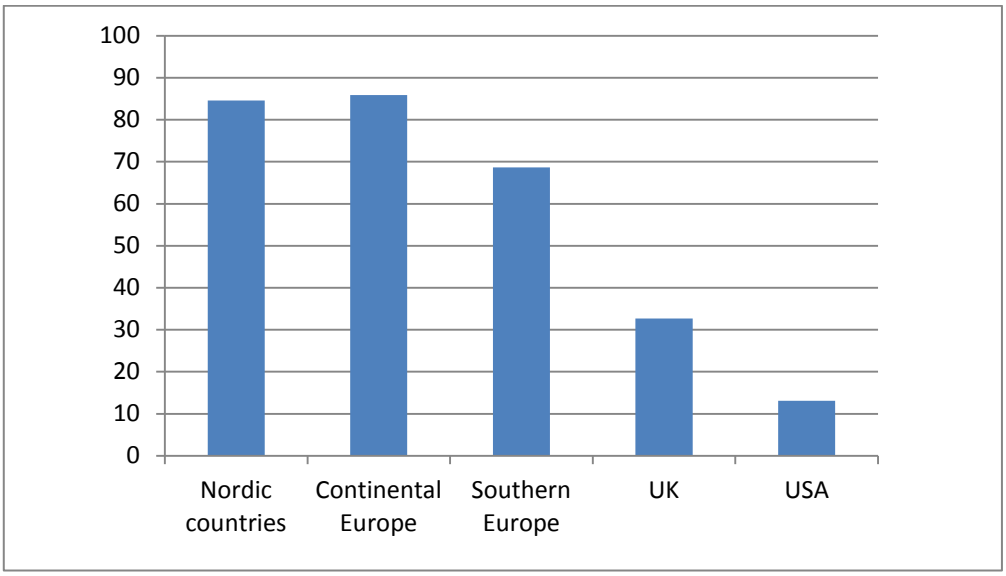
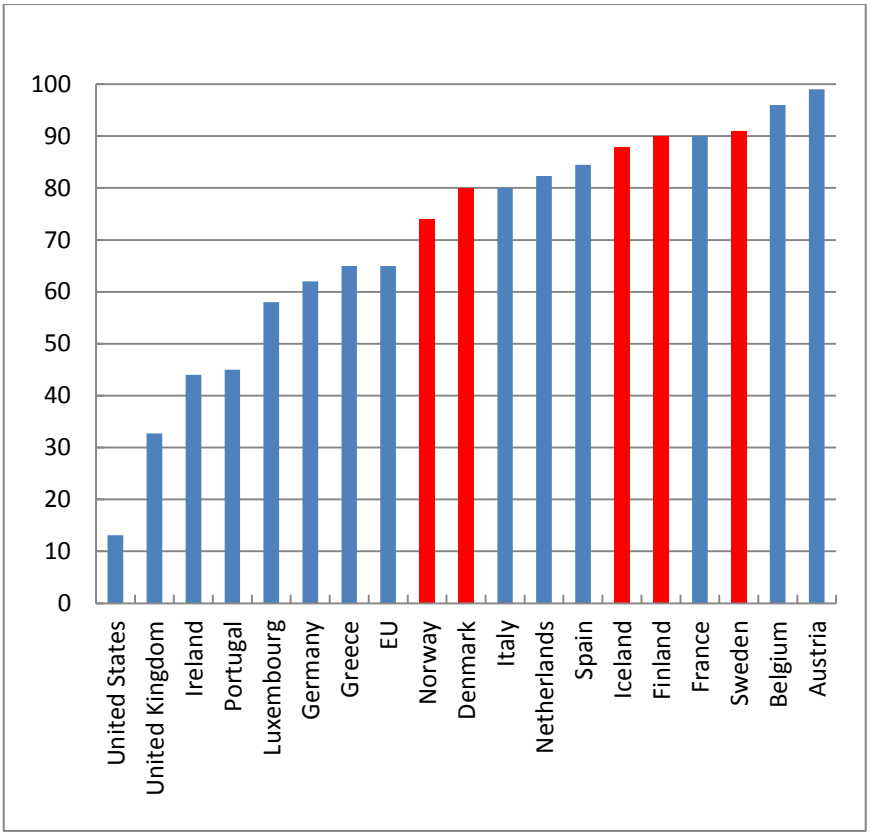


Figure 7 Coverage of collective bargaining agreements, percentage of employees, 2010 or latest

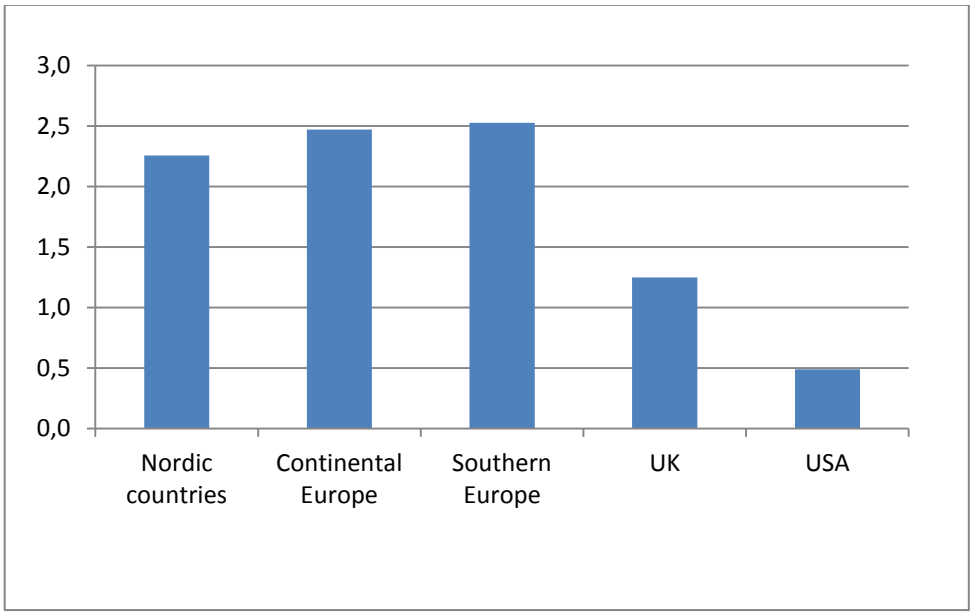
(a)



(b)



(a)


3,0
2,5
2,0
1,5
1,0
0,5
0,0
Nordic countries
Continental Europe
Southern Europe
UK
USA

(b)

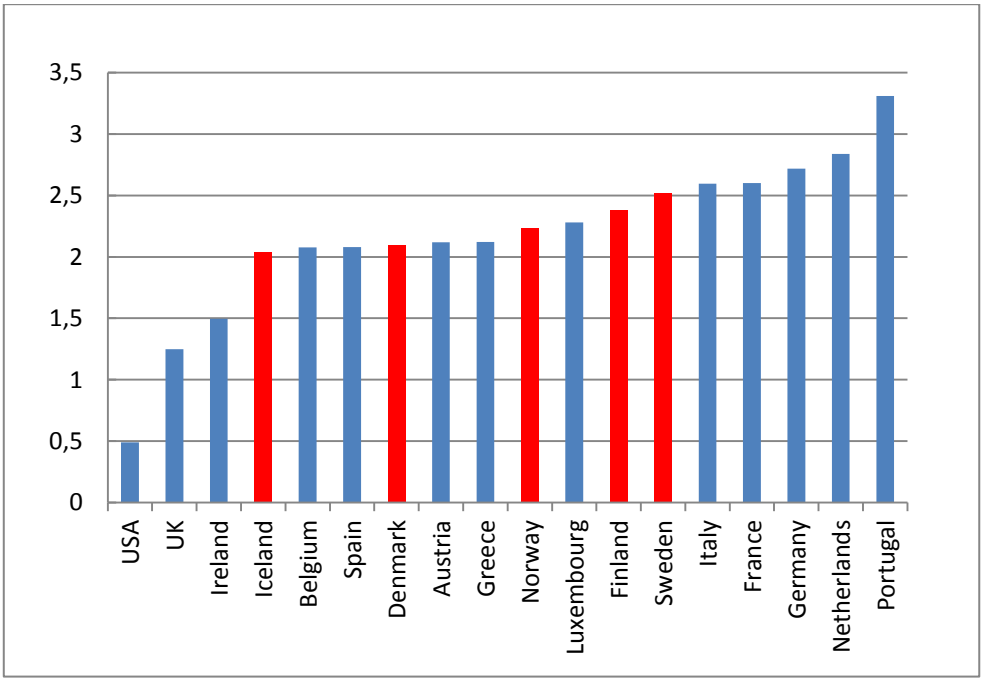
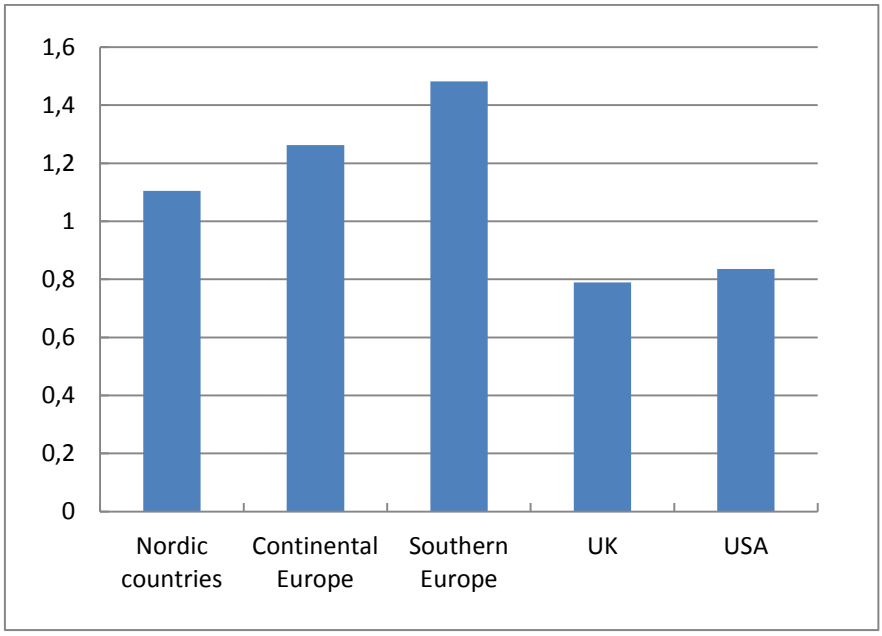

3,5
3
2,5
2
1,5
1
0,5
0
USA
UK
Ireland
Iceland
Belgium
Spain
Denmark
Austria
Greece
Norway
Luxembourg
Finland
Sweden
Italy
France
Germany
Netherlands
Portugal

Figure 9 Product market regulation, 2008

(a)



(b)

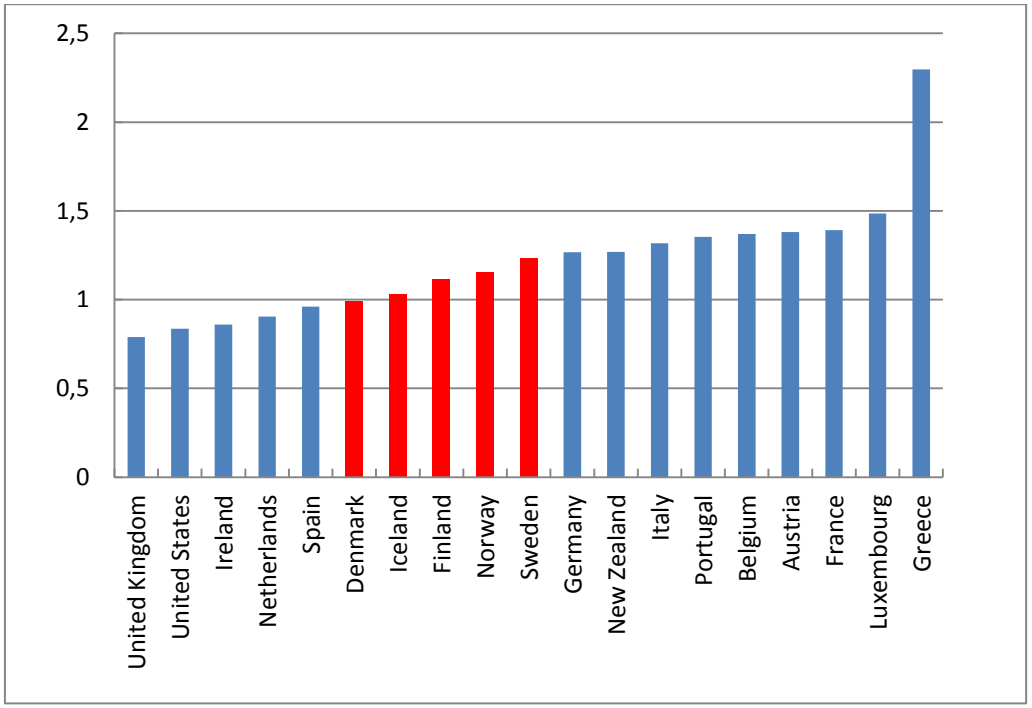
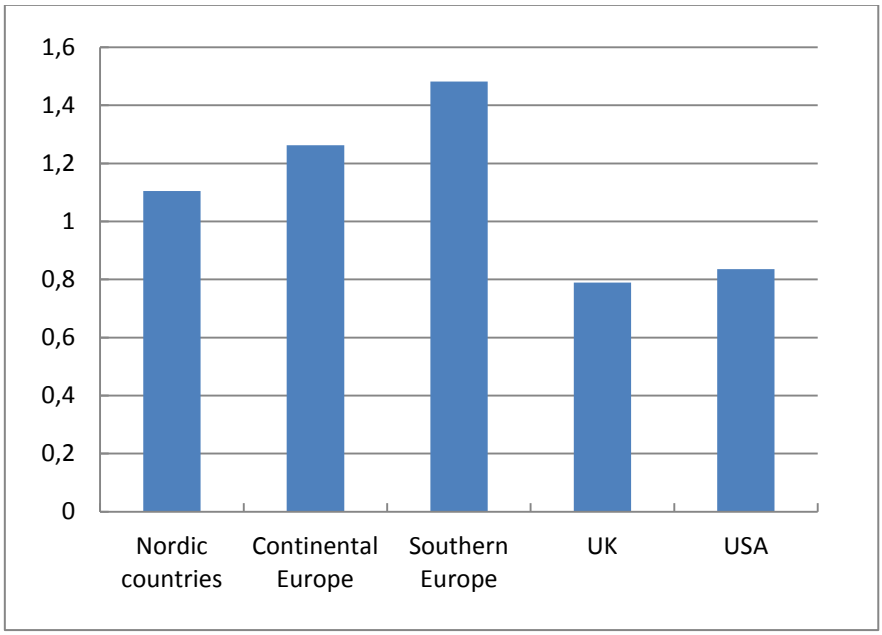


Figure 10 Sum of exports and imports, percentage of GDP, 2011

(a)



(b)

