

STRUCTURAL INDICATORS

GROWTH AND JOBS: THE LISBON STRATEGY AND THE EFTA STATES

1-2007 JUNE





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- Printed by Drifosett, Brussels
Layout by Orangemetalic

Cover picture: Krafla geothermal station in Iceland.

Eco-technology plays an important role in the Lisbon Strategy. Iceland is the only country that produces all its electricity from emission-free and sustainable natural resources in the form of geothermal and hydro power.

The EFTA Statistical Office

The EFTA Statistical Office (ESO) was created as a liaison office between Eurostat and the EFTA national statistical institutes in 1991. ESO's main objective is to sustain the integration of the EFTA States in the evolving European Statistical System, and thus to provide harmonised and comparable statistics supporting the general cooperation process between EFTA and the EU within and outside the EEA Agreement.

ESO is located on the premises of Eurostat, the Statistical Office of the European Communities, in Luxembourg. Its staff of five consists of: the Statistical Adviser, the Deputy Statistical Adviser, two Assistants and a Trainee. ESO is backed by the Working Group of the Heads of National Statistical Institutes. The Group meets at least once a year and brings together the Directors-General of the national statistical institutes of all EFTA countries.

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MEASURING UP — STRUCTURAL INDICATORS

Introduction

At the Lisbon summit in 2000 the EU leaders set an ambitious agenda for the EU and launched the Lisbon Strategy to become the most competitive and dynamic knowledge-based economy in the world by 2010. The strategy set growth with more and better jobs, greater social cohesion as well as an environmentally sustainable future as its fundamental policy objectives.

However, the mid-term review of the Lisbon Strategy in 2005 revealed only moderate progress. As a result, the strategy was reoriented towards jobs and growth, as the original goals encompassed so many policies that it lacked focus and direction. Definitely jobs and growth are vitally important for the EFTA States as well. Through the EEA Agreement the EEA EFTA States have the opportunity to cooperate with the EU in a whole range of policy areas outside the four freedoms, such as research and technological development, the environment, education etc, which are important for the Lisbon Strategy. Via participation in these policy areas, the EEA EFTA countries are linked to the Lisbon Strategy.

Statistics and, in particular, indicators are important tools for monitoring and benchmarking progress in the different policy areas. In cooperation with Eurostat – the Statistical Office of the European Communities – and the EFTA Statistical Office all EFTA States contribute to the production and dissemination of structural indicators. Structural indicators cover policy domains vital for the Lisbon Strategy and the European Commission's policy in fields such as employment, innovation and research, economic reform, social cohesion and the environment.

In 2006, EFTA published an issue of the EFTA Bulletin on the Lisbon Strategy that also covers structural indicators^[1]. This report contains fresher data and more up-to-date indicators. Data for Switzerland are now

included in the graphs. Switzerland concluded a bilateral agreement with the EU in the field of statistics that came into force on 1 January 2007.

The Shortlist Indicators

Structural indicators are a set of indicators implemented to monitor the development of the policies of the Lisbon Strategy. They bear this name because they describe structures and key aspects within each domain. Structures are basic characteristics which do not in general change rapidly. Therefore structural indicators describe evolution in society in the long-term. Whereas short-term indicators, e.g., the consumer price index, are measured every month and affect policy and the economy on a monthly basis, long-term indicators, e.g., labour productivity, are mainly measured on an annual basis. Consequently, policy actions for improving labour productivity are typically aimed at measures taking years, for instance increasing R&D efforts.

The aim of this study is not only to monitor the inclusion of EFTA data in structural indicators, but also to analyse the development of these indicators for the EFTA countries compared to the EU countries.

The number of indicators has more than tripled since the first publication of structural indicators in 2001^[2], thus reflecting the additional policy areas and the general need for more indicators. Though some indicators have been deleted, the total number of indicators was 128 in 2007. Due to the size of the list, a shortlist of structural indicators has been established in order to focus the policy messages and present a clear picture of the Member States' progress. The shortlist consists of 14 headline indicators that reflect key Lisbon targets. These 14 indicators were also selected because they were relatively well-known and easy to understand. To maintain stability, it was decided that the shortlist indicators would remain unchanged for 3 years.



^[1] See <http://secretariat.efta.int/Web/Publications/EFTABulletin/lisbon.pdf>

^[2] See http://ec.europa.eu/growthandjobs/pdf/79b_en.pdf

The 14 indicators on the shortlist are:

1. GDP per capita in PPS
2. Labour productivity
3. Employment rate
4. Employment rate of older workers
5. Educational attainment (20-24 age group)
6. Research and development expenditure
7. Comparative price levels
8. Business investment
9. At risk-of-poverty rate
10. Long-term unemployment rate
11. Dispersion of regional employment rates
12. Greenhouse gas emissions
13. Energy intensity of the economy
14. Volume of freight transport

Today, the structural indicators database contains data for all the EU countries, and Iceland, Norway and Switzerland. For comparison, data for Japan, the USA and candidate countries like Turkey and Croatia have been added where available. Due to the size of the country, Liechtenstein is in general not included as data needed for many of the indicators are not produced.

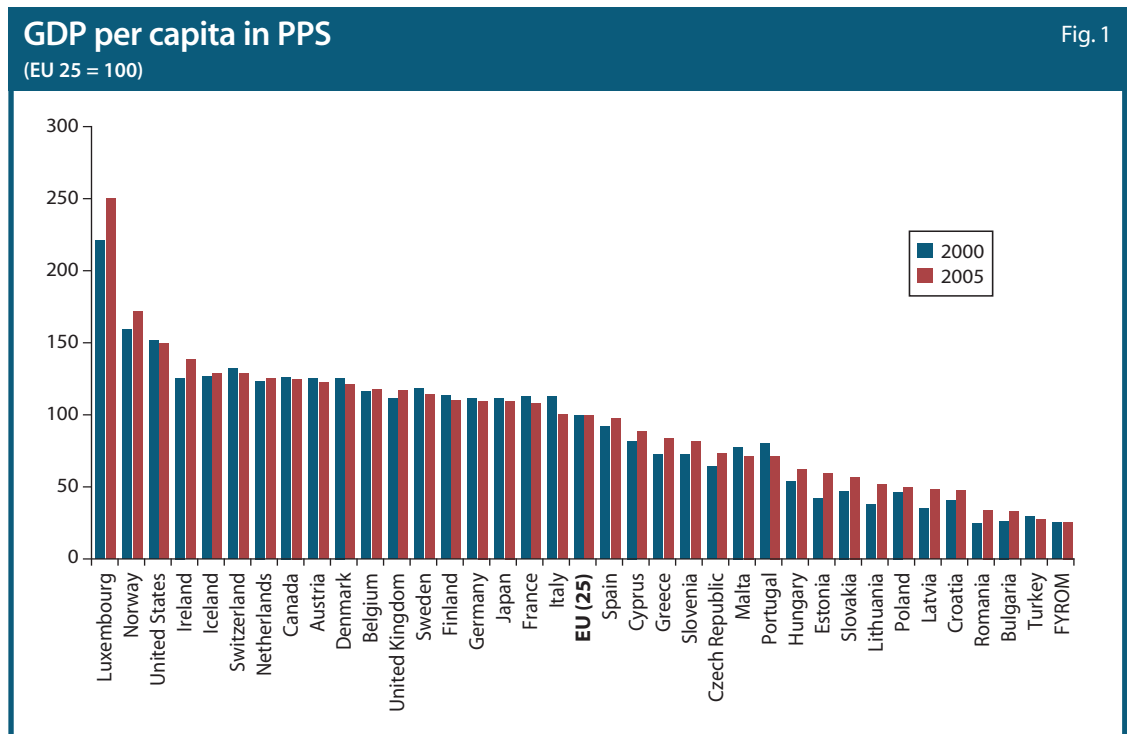
For most of the indicators, data from 2005 were available. If data were not available for 2005, the most recent year

was chosen. Data for year 2000 were also extracted for reference. The EU is defined as EU25, since Bulgaria and Romania were not members in 2005. From 2007, structural indicators with EU27 aggregates and averages have been included in the Eurostat database^[3].