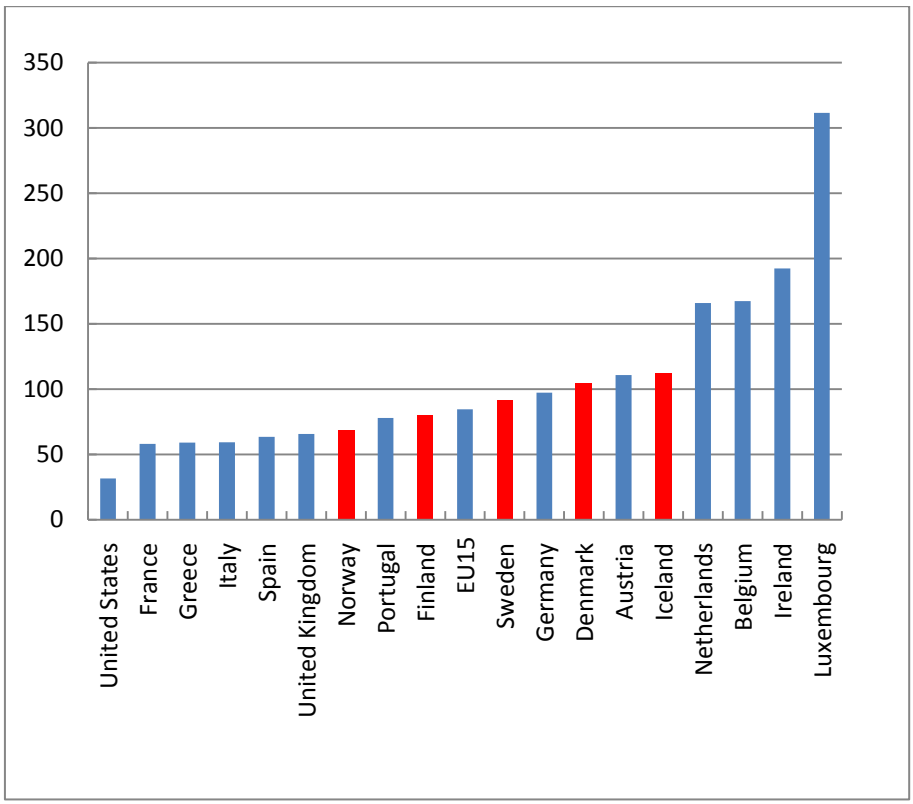
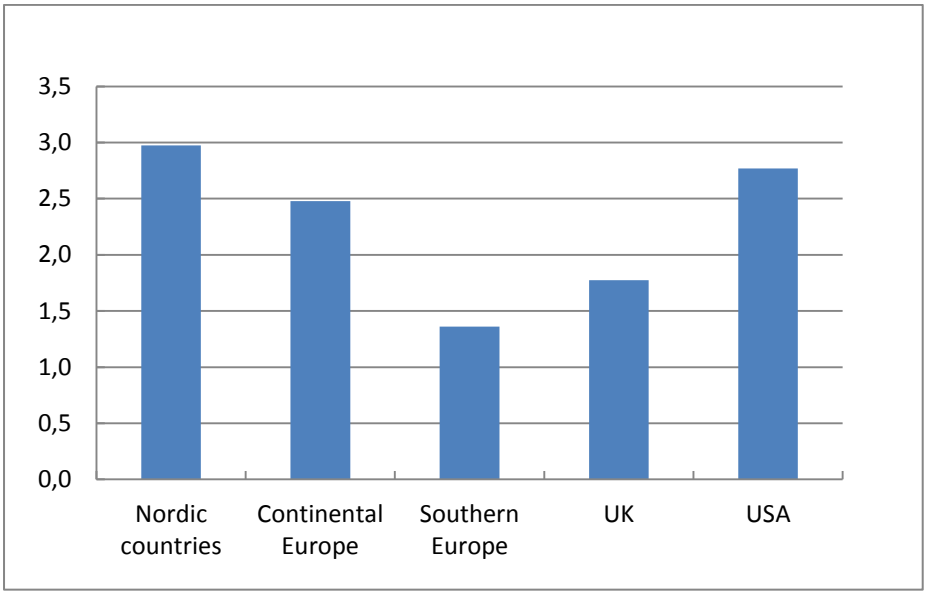


Figure 11 R&D expenditure, percentage of GDP

(a)



(b)

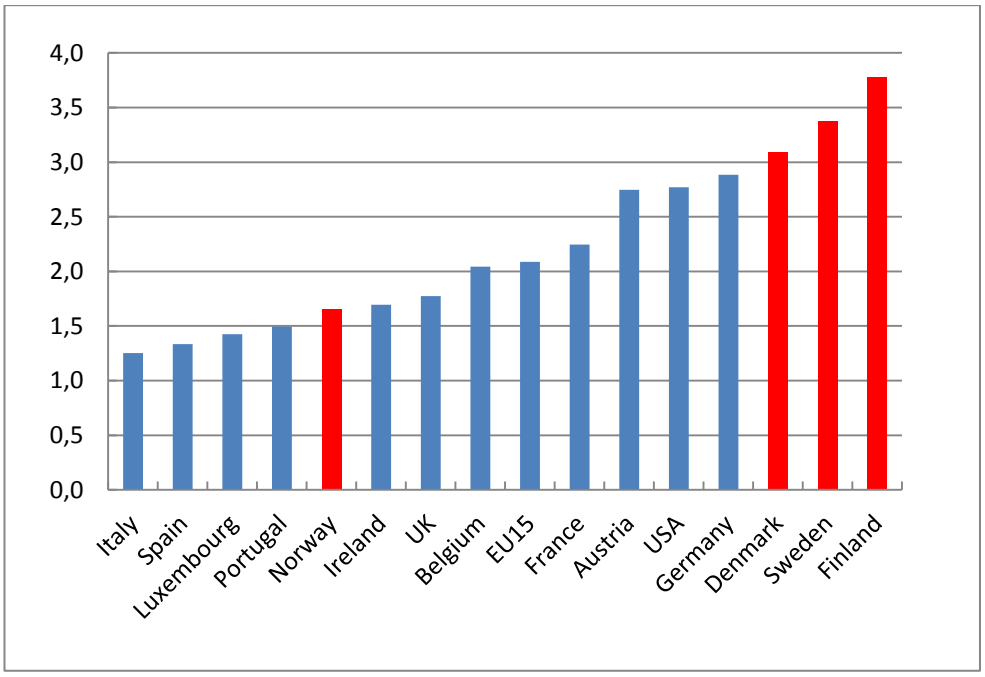
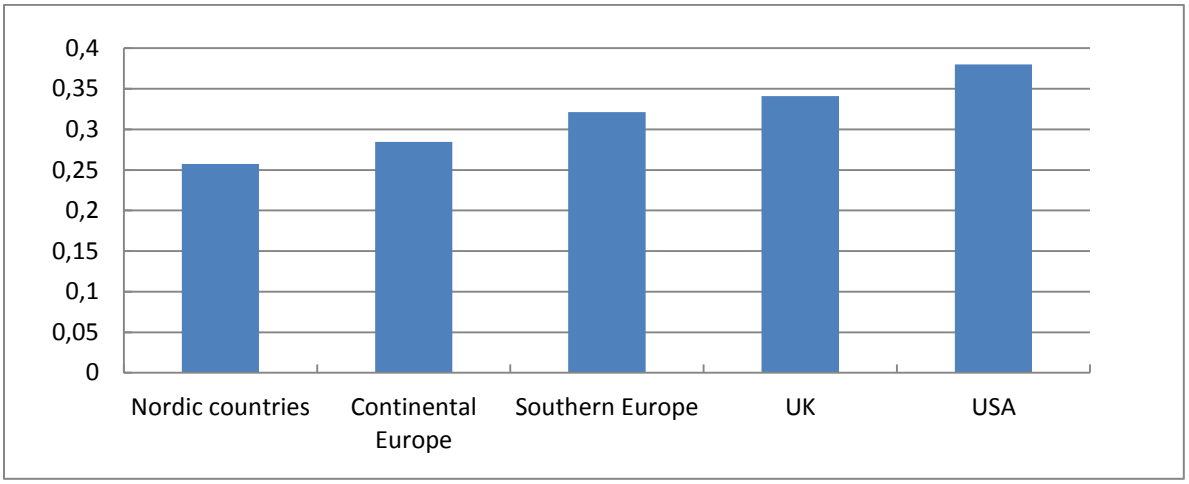


Figure 12 Gini coefficient, disposable income households, 2010

(a)



(b)

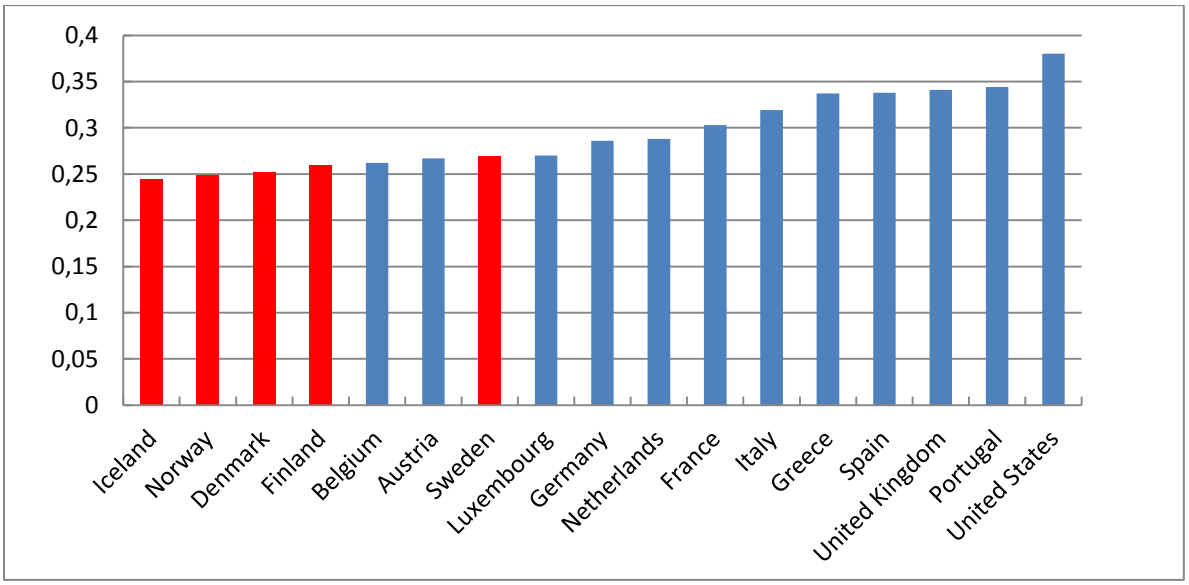
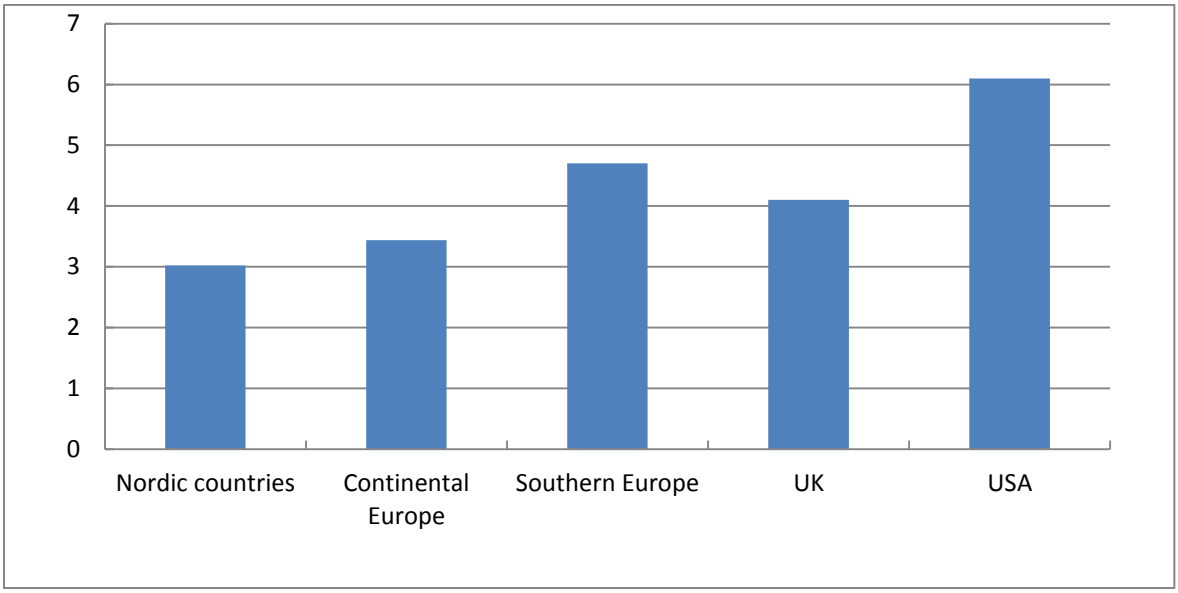


Figure 13 P90/P10 percentile ratio, disposable income, households, 2010

(a)



(b)

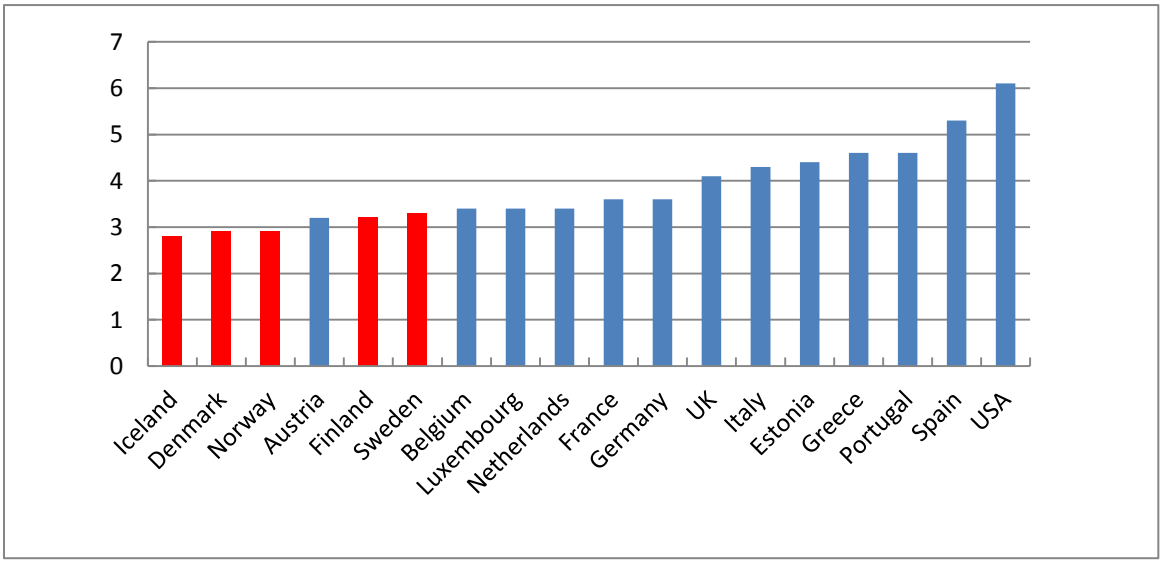
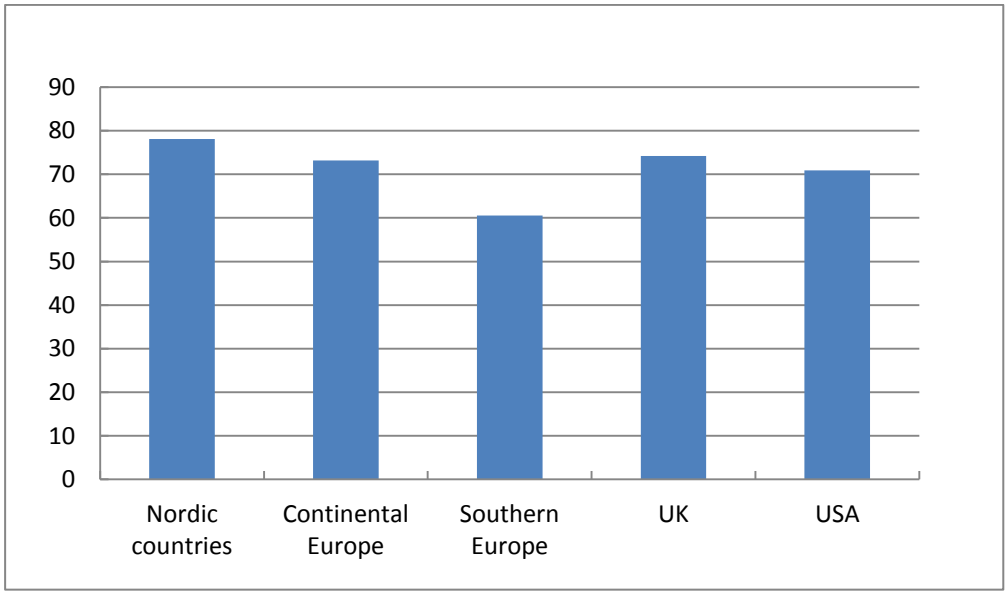


Figure 14 Employment rate, percentage of population, 20-64 years old, 2012

(a)



(b)

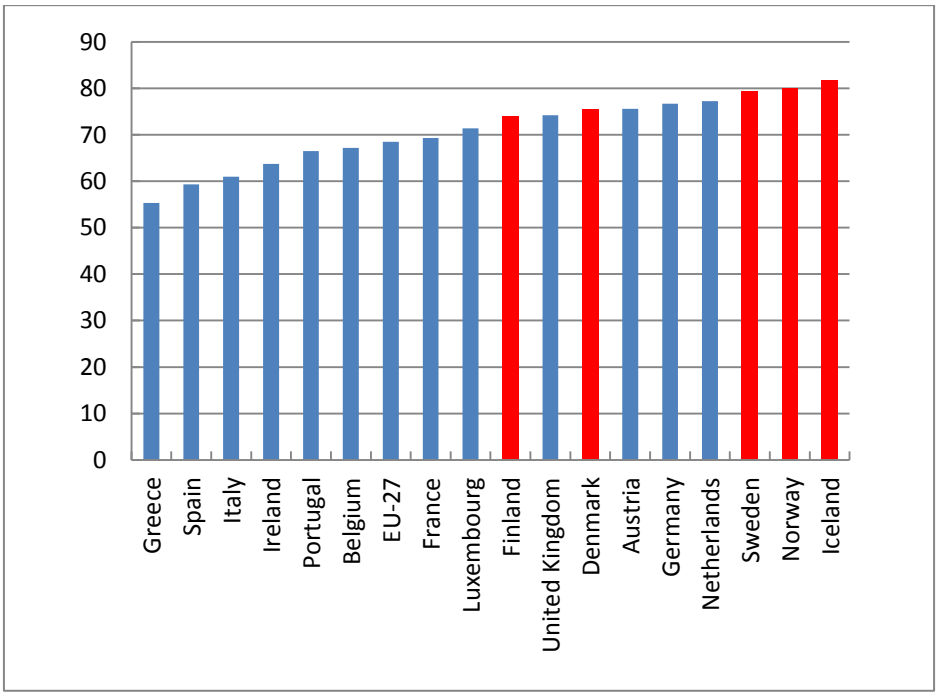
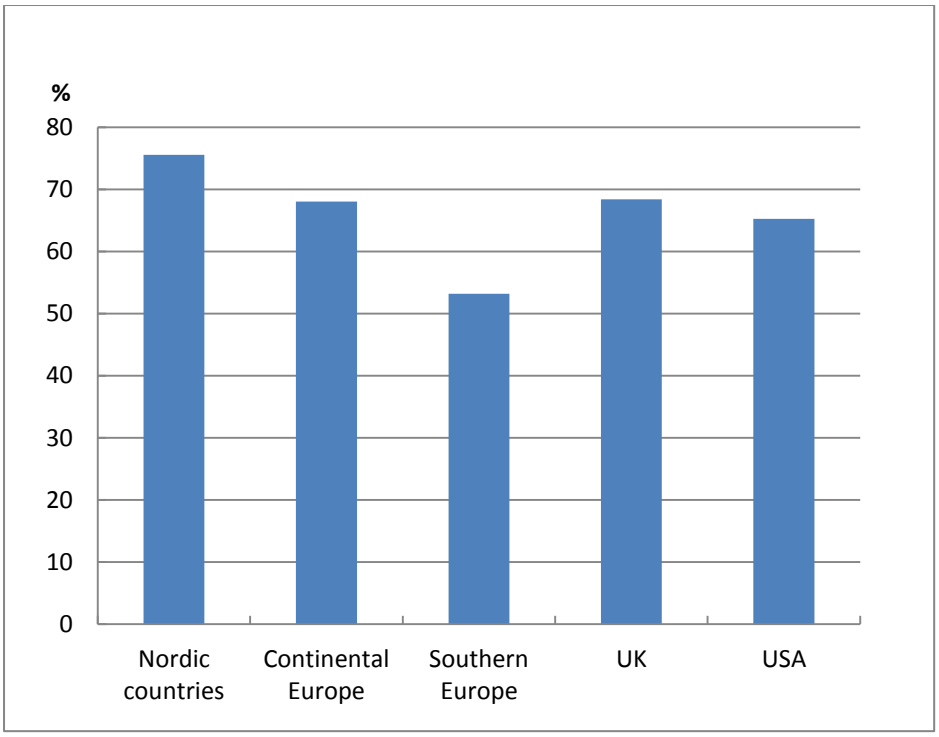


Figure 15 Employment rate, percentage of females, 2012

(a)



(b)

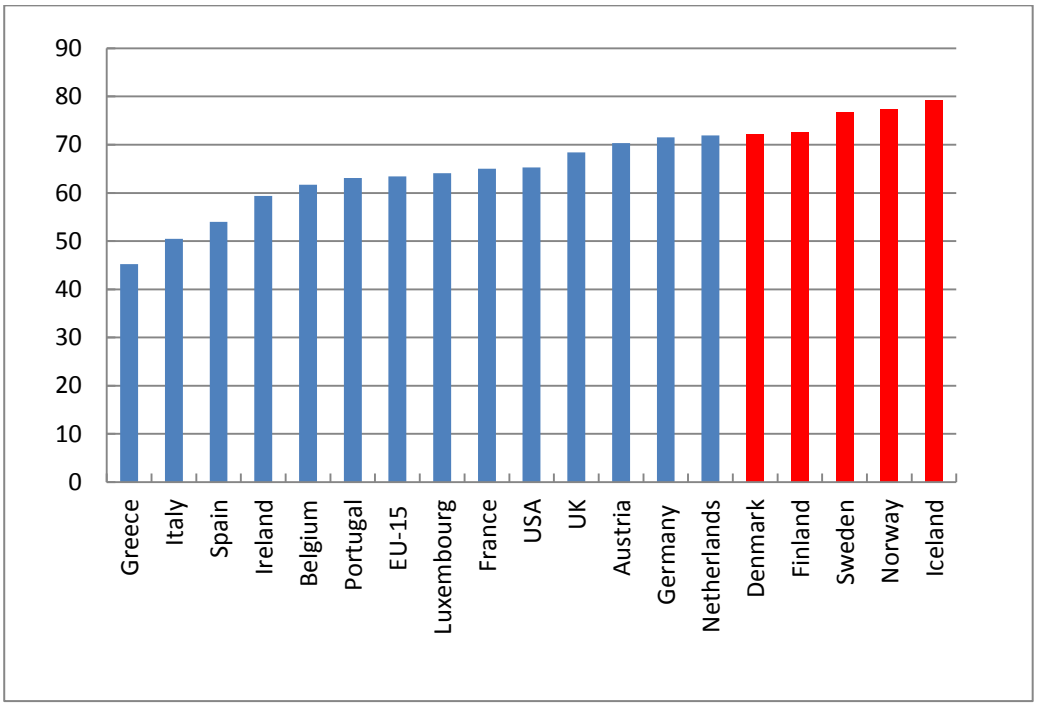
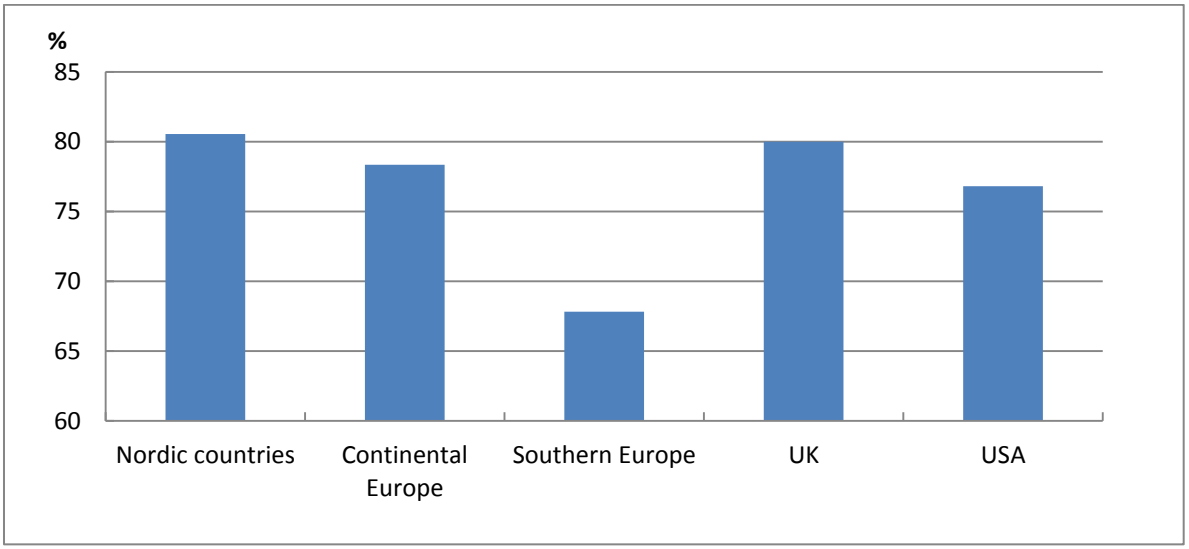


Figure 16 Employment rate, percentage of males, 2012

(a)



(b)

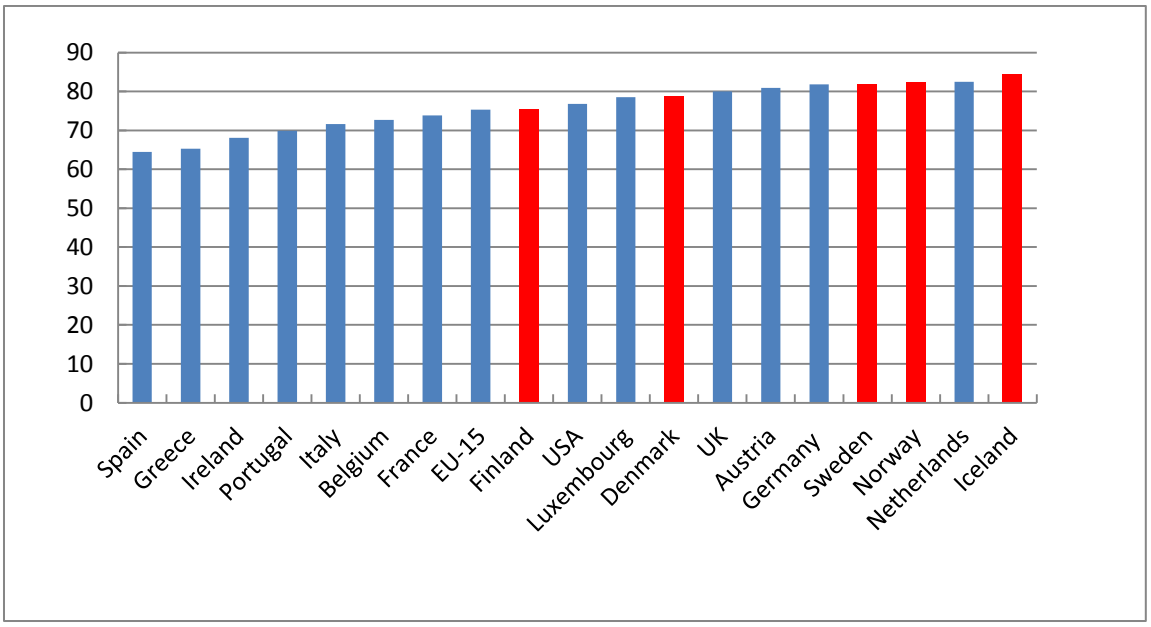
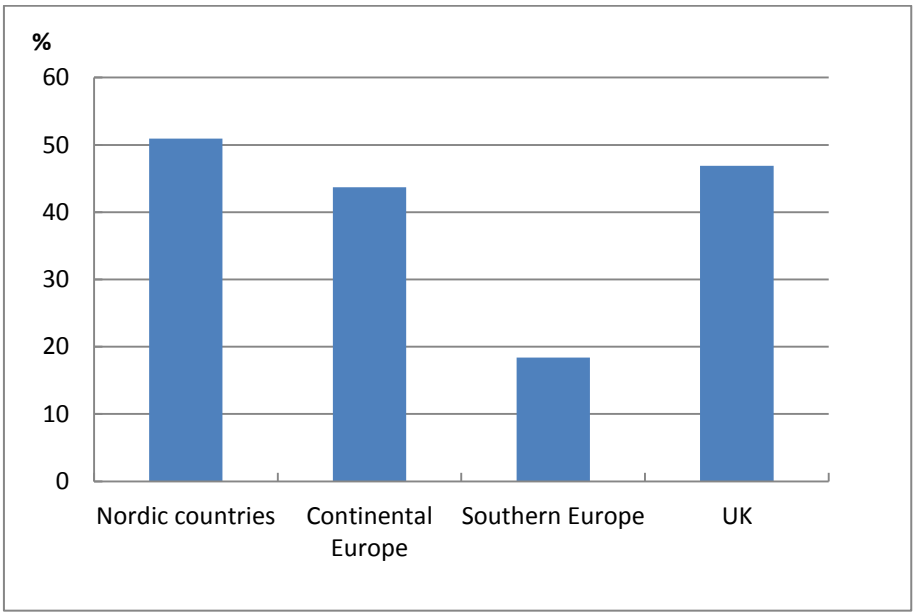


Figure 17 Employment rate, percentage of population 15-24 years old, 2012

(a)



(b)

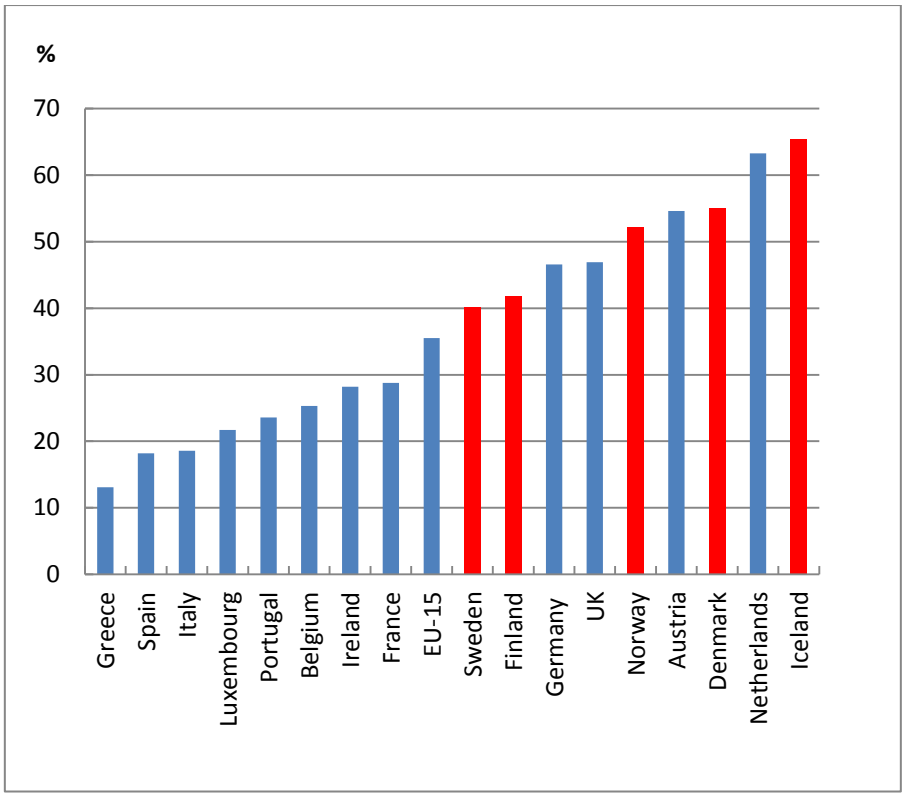
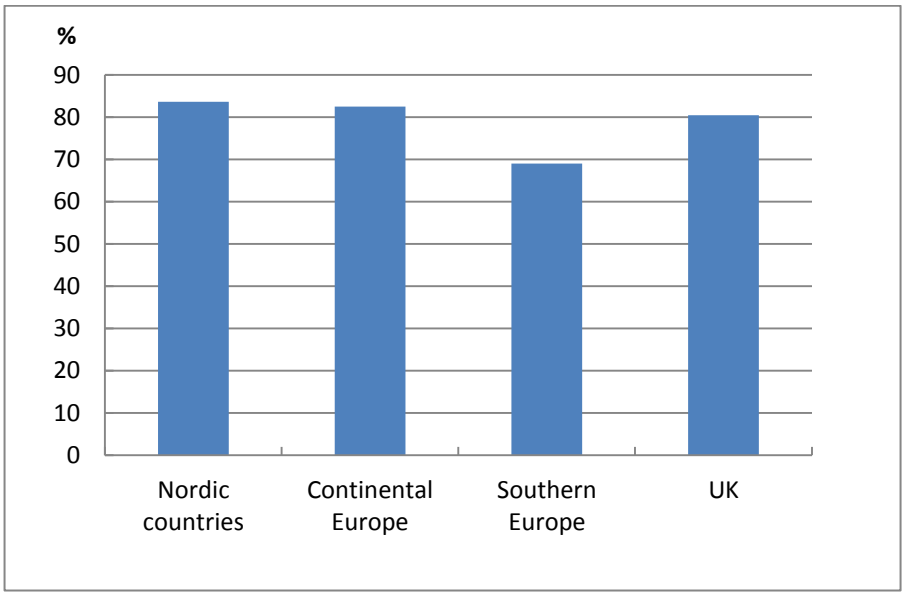