General Economic Background

Gross Domestic Product Per Capita in Purchasing Power Standards

GDP is the value of all goods and services produced less the value of any goods or services used in their creation (intermediate consumption). Purchasing power standards (PPS) are an artificial currency unit that eliminates differences in purchasing power, i.e., differences in price levels between countries, by using the corresponding conversion rates (purchasing power parities), thus allowing for meaningful cross-country comparisons. The volume index of GDP per capita in PPS is expressed in relation to the European Union (EU) average set equal to 100. To become the most competitive and dynamic economy in the world, the EU has to narrow the gap between its main competitors and itself. The comparison between the two points in time in the chart below shows, that the situation did not improve substantially between 2000 and 2005.



Source: Eurostat

^[3] Eurostat website: (<http://ec.europa.eu/eurostat>), with a special section on structural indicators.

Furthermore, enlargement from EU15 to EU25 implied a considerable reduction in the EU average as all the new countries were situated below the EU15 average. Further enlargement to EU27 has reinforced this tendency. The GDP per capita in the USA was about 50% higher than the EU average in 2005.

Iceland, Norway and Switzerland were all well above the EU average in 2005. Norway had the second highest GDP per capita among the countries listed. One of the main factors behind the high level of GDP in Norway is the income from the oil and gas sector. Luxembourg had the highest level of GDP per capita in 2005, which is partly explained by the large number of commuters from neighbouring countries. These workers contribute to the country's GDP but are not accounted for in the resident population. Iceland was ranked 5 after the USA and Ireland followed by Switzerland with the 6th highest GDP per capita in 2005.

Labour Productivity

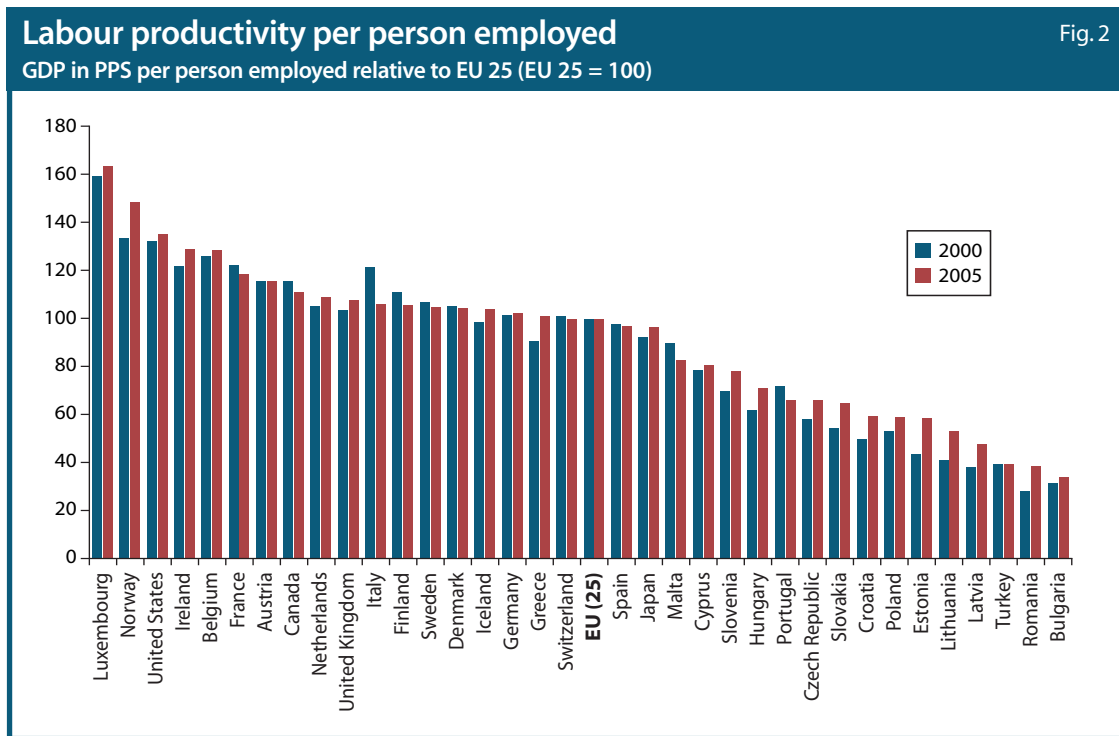
Productivity is a basic factor for the long-term development of welfare in an economy and the general economic growth. It is important both for increasing employment and improving competitiveness, which are the key targets in the renewed Lisbon Strategy.

Labour productivity per person employed is a frequently used indicator for productivity and it is measured by GDP in purchasing power standards per person employed relative to the EU (EU = 100). The GDP per person employed is intended to give an overall impression of the productivity of national economies expressed in relation to the EU average.

Luxembourg had the highest labour productivity per person employed in 2005, and the gap to the EU average had even increased from 2000. Norway had the second highest labour productivity per person employed in 2005, behind Luxembourg but ahead of the USA. The gap in productivity between the EU and the USA increased between 2000 and 2005.

Iceland's productivity was slightly higher than the EU average and Switzerland's labour productivity was at the EU average in 2005. Very high employment rates in Iceland and Switzerland explain partly why their labour productivity is not higher compared with countries with lower GDP per capita.

The productivity levels of all the new EU Member States and the candidate countries were below the EU average. All of them, except Malta improved between 2000 and 2005.



Source: Eurostat

One main objection to this indicator is that it does not take into account the structure of employment and therefore does not reflect for instance part-time or standard working hours. Consequently, labour productivity per hour worked could be a better indicator in the sense that it reflects the actual hours spent on production. Measured per hour, Norway was nearly at Luxembourg's productivity level and over one third higher than the USA's productivity level, reflecting the idea that a Norwegian worker works relatively fewer hours a year than a worker in the USA.