Figure 18 Employment rate, percentage of population 25-54 years, 2012

(a)



(b)

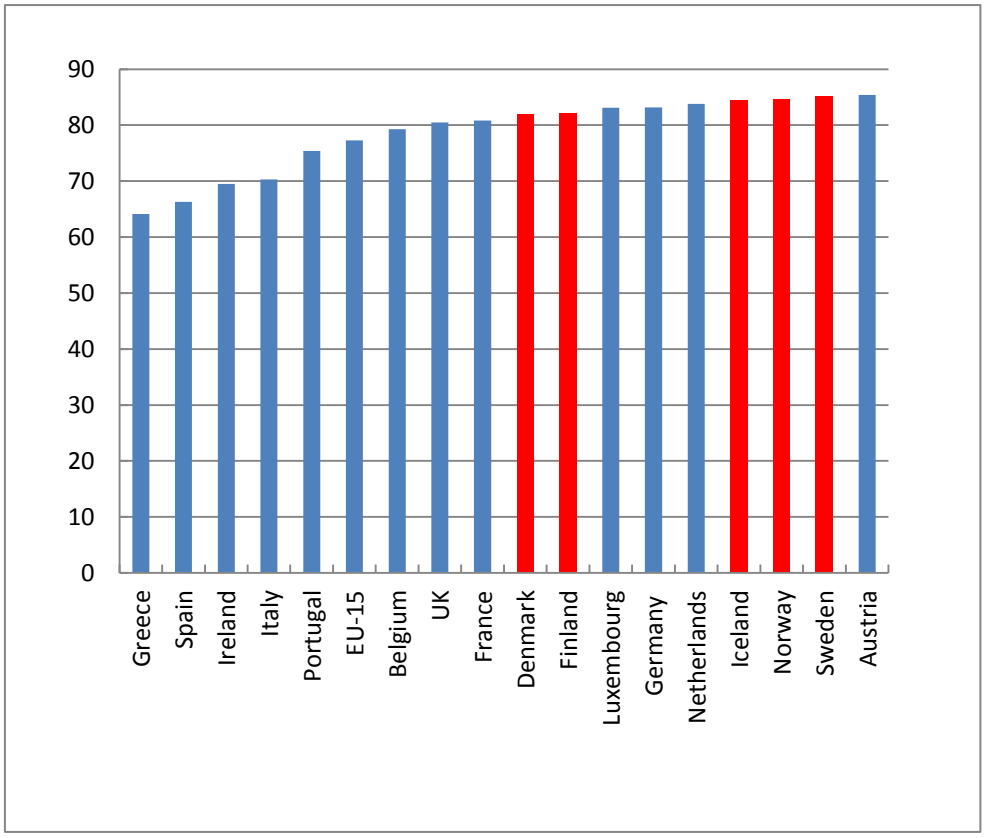
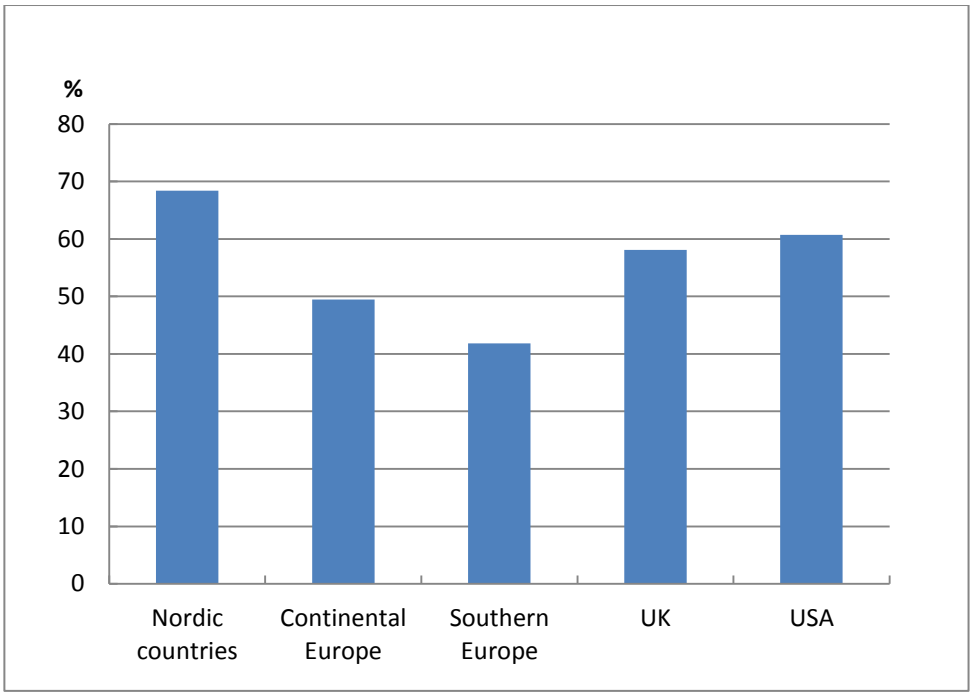


Figure 19 Employment rate, percentage of population 55-64 years, 2012

(a)



(b)

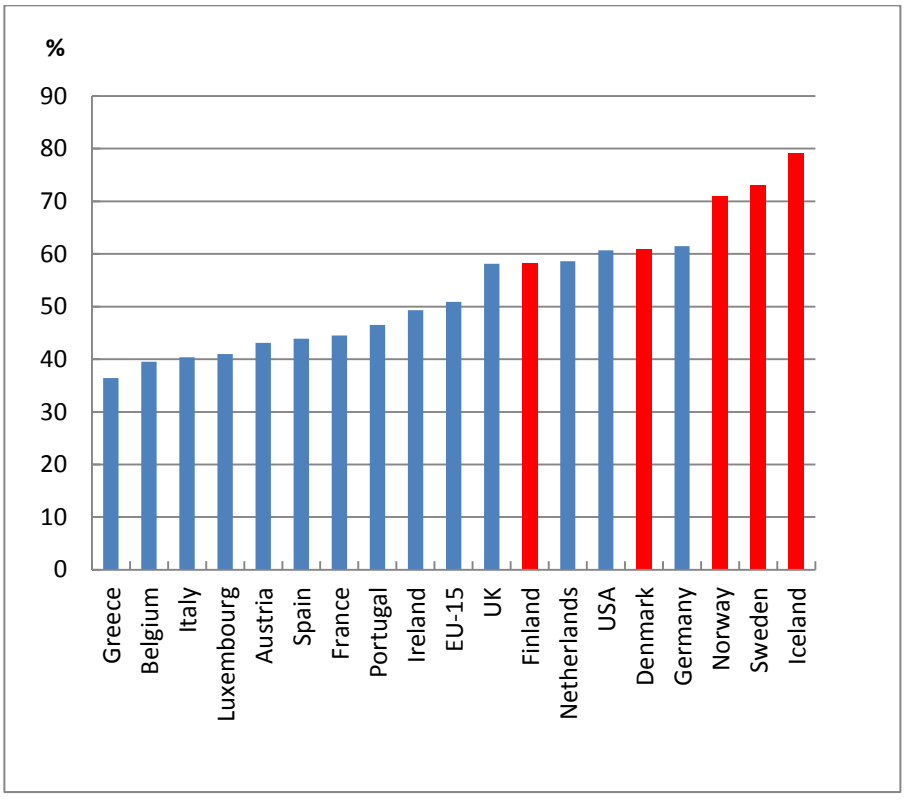
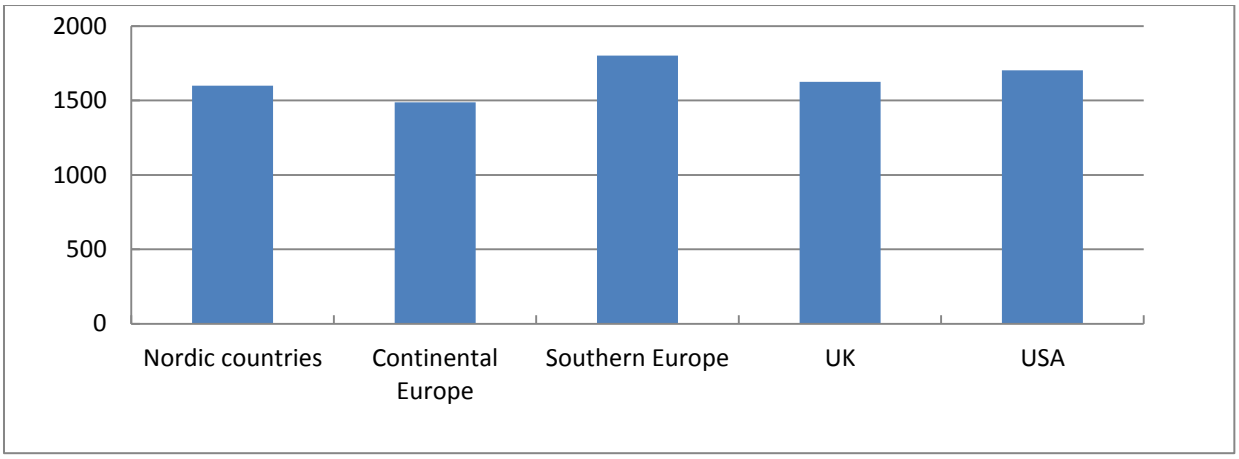


Figure 20 Annual hours worked per employed, 2011

(a)



(b)

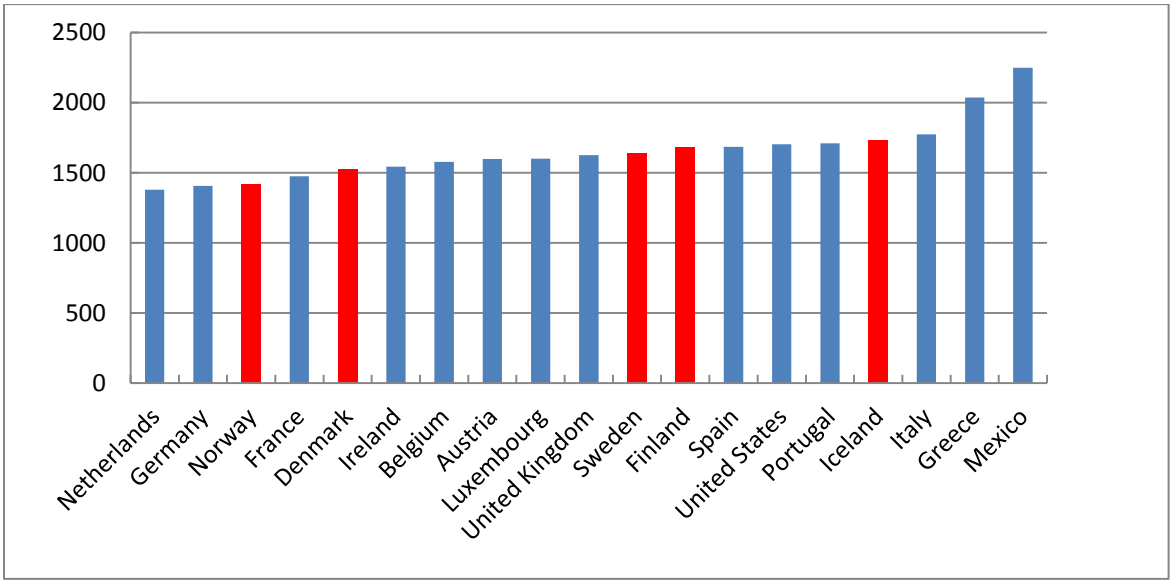
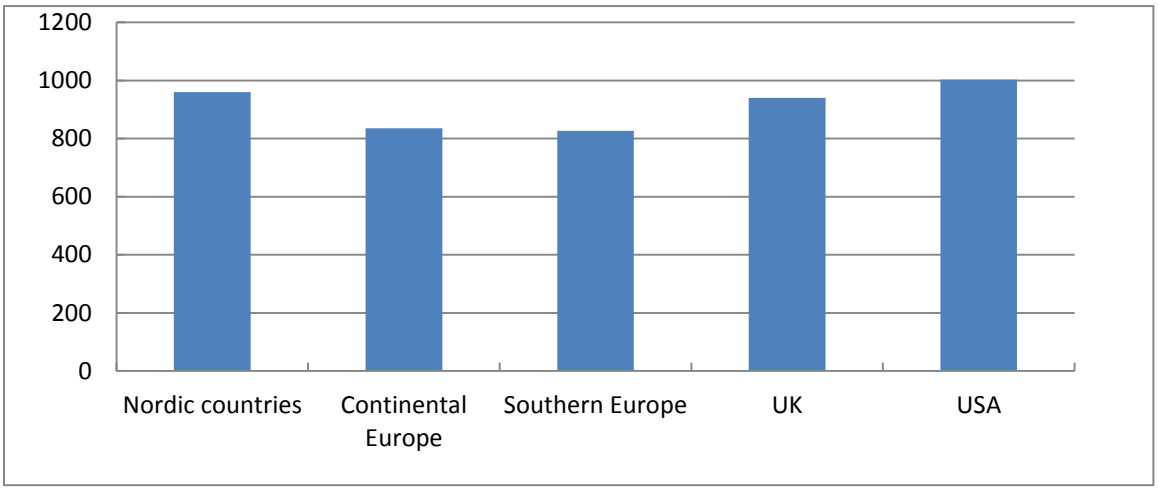


Figure 21 Annual hours worked per person of 20-64 years, 2012

(a)



(b)

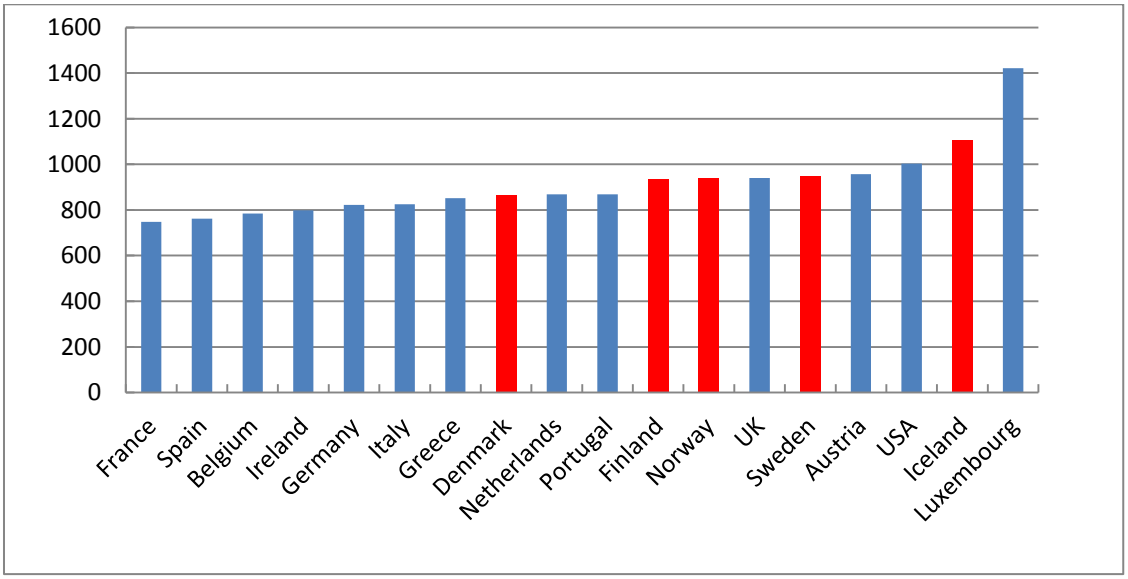
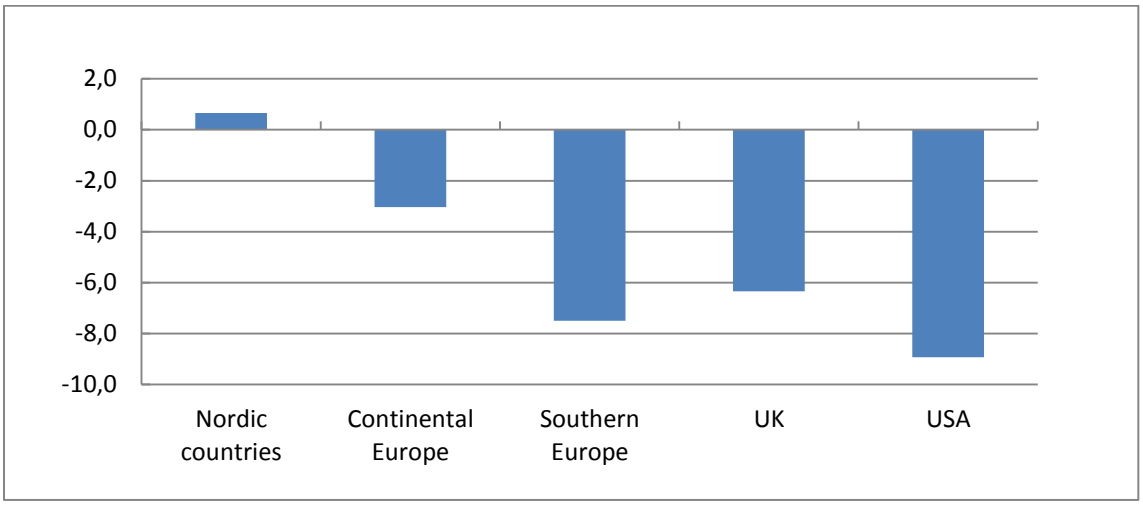


Figure 22 Government net lending, per cent of GDP, 2012

(a)



(b)

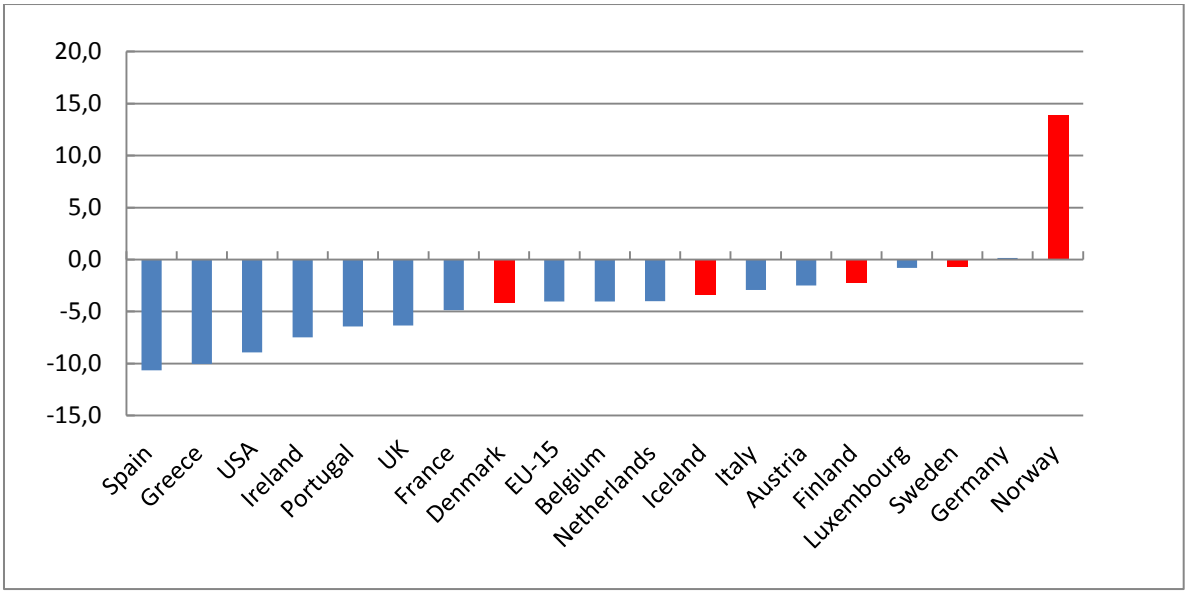
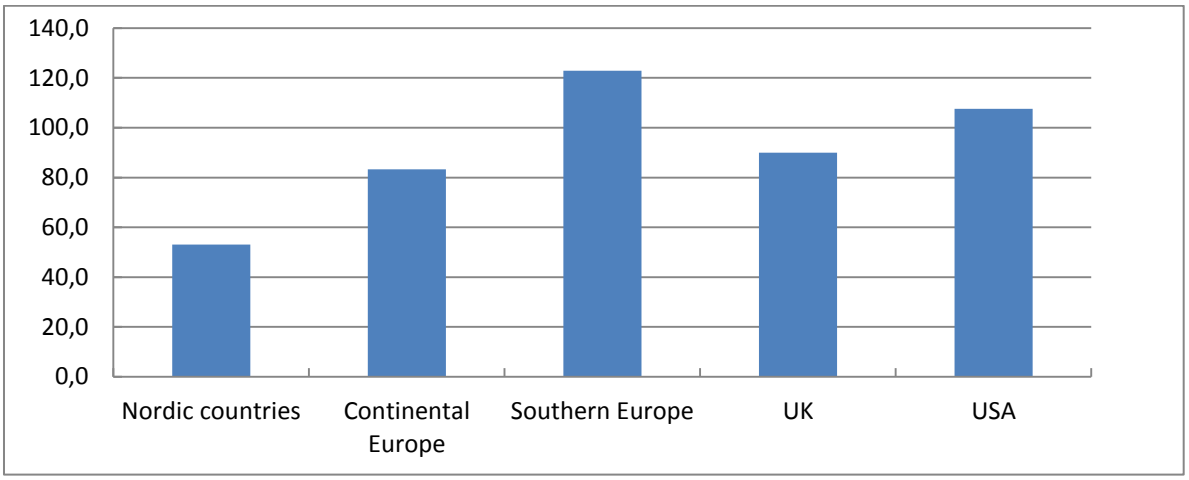


Figure 23 Government consolidated gross debt, per cent of GDP, 2012

(a)



(b)

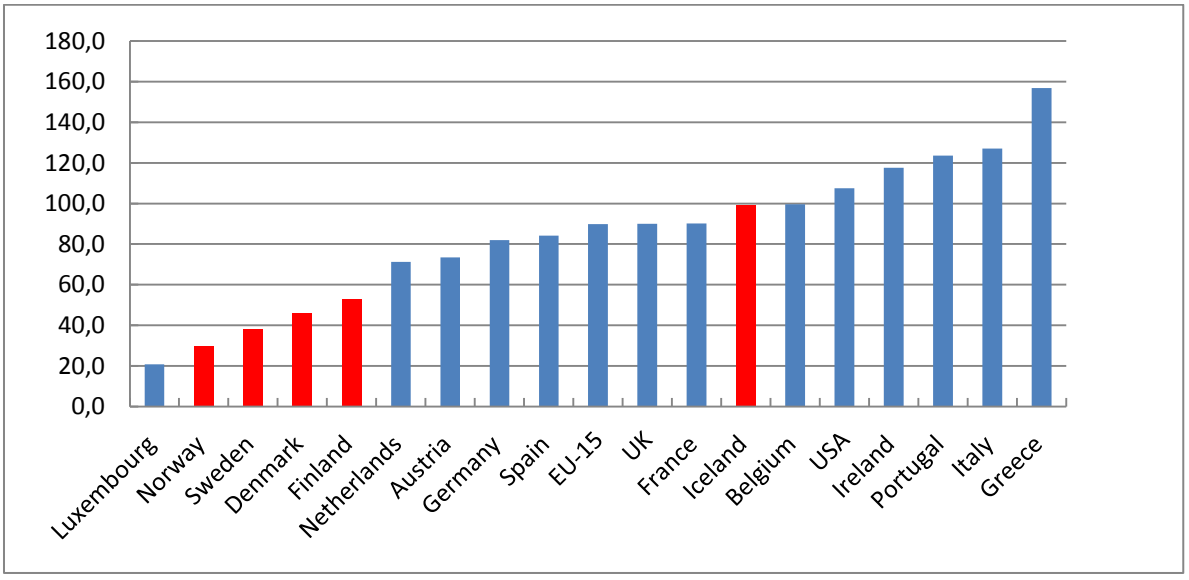
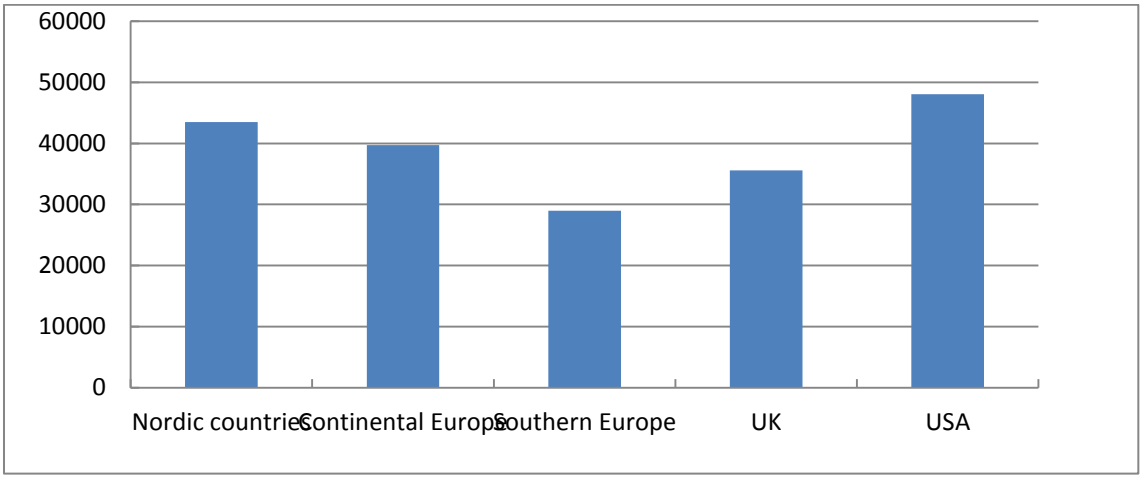


Figure 24 GDP per capita PPP-adjusted, 2011

(a)



(b)