Employment

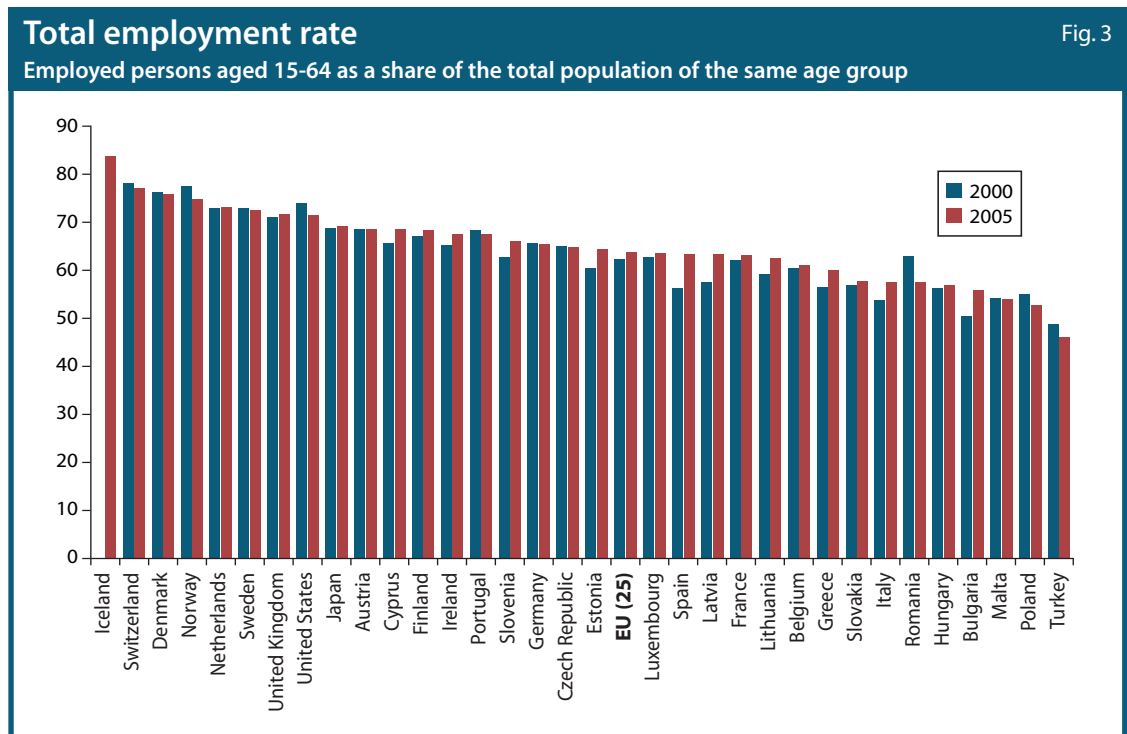
Total Employment Rate

The employment rate is calculated by dividing the number of persons aged 15 to 64 in employment by the total population of the same age group. Following the ILO standards, the employed population is defined as persons who during one week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

An important aspect of economic performance is how the resources are utilised, human capital being society's main resource. Consequently, the employment rate and

its development are crucial both for economic growth and social cohesion. The Lisbon European Council stated that more and better jobs should be created and the overall target was to increase the employment rate to 70% by 2010. An intermediate goal for the employment rate was to reach 67% by January 2005. In addition, the re-launching of the Lisbon Strategy by the European Council in 2005, following the mid-term review of the Strategy, has put even more importance and focus on growth and employment.

The EU employment rate was close to 64% in 2005, increasing from 62.5% in 2000. Hence, it is still under the mid-term target of 67%. Of the major EU economies, only the UK had an employment rate over 70%. The employment rates in large countries like Poland and Italy were 52.8% and 57.6% in 2005. Iceland had by far the highest employment rate of all listed countries with close to 84% in 2005, followed by Switzerland with an employment rate of 77.2%. Norway experienced a reduction in the employment rate from 2000 (77.5 %) to 2005 (74.8%), but was still ranked as number 4. All the EFTA countries were far above the EU average.



Source: Eurostat

Employment Rates by Sex

The Lisbon Council also set the target to increase the employment rate of women to over 60% by 2010, with an intermediate target set at 57% in 2005. The EU average of the employment rate for women was 56.3% compared to 71.3% for men in 2005. The countries with the highest employment rates for women were Iceland and Denmark, with 80.5% and 71.9% respectively; Norway, Sweden and Switzerland follow.

The differences in employment rates between the sexes were smallest in Finland, where the employment rates for men were 3.8 percentage points higher than for women. In Norway and Iceland, the differences between men and women were 6.1 and 6.4 percentage points respectively. In Switzerland the gap was with 13.5% clearly higher, but for Switzerland the gap is more a result of the extremely high employment rate for men, since the female employment rate is also quite high.

In general, the gender gap in employment rates was lowest in the Nordic and Baltic countries and highest in Mediterranean countries like Turkey, Malta, Greece and Italy, varying from 24.6 percentage points in Italy to 44.4 percentage points in Turkey.

Total Employment Rate of Older Workers

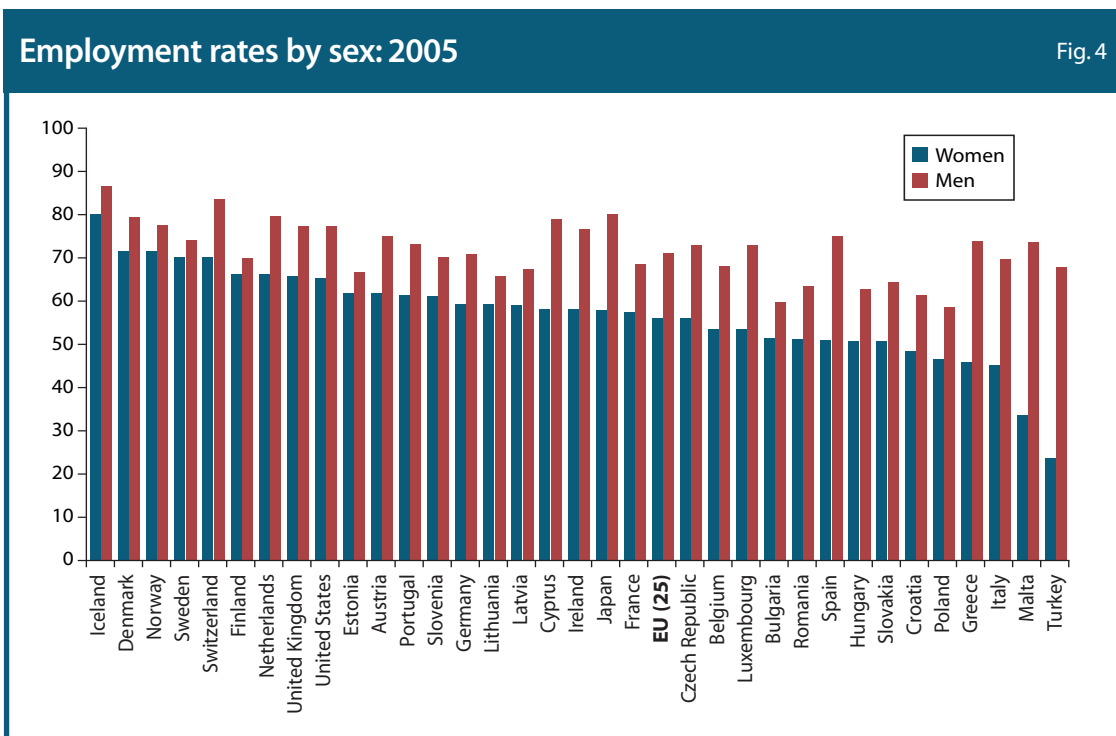
The employment rate of older workers is defined as the percentage of employed persons aged 55 to 64 of the total population of the same age group.

In light of the ageing population in Europe, it will be essential to stimulate workers to work longer in order to underpin economic growth and to counteract the effects of the ageing population on the social security systems. A specific target of 50% inclusion of older workers by 2010 was set. In 2005 the EU average employment rate of older workers was 42.5%. This represents an increase of 5.9% points compared to 2000.

Iceland had by far the highest employment rate of older workers, with 84.3%. Sweden had with 69.4% the second highest employment rate of older workers, followed by Norway with 65.5% and Switzerland with 65.1% in 2005. The employment rate of older workers increased between 2000 and 2005 in almost all countries, except Portugal, Romania, Turkey and Poland. An ageing population will also lead to an ageing workforce.



Fig. 4



Source: Eurostat

However, comparison of the employment rates of older workers of different countries is to be handled with great care because the statutory retirement age, which varies a lot between countries but also between men and women, has an important influence on the employment rate in older ages.

Employment Rates of Older Workers by Sex

Split by sex, Iceland had the highest employment rate of older workers both for women and men, 79.6% and 88.9% respectively in 2005. The reason for this outcome is the high statutory retirement age of 67 for men and women. Norway had the third highest employment rate - behind Sweden - with 60.1% for women and 70.8% for men. For Switzerland the difference was larger, but they were still over the EU target with 55.6% for women and 74.9% for men.

In the EU, only 33.7% of women between 55 and 64 were working in 2005, while 51.8% of men were employed. Consequently, the gender gap in employment was even larger for older workers than for all workers, both in the EU and in the EFTA countries Iceland, Norway and Switzerland. The obvious reason is the difference in the statutory retirement age between men and women in most of the countries.

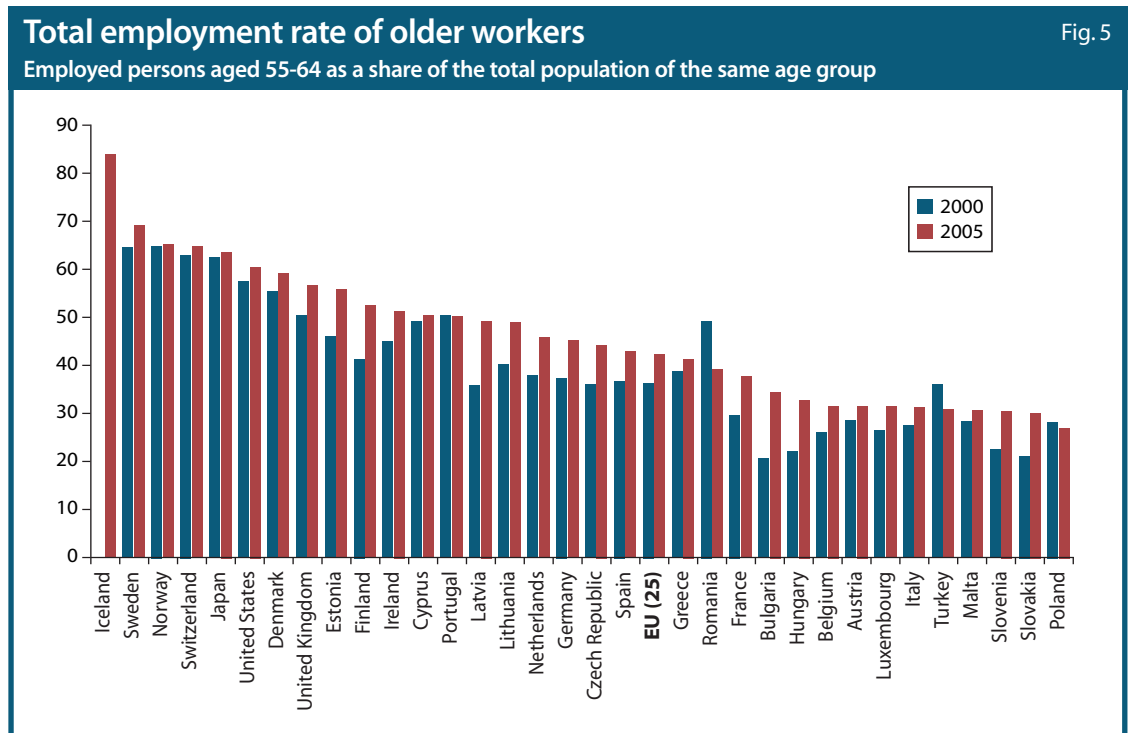
Innovation

Youth Education Attainment Level

The indicator “Youth education attainment level” is defined as the share of young people between 20-24 years having attained at least upper secondary education level of the total population of the same age group. A target has been set to reach an attainment level of 85% in the EU by 2010.

In a knowledge-based economy, human resources are a key element. Obviously, the population’s level of education is important for the development of human capital and there are also strong indications that there is a positive relation between education and economic growth. Completed upper secondary school is in general considered to be the minimum required education for participation in a knowledge-based society either for an entry into the labour market or for further/higher education. However, the indicator does not give any evidence about the quality of the education or about the take-up rate of higher education.

In 2005 the EU youth education attainment level was 77.5%, which is an increase of 1.1% compared to 2000. Norway had with 96.2% the highest level of youth educational attainment among all listed countries. Switzerland had an attainment level of 82.5%. Iceland, however, attained the relatively low level of 50.8%^[4].

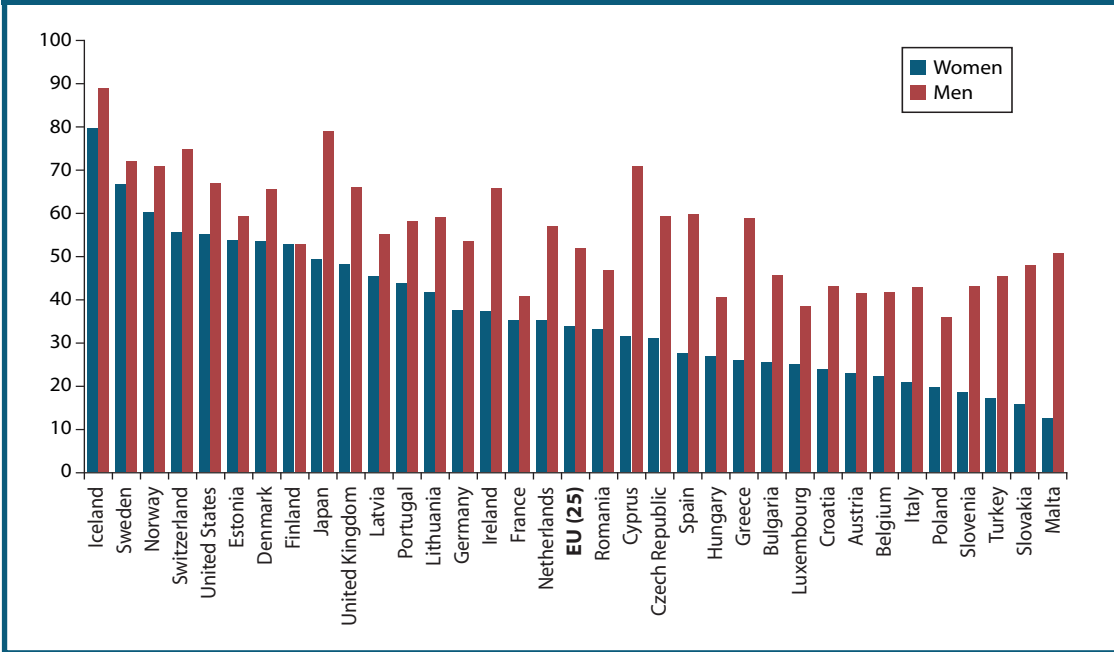


Sources: Eurostat and the Swiss Federal Statistical Office

^[4] The definition of this indicator and variations in national school systems could be the reason for some of the differences between the countries. In Iceland, upper secondary education lasts for 4 years and is generally completed around the age of 20. This partly explains the lowness of the figure for Iceland. The Norwegian numbers include also persons that have only partially completed the education.