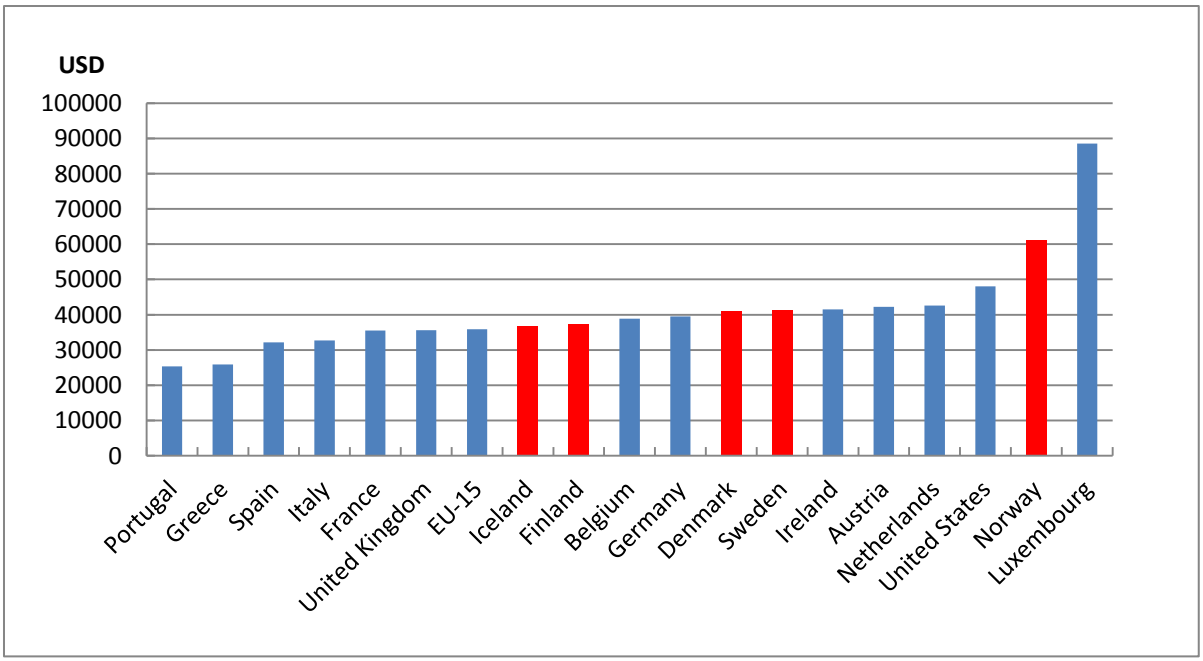


Figure 25 GDP, 1991=100

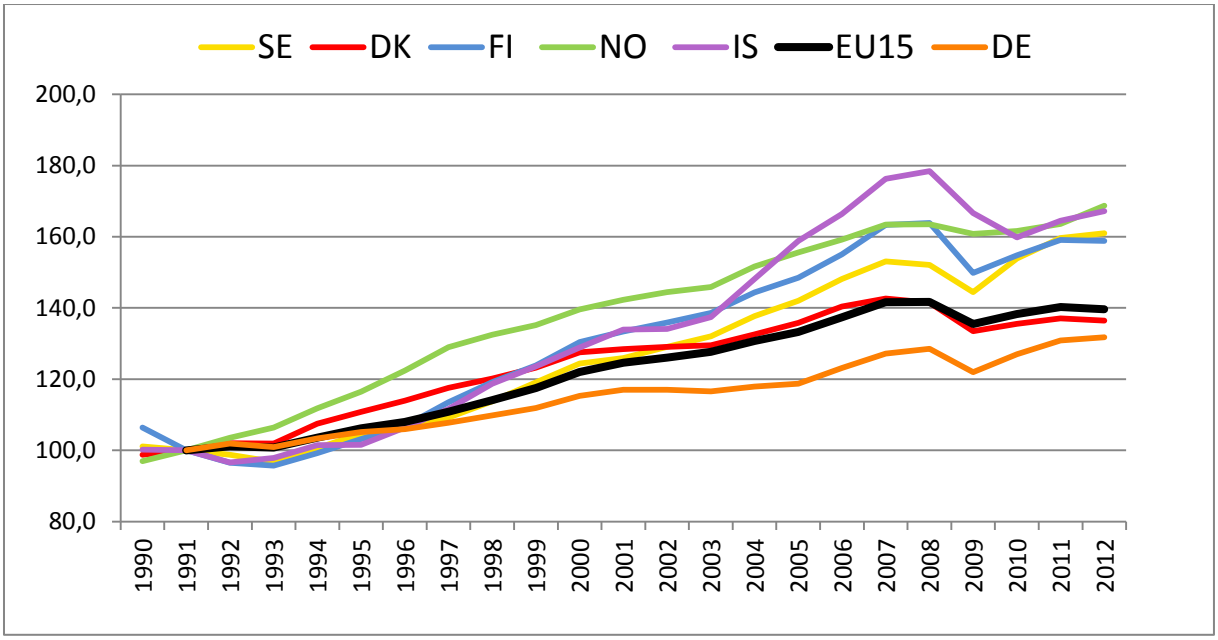


Figure 26 Labour productivity: GDP per employed person, 1991=100

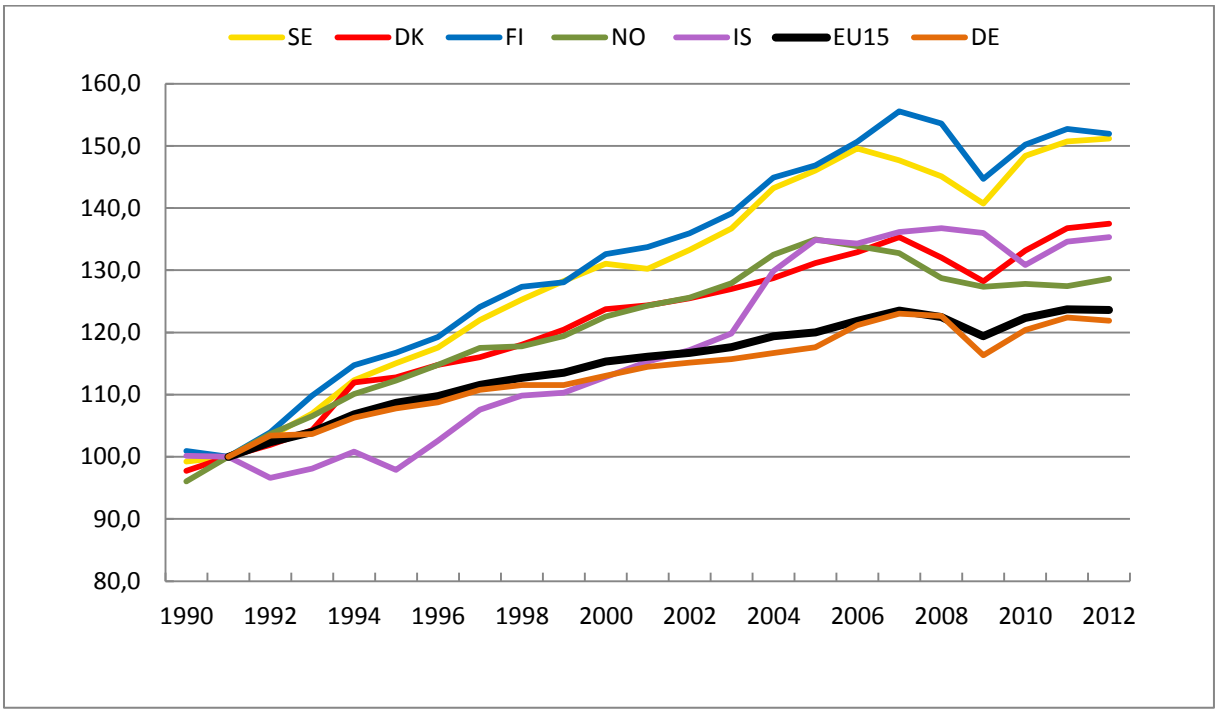


Figure 27 Labour productivity: GDP per hour, 1990=100

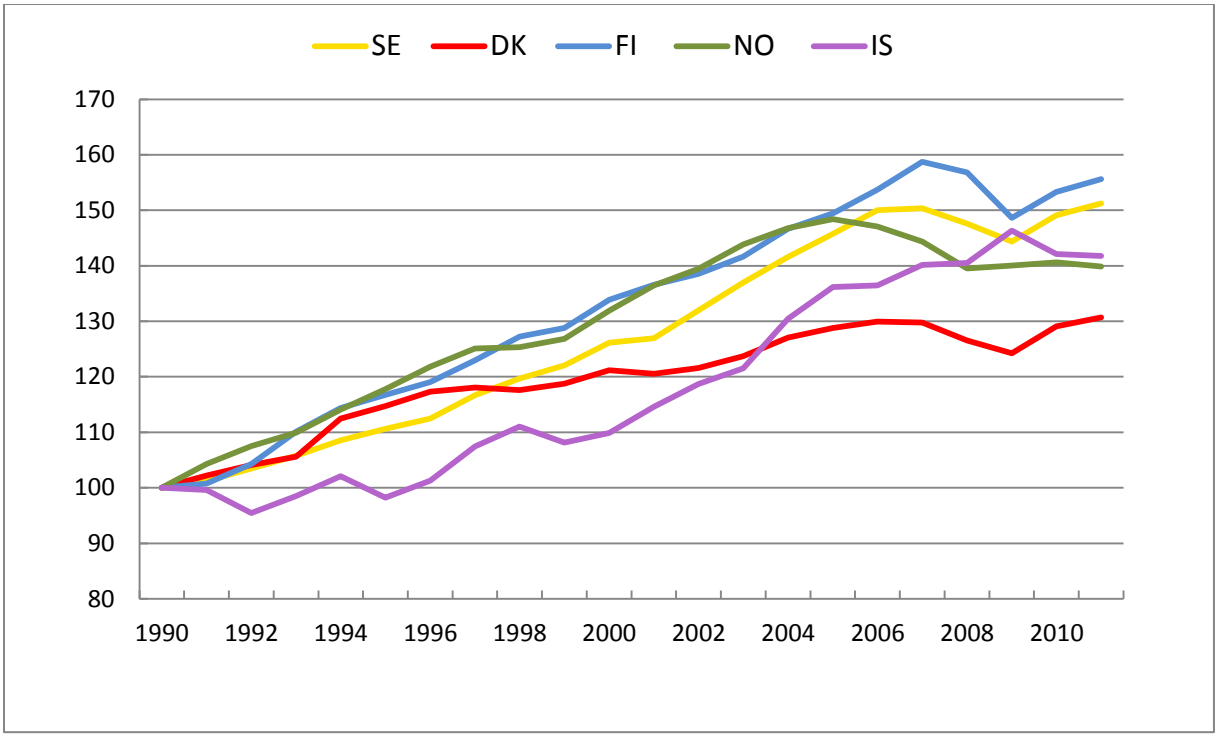


Figure 28 Employment, percentage of population 16-64 years

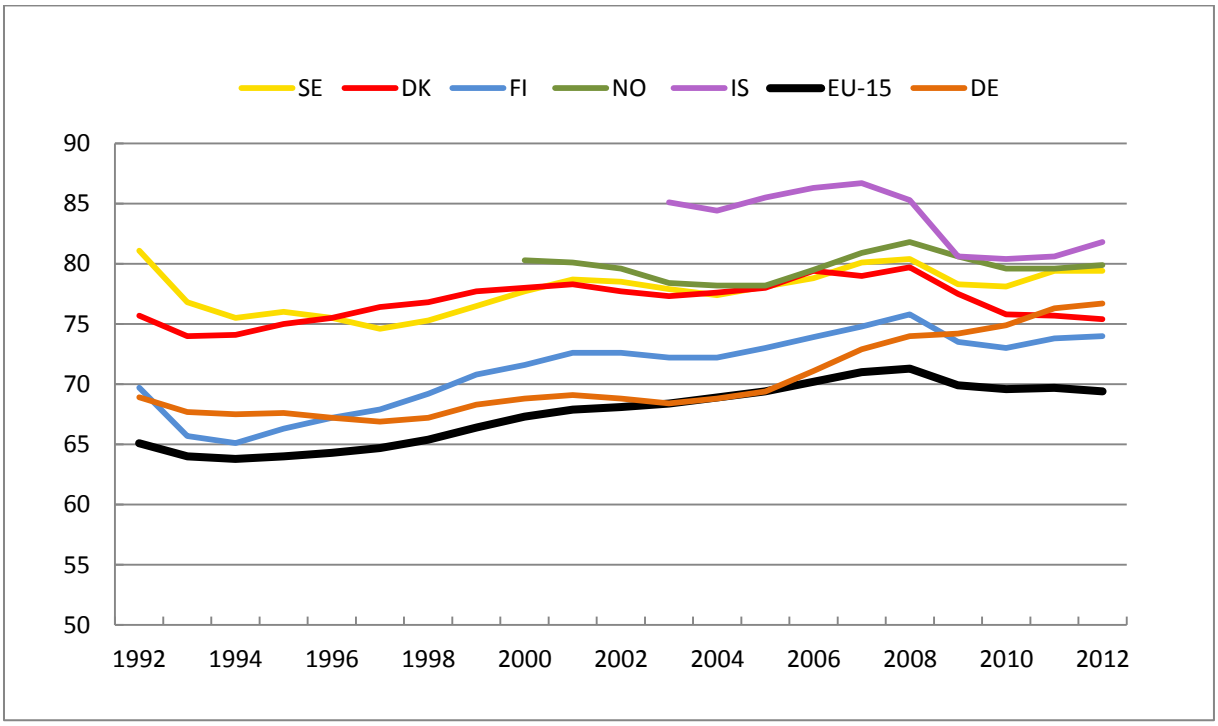


Figure 29 Unemployment, per cent of labour force

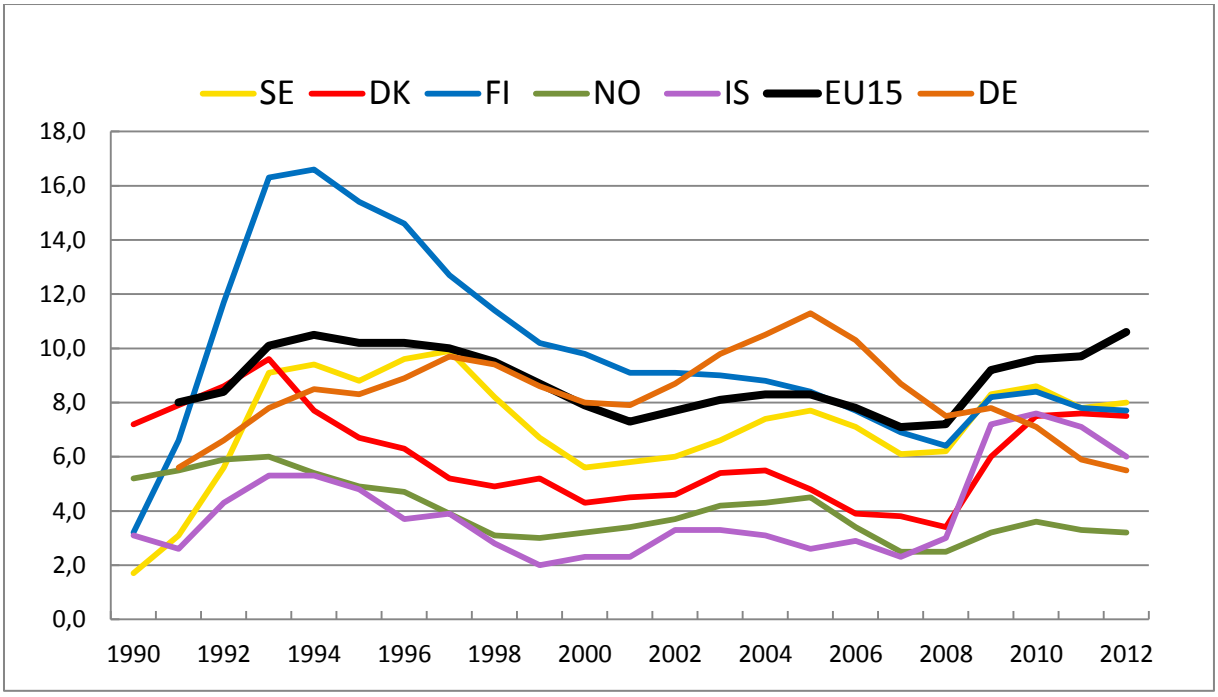


Figure 30 Youth unemployment, per cent of labour force 16-24 years

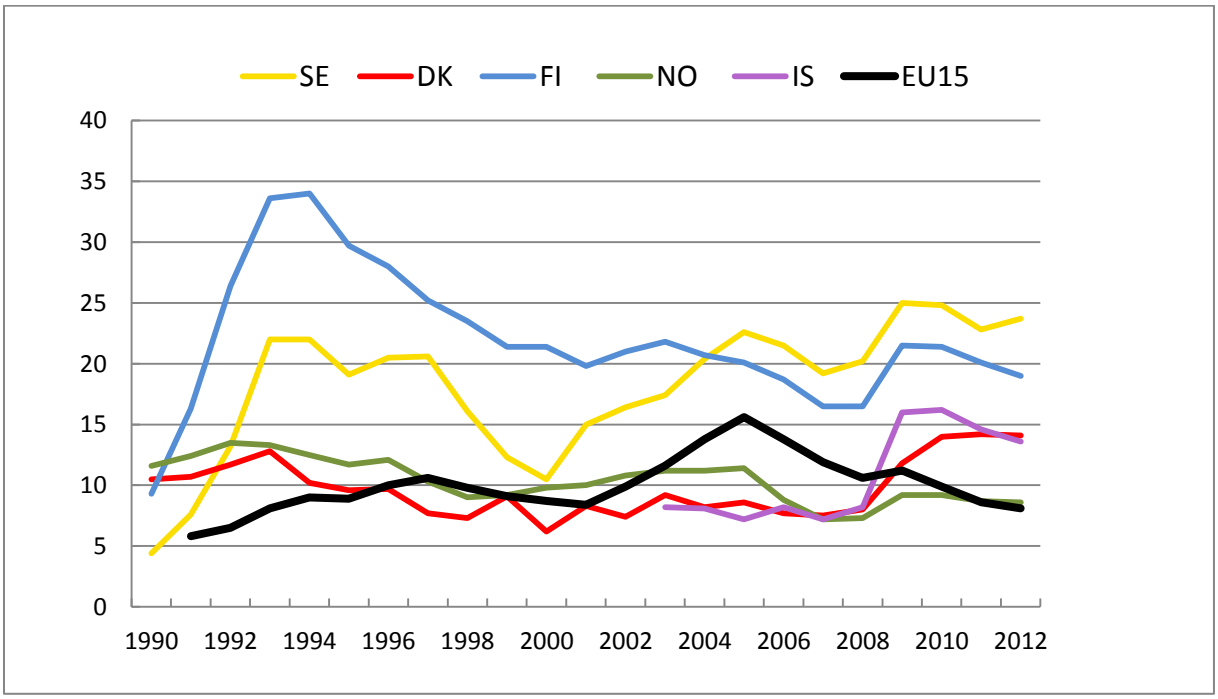


Figure 31 Unemployment of unskilled workers, per cent of labour force

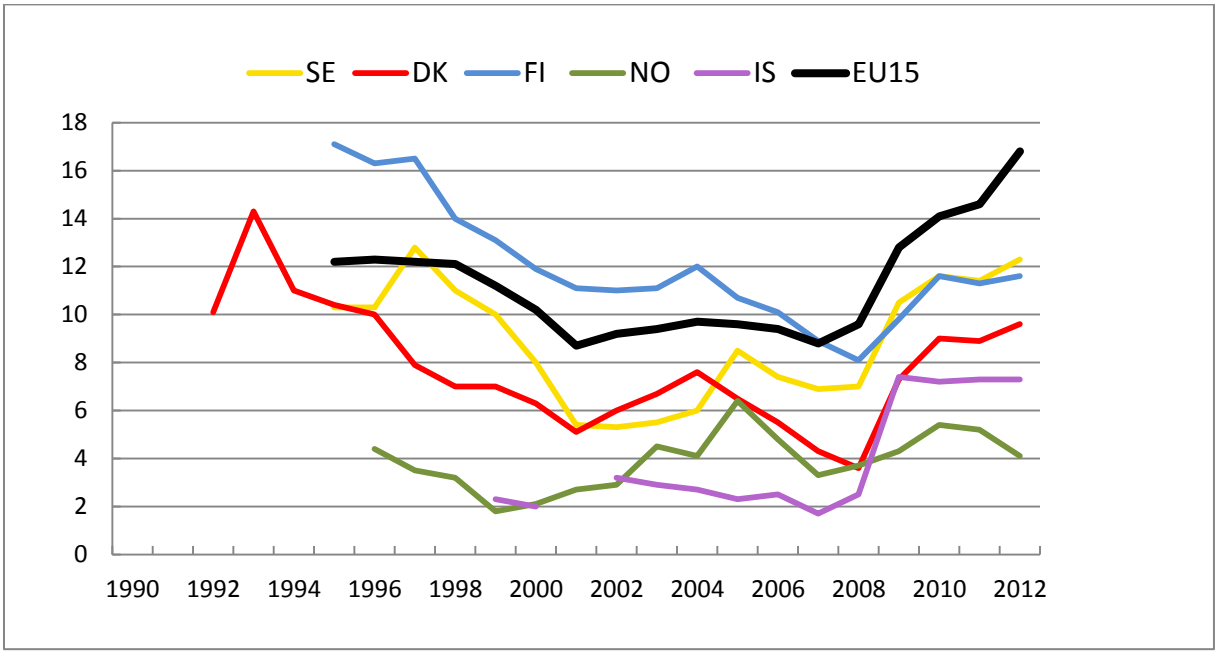


Figure 32 Long-term unemployment, per cent of labour force

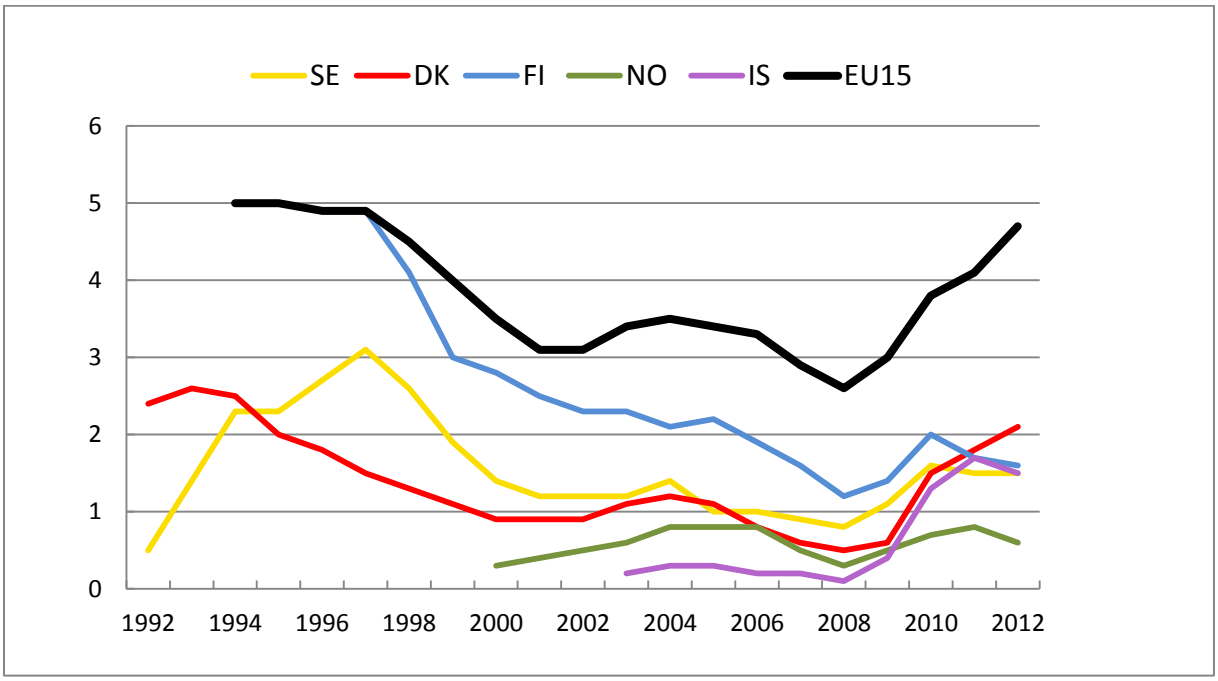


Figure 33 Government net lending, per cent of GDP

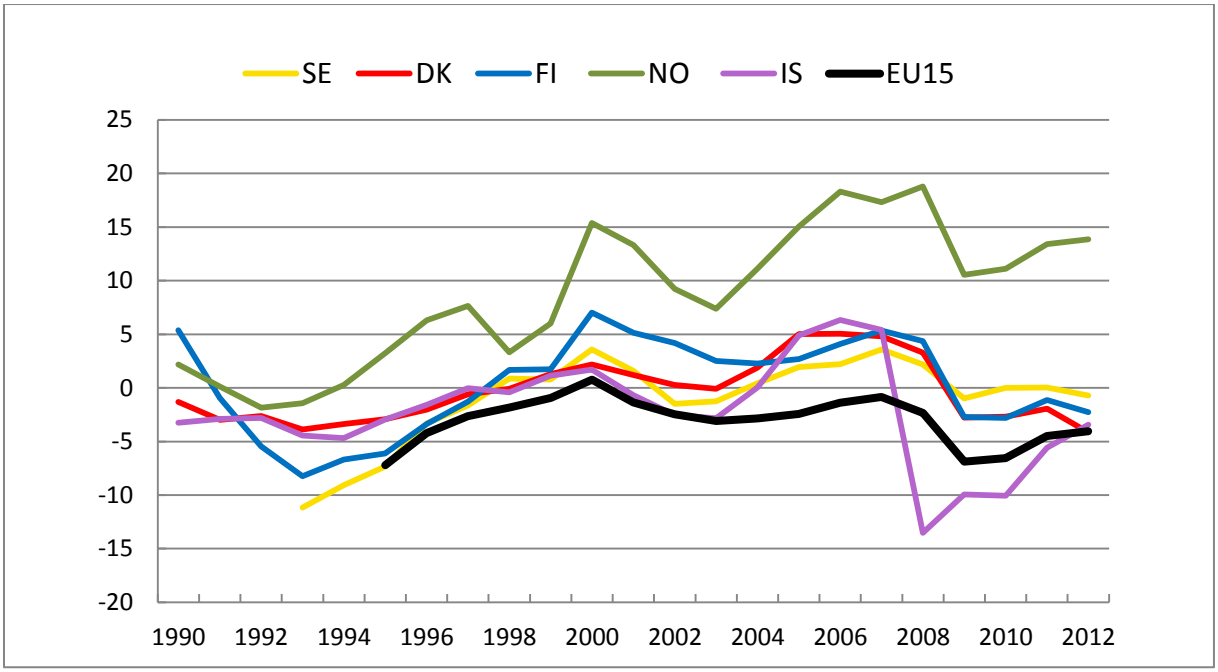


Figure 34 General government net debt, per cent of GDP