Employment rates of older workers by sex: 2005

Fig. 6



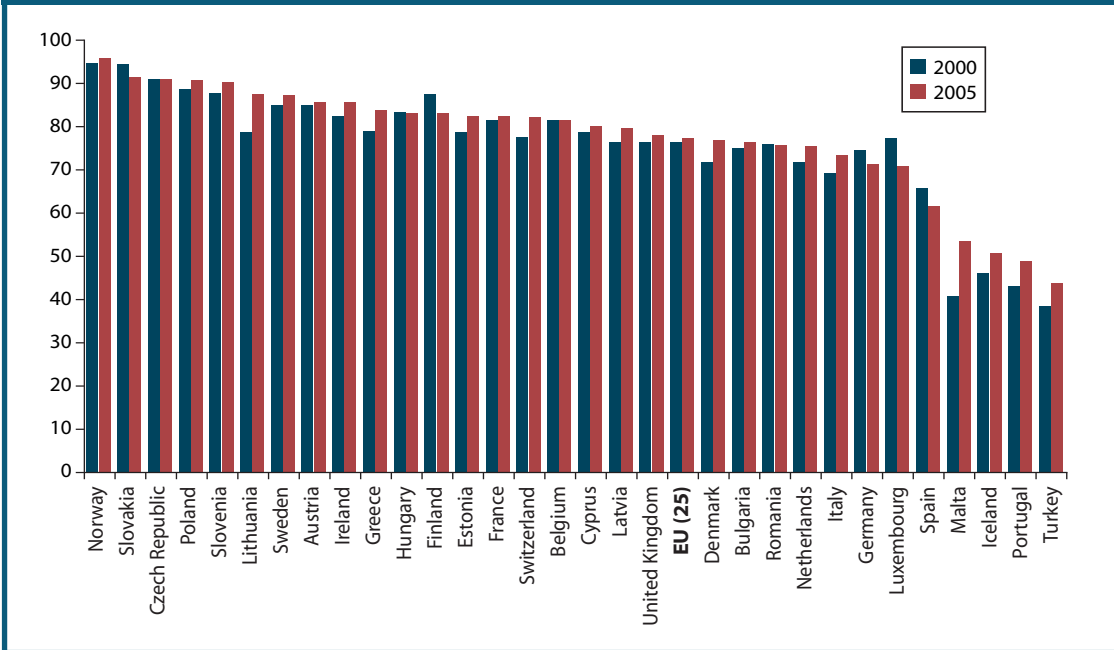
Sources: Eurostat and the Swiss Federal Statistical Office



Total youth education attainment level

Fig. 7

% of the population aged 20-24 having completed at least upper secondary education



Source: Eurostat

Youth Attainment Level by Sex

In all countries with available data, apart from the Czech Republic, where the level does not differ by sex, more young women than young men had completed upper secondary education. For the EU, 80.3% of the young women had attained this level of education versus 74.7% of the men in 2005. In some countries, the gender gap was quite large. For instance in Cyprus and Portugal, where respectively 18% and 16.7 % more of the women had achieved this level of education compared with the men. In Iceland, the level of education was around 13 percentage points higher for women than for men, while in Switzerland and Norway the gap was considerably lower with only 4.4 and 2.6 percentage points.

Research and Development

Research and development (R&D) is a key factor for growth in a knowledge-based economy and consequently at the heart of the Lisbon Strategy. The R&D expenditure expresses efforts to create new knowledge, which is important for developing new and improved products and processes. Research conducted by both the public and private sectors is accounted for through this indicator. R&D surveys are based on the harmonised methodology described in the Frascati manual^[5].

R&D is defined as the creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications. The R&D intensity is measured as gross domestic expenditure on R&D as a percentage of the GDP.

The Barcelona European Council has set a distinct target to increase the intensity of R&D to 3% by 2010. In 2005, the EU expenditure on R&D was 1.85%. Only 2 of the EU Member States – Finland and Sweden – already reached levels of R&D above 3%. Switzerland and Iceland had among the highest R&D intensities slightly below 3%. Norway's R&D intensity was still below the EU's in 2005, and had even decreased a little compared with 2000. It is worthwhile to notice that Japan and the USA had R&D intensities well above the EU, and that the USA figures did not include capital expenditure.

Economic Reform

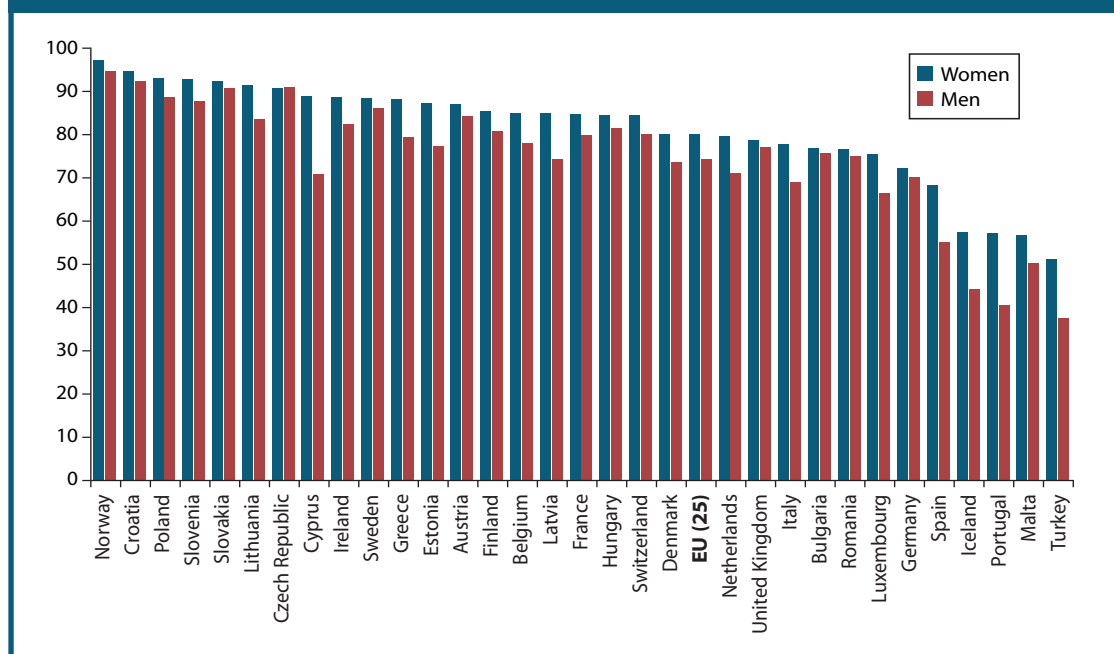
Comparative Price Levels

The comparative price levels are measured as the ratio between the purchasing power parities (PPPs) and the market exchange rates for each country. The PPP is a currency converter which aims at adjusting for different



Youth education attainment level by sex: 2005

Fig. 8



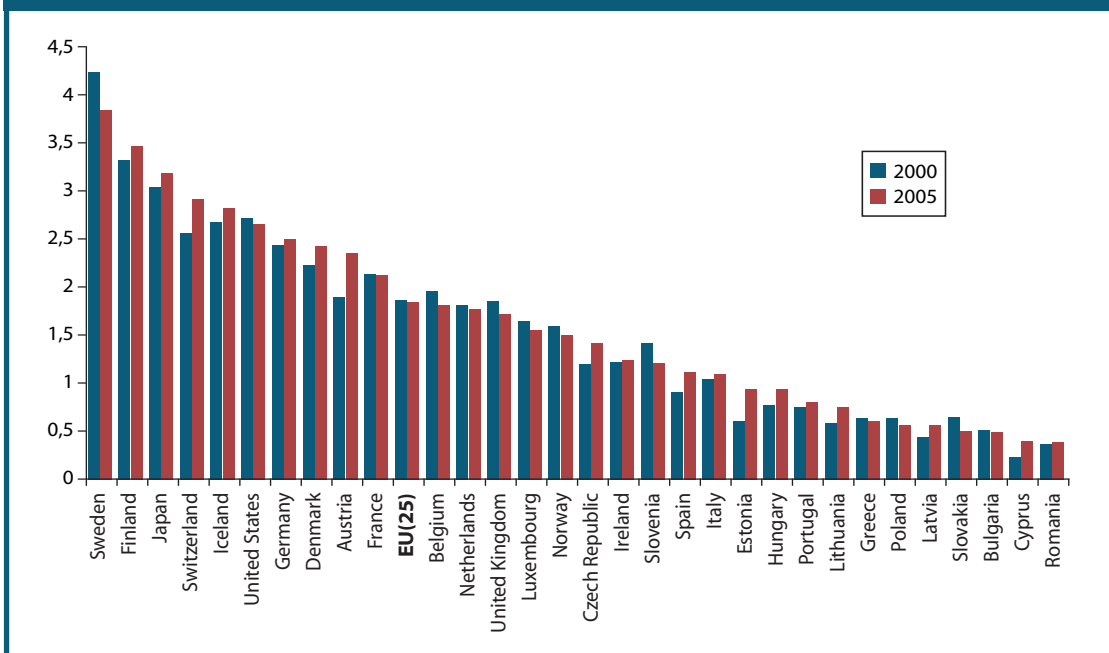
Source: Eurostat

^[5] The Frascati manual, published by the OECD, is the basic international source of methodology for collecting and using research and development statistics.

Gross domestic expenditure on R&D (GERD)

Fig. 9

% of GDP



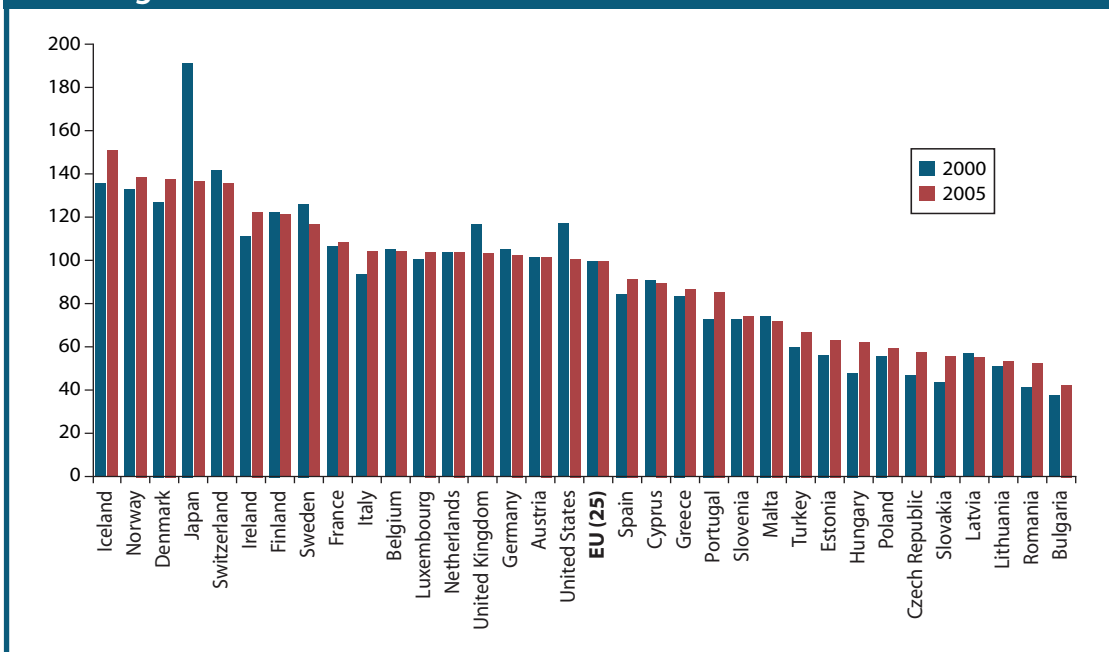
Source: Eurostat

Notes: For Greece, Sweden and Norway the data are for 2001 instead of 2000. For Italy, the Netherlands, Romania, United Kingdom, Iceland, Switzerland and the United States, the data are for 2004 instead of 2005. For Japan the data are for 2003 instead of 2005.



Comparative price levels of final consumption by private households including indirect taxes (EU 25 = 100)

Fig. 10



Source: Eurostat

Notes: For the USA and Japan, the data are for 2003 instead of 2005.

price levels in the countries. The price level index is measured in relation to the EU average (EU = 100). A country is relatively more expensive or cheaper than the EU average if the index is higher or lower than 100.

Through more efficient and integrated markets initiating more competition and trade, the price levels in the countries ought to converge. However, one observes a correlation between high income levels and high price levels. All EFTA countries are on top of the list when it comes to income and have a high price level.

Iceland and Norway had the highest price level of all countries represented in the table in 2005, and were followed by Denmark, Japan and Switzerland. The fall in relative price levels in Japan and the USA is partly due to a depreciation of the currency. For Iceland and Norway, the general price level increased while Switzerland experienced a slight decrease compared with 2000. Romania and Bulgaria had the lowest price level in 2005.

Business Investment

The indicator business investment is defined as the gross fixed capital formation by the private sector as a percentage of GDP. The gross fixed capital formation includes acquisitions by the private sector less disposals of fixed assets.

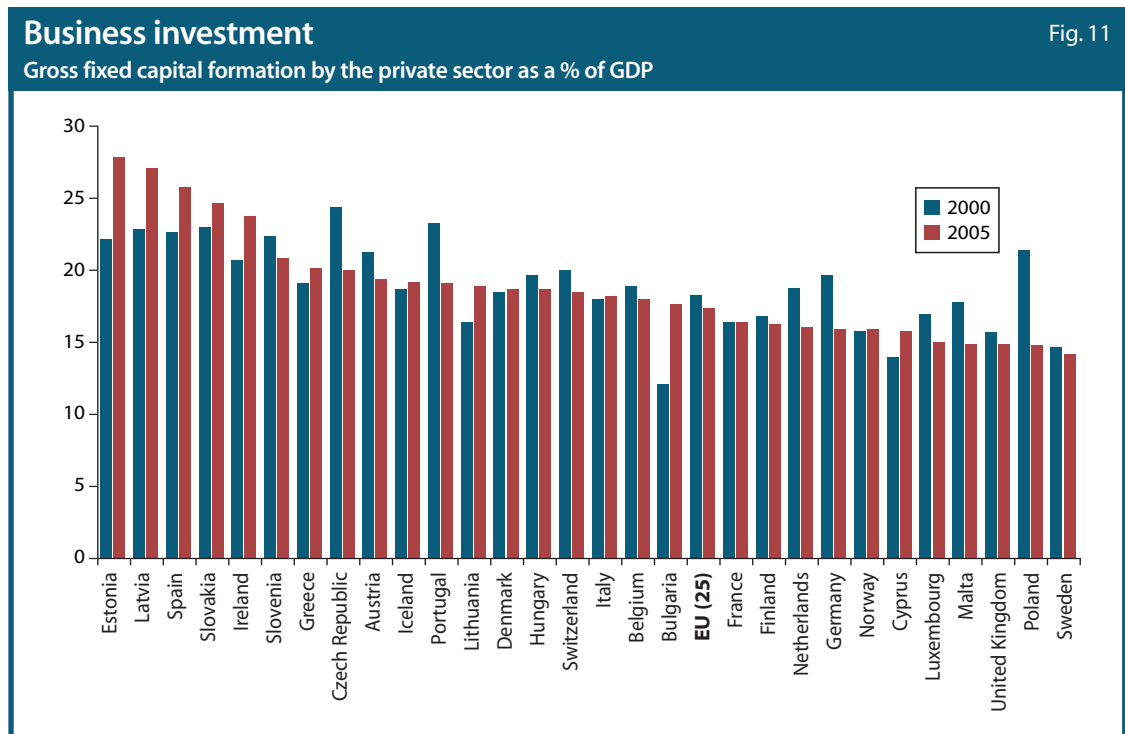
Capital is a key production factor and is produced through investment. Consequently, capital formation is vital for future production, and investments are important for economic growth.