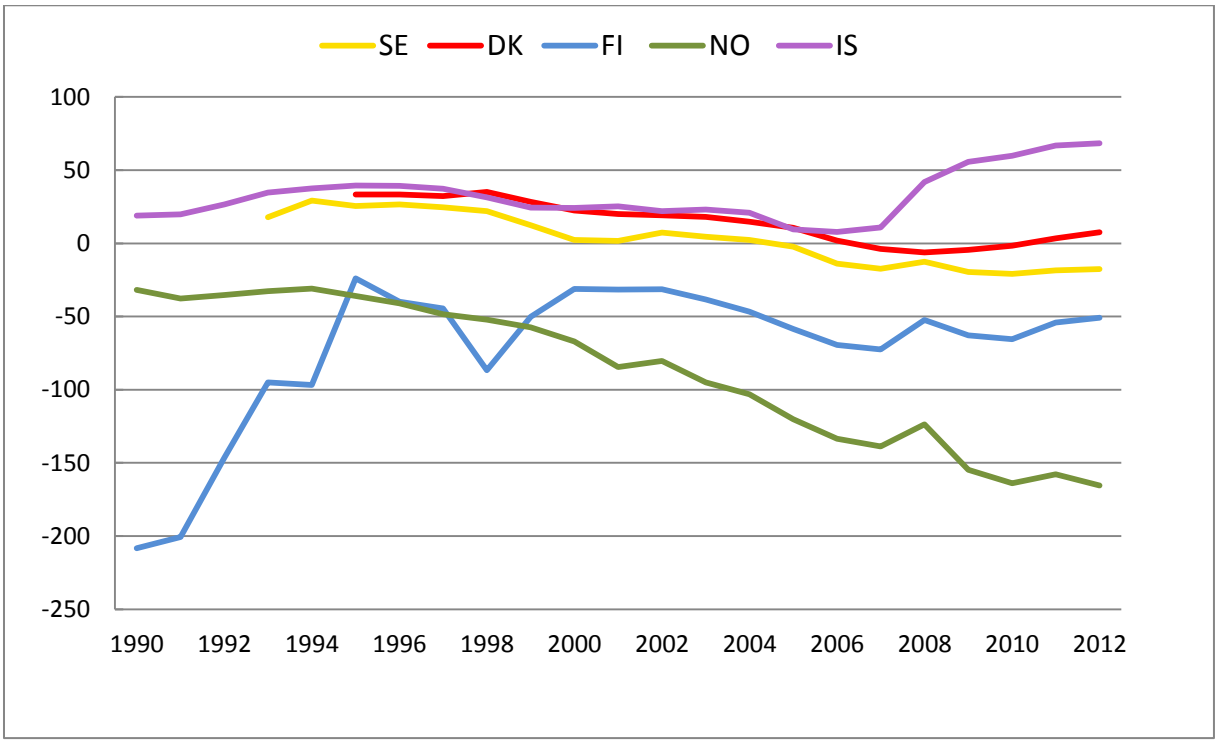


Figure 35 Current account, per cent of GDP

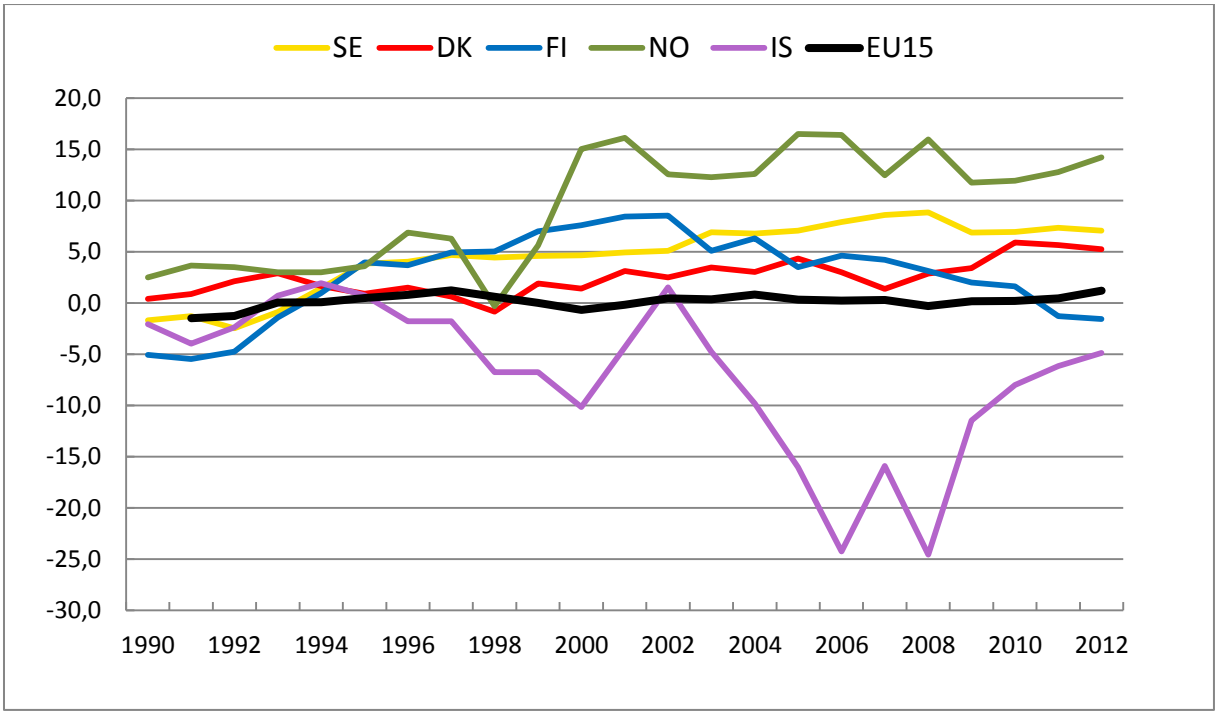


Figure 36 Relative unit labour costs, 1995=100

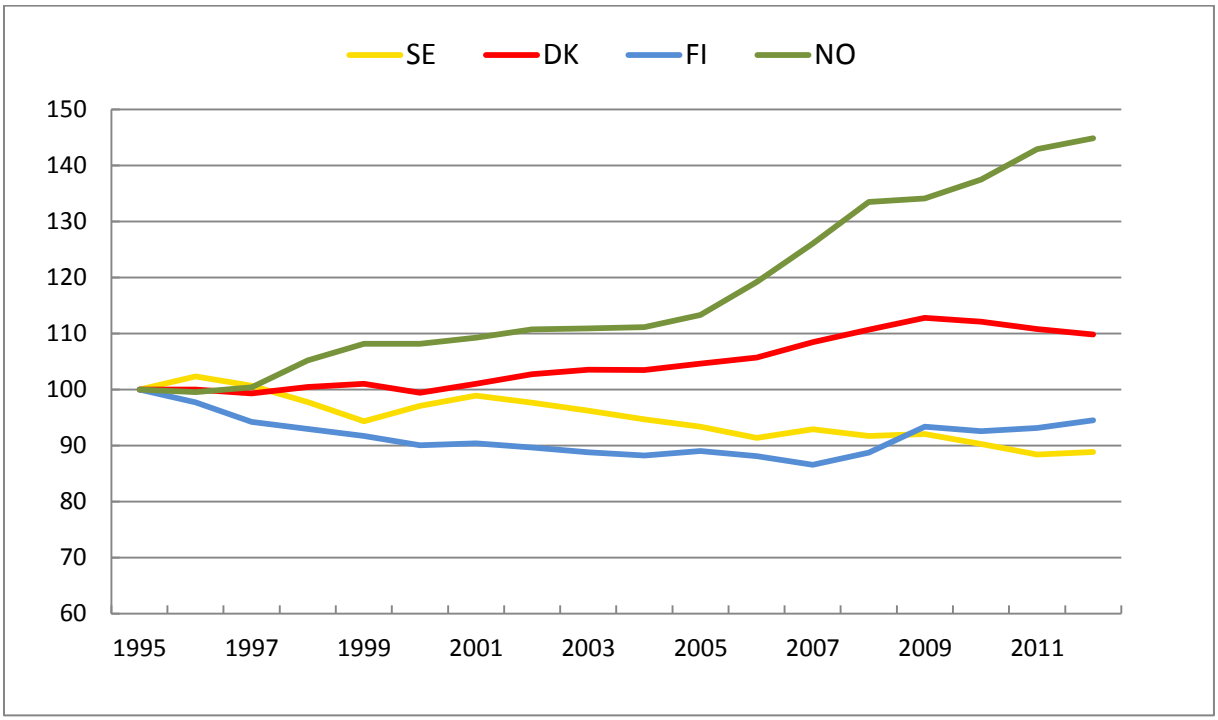


Figure 37 Export market shares, 2000=100

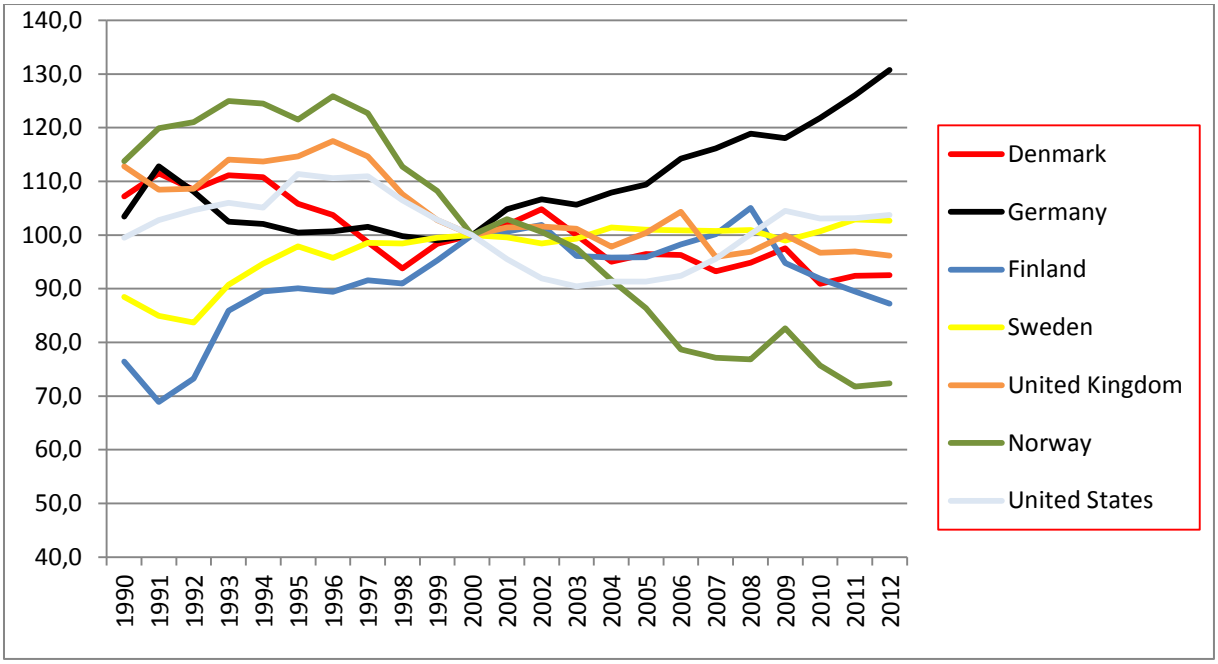


Figure 38 Tax revenues, per cent of GDP

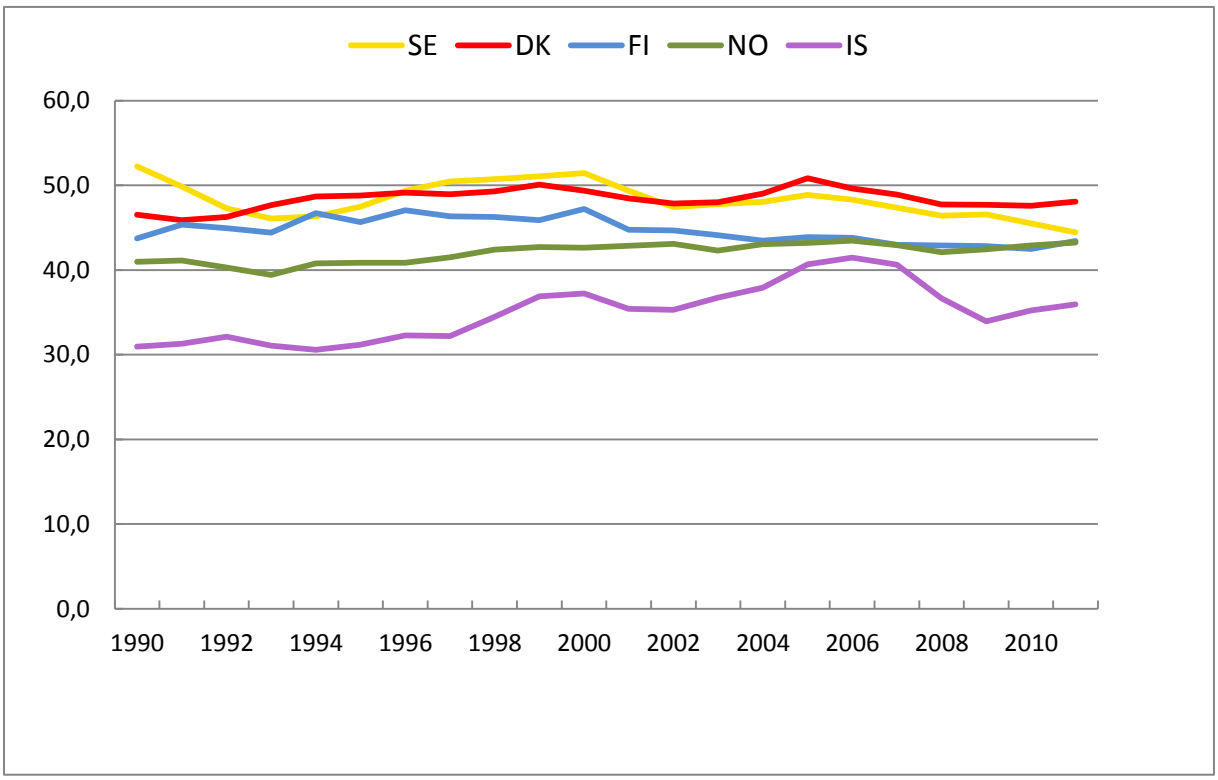
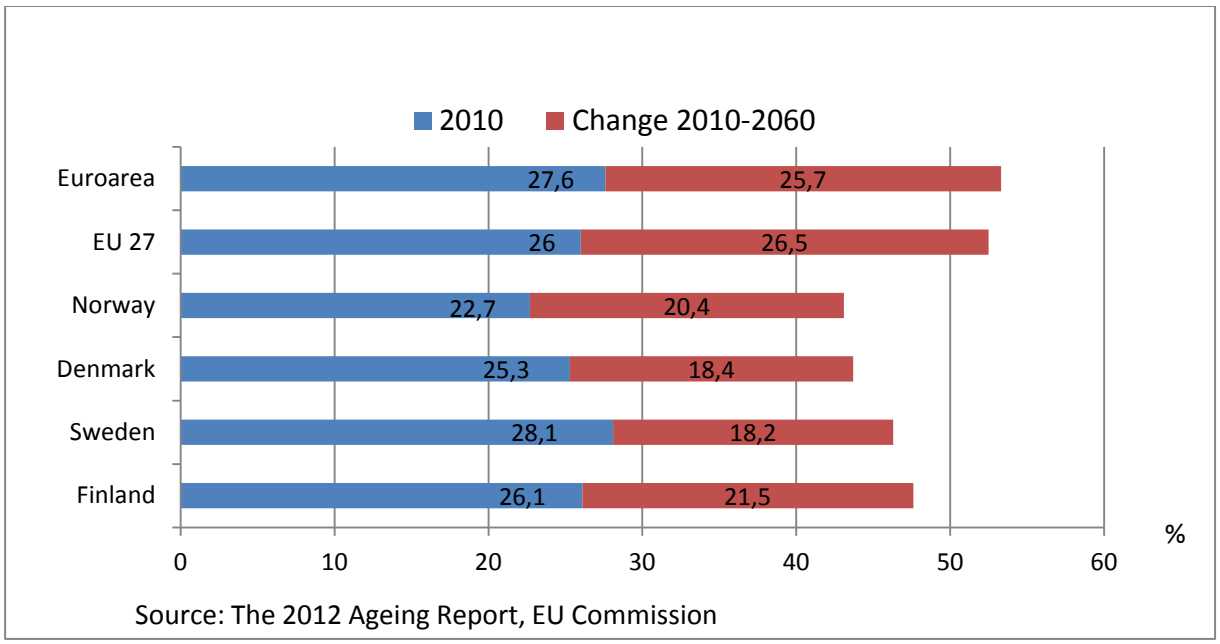
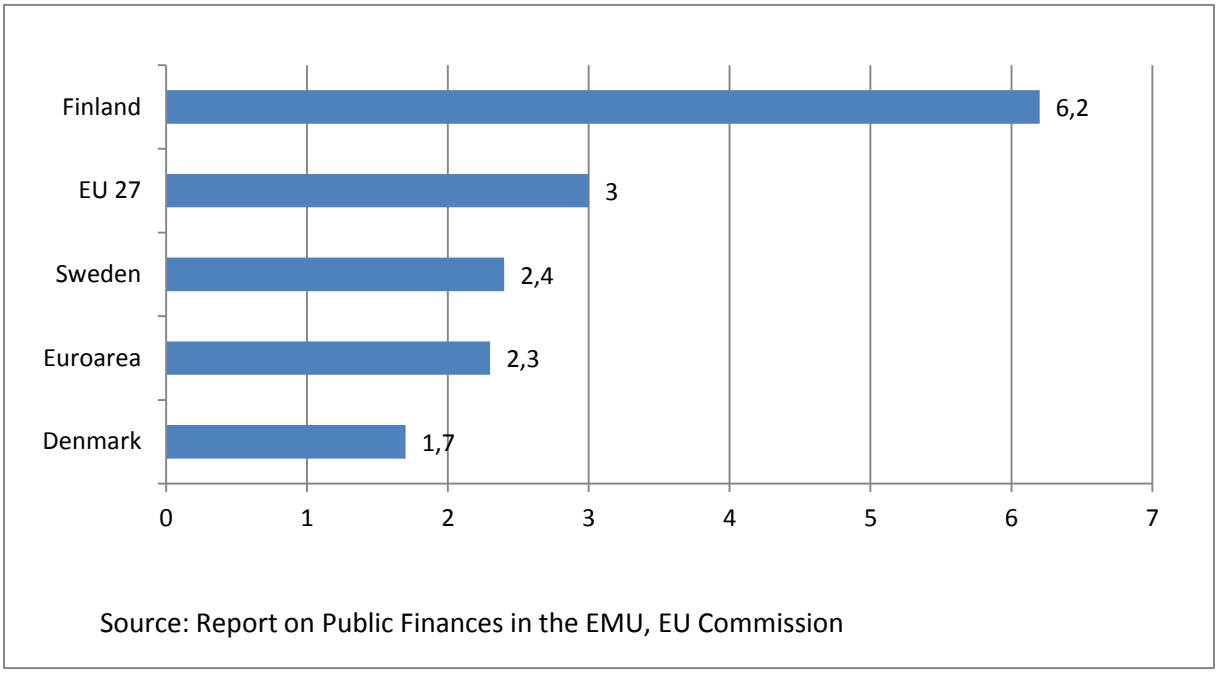


Figure 39 Old age dependency (ratio (65+/15-64), 2010 and 2060



Source: The 2012 Ageing Report, EU Commission

Figure 40 Sustainability gap, S2-indicator



Source: Report on Public Finances in the EMU, EU Commission

Figure 41 Private-sector debt, per cent of GDP

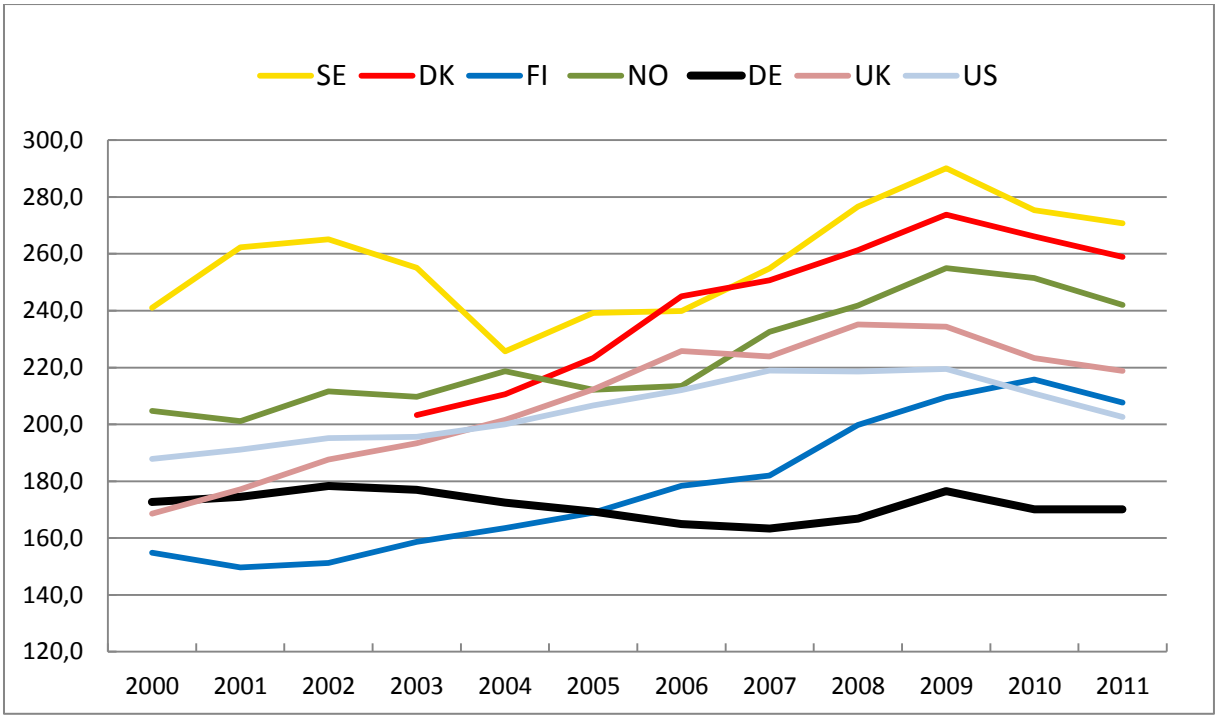


Figure 42 House prices, 2000-100

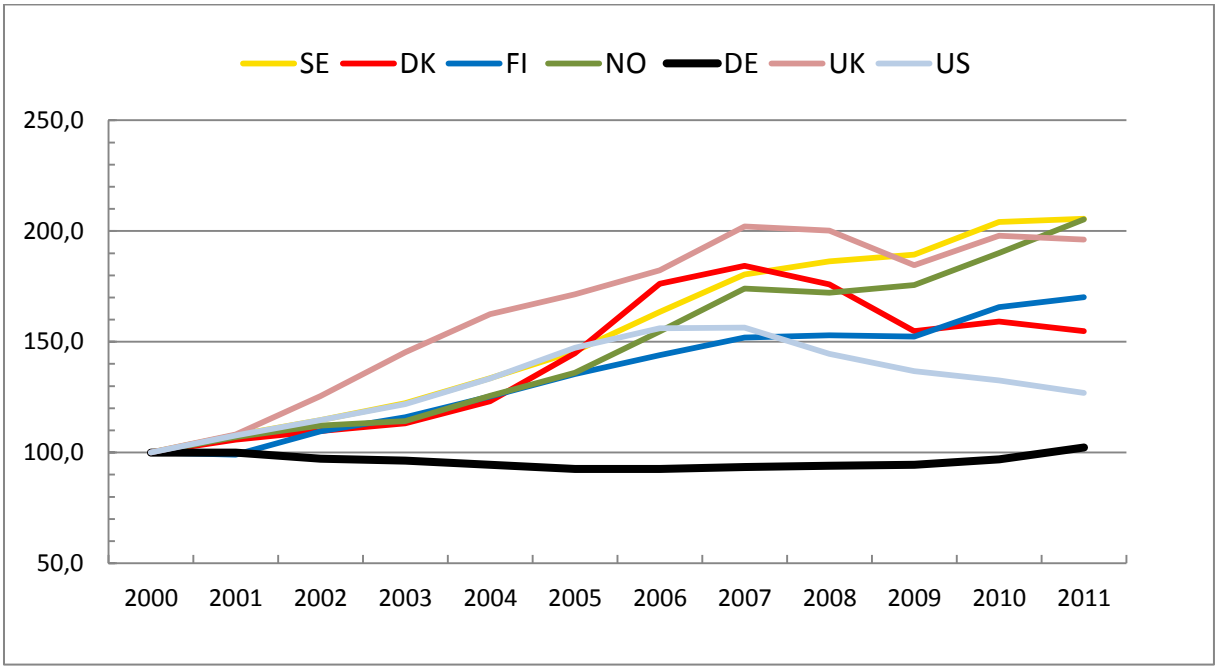


Figure 43 Employment rate in Sweden accordning to education, males 25-54

basic, high school, university

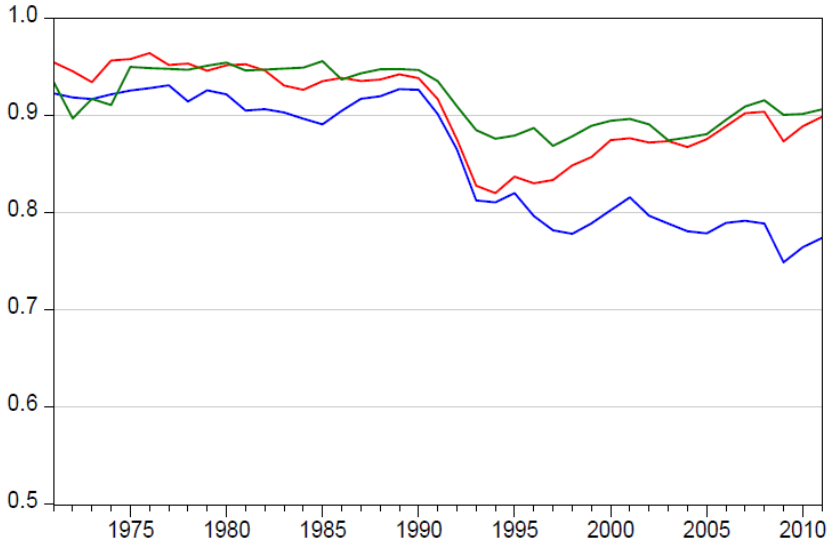