Estonia had the highest share of private sector business investment with 27.9% of GDP in 2005 whilst Sweden had the lowest level with 14.2%. In Iceland and Switzerland, business investments as a share of GDP were higher – around 18% for both countries – than the EU at 17% in 2005. Business investments in Norway were relatively low in 2005, i.e., around 16% of GDP.

Social Cohesion

At-risk-of-poverty Rate after Social Transfers

The at-risk-of-poverty rate after social transfers is an indicator of poverty. This indicator measures the share of persons with a disposable income below the risk-of-poverty threshold, i.e., 60% of the national median disposable income after social transfers. Consequently, the indicator says more about the income distribution and relative poverty within a country than between countries. Comparability is limited between countries because only a relative threshold is used, there being no common absolute one.

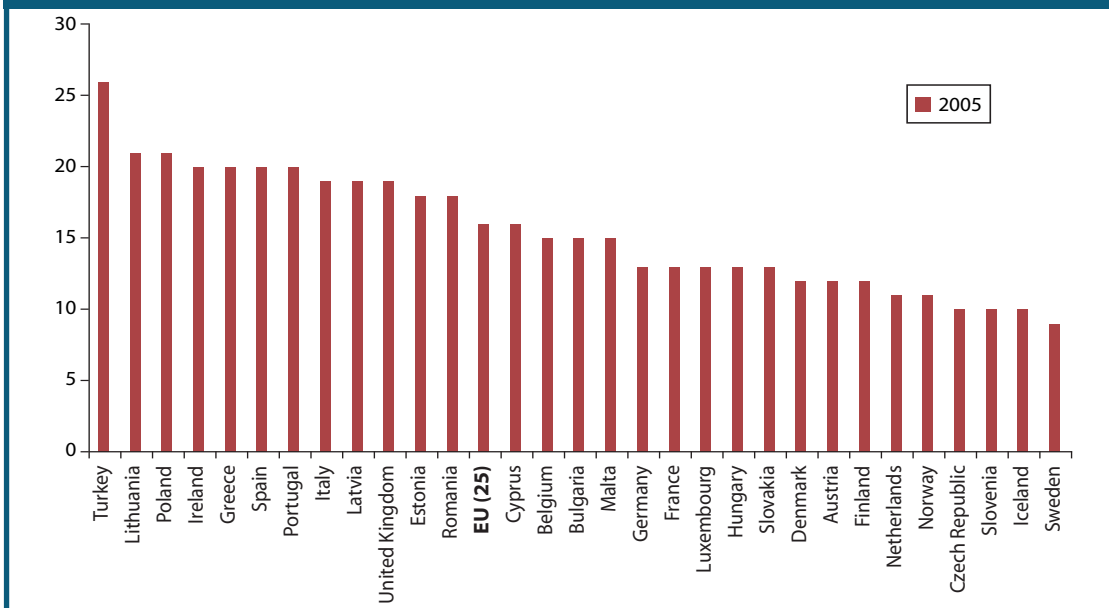


Sources: Eurostat and the Swiss Federal Statistical Office

Notes: For Iceland, Bulgaria and Switzerland the data are for 2004 instead of 2005.

Total at-risk-of-poverty rate after social transfers

Fig. 12



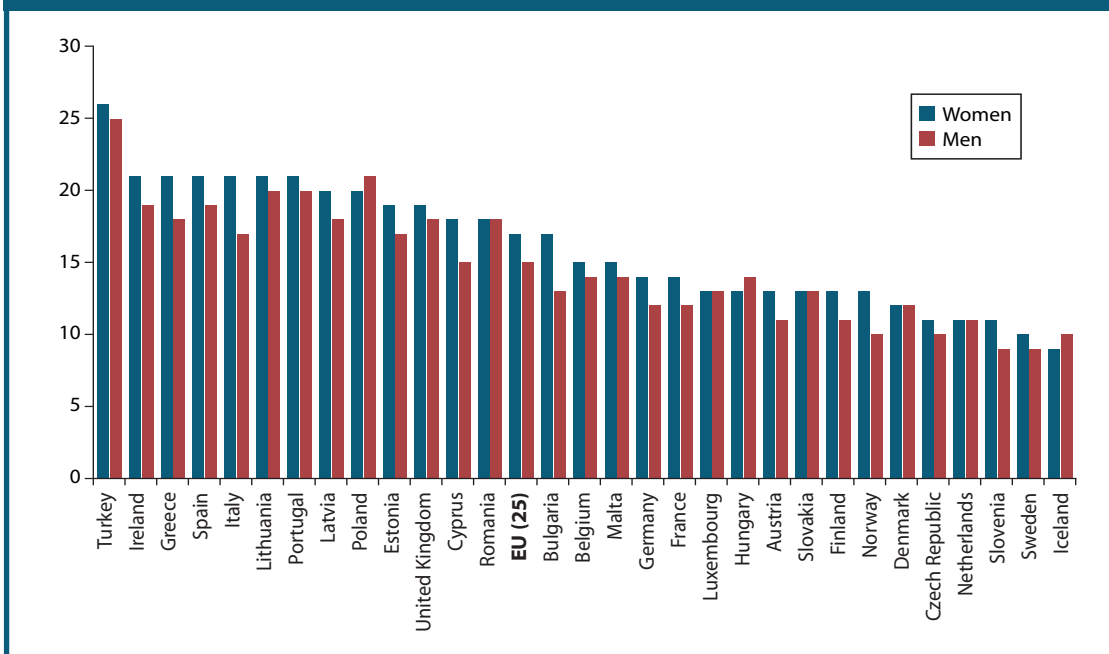
Source: Eurostat

Notes: For Slovenia and Turkey data are for 2003 and for Bulgaria for 2004 instead of 2005. No data available for Switzerland.



At-risk-of-poverty rate after social transfers by sex: 2005

Fig. 13



Source: Eurostat

Notes: For Turkey and Slovenia data are for 2003, for Bulgaria they are for 2004. No data available for Switzerland.

One of the EU's main policy objectives is to fight poverty and reduce social exclusion. The Lisbon targets focus not only on growth and competitiveness but also on social cohesion, which is not always linked to the general economic welfare of a country.