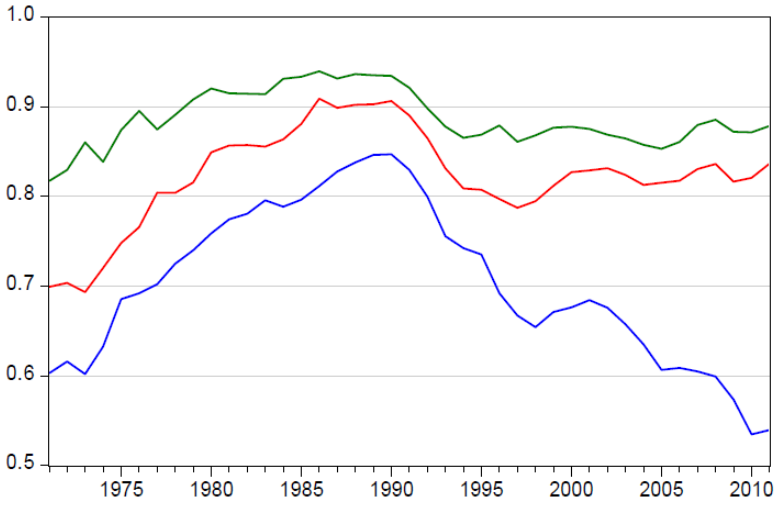


Figure 44 Employment rate according to education, females 25-54

basic, high school, university



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.

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.

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", fortcoming in Pierre, J. (ed.), *Handbook in Swedish Politics*, Oxford University Press.

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.

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.

IMF (2013), *Nordic Regional Report*, Washington D.C.

Konjunkturinstitutet (2012), *Lönebildningsrapporten*, Stockholm.

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

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

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

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

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

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

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.*