In Turkey, more than every fourth person had less than 60% of the median disposable income after social transfers. In Lithuania, Poland, Ireland, Greece, Spain and Portugal, 20% or more of the persons were below the at-risk-of-poverty threshold. However, the median disposable income in a high income country like Ireland is higher than for instance in Turkey or Lithuania. The indicator is more suited to reflect the bias in the income distribution within a country than absolute poverty between countries. In contrast to its neighbour Poland, only 10% of persons in the Czech Republic were below the poverty threshold. In Iceland and Norway, respectively 10 and 11% of persons were at-risk-of-poverty.

At-risk-of-poverty Rate after Social Transfers by Sex

In almost all the countries with comparable data, the women were at greater risk of poverty than the men. One possible explanation for this is the changing social structures with more divorces and more single mothers.

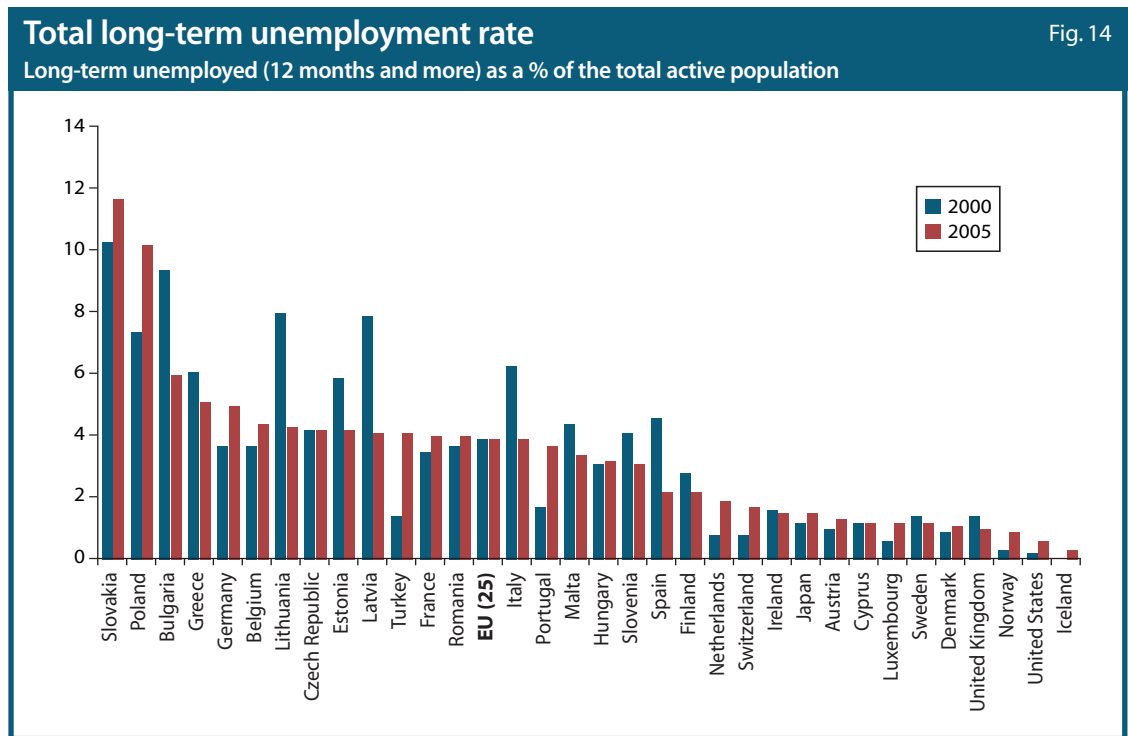
The only exceptions are Poland, Hungary and Iceland. Several countries had only marginal differences between the sexes or no differences at all, e.g., Romania, Luxembourg, Slovakia, Denmark and the Netherlands. Inequality with respect to poverty was largest in Italy and Bulgaria, where 4 percentage points more women were at-risk-of-poverty than men. Norway also had a relatively higher share of women than men at-risk-of-poverty.

Total Long-term Unemployment Rate

A long-term unemployed person is defined as a person who is actively seeking work but has been unemployed for 12 months or more. Long-term unemployment as a share of the total active population gives the total long-term unemployment rate.

Employment is considered to be important for social inclusion. Consequently, unemployment, in particular long-term unemployment, has negative impacts on social cohesion and also on poverty. A high long-term unemployment rate indicates that human resources are insufficiently utilised and that there is a risk of people becoming permanently excluded from the active population.

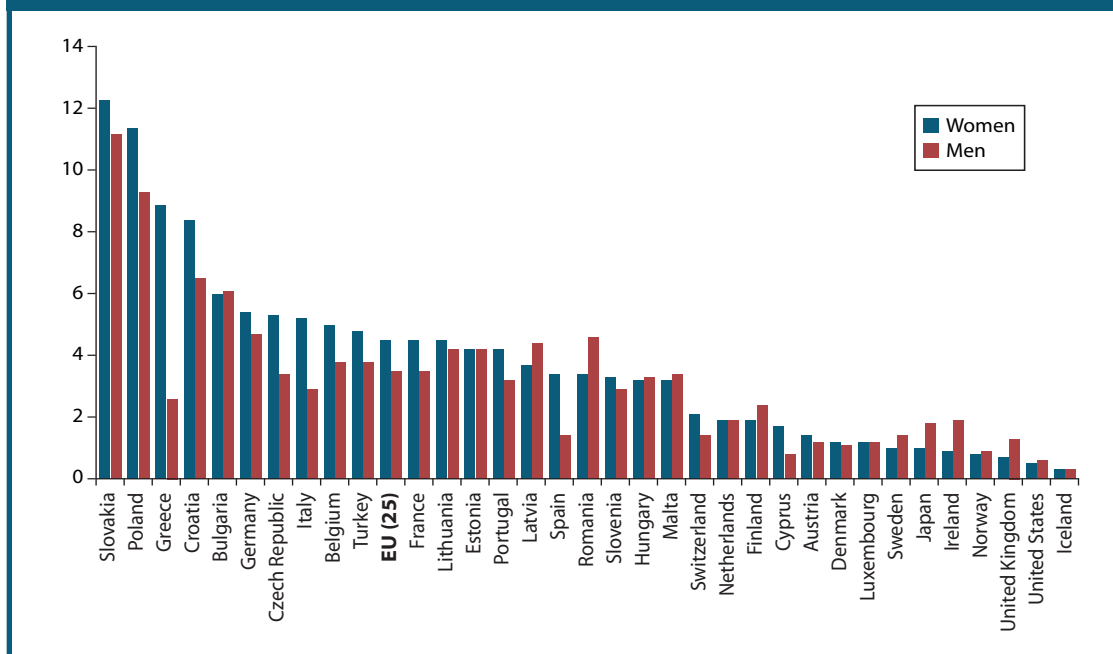
Long-term unemployment rates were lowest in Iceland, the United States and in Norway, with 0.3%, 0.6% and



Sources: Eurostat and the Swiss Federal Statistical Office

Long-term unemployment rate by sex: 2005

Fig. 15



Sources: Eurostat and the Swiss Federal Statistical Office

0.9% respectively in 2005. However, there was an increase from lower rates in 2000 when 0.2% and 0.3% of the active population in Iceland and Norway respectively were unemployed in the long-term. In Switzerland, the long-term unemployment rate was low at 1.7 % in 2005 although up from 0.8% in 2000. Compared to the situation in the EU, where the average long-term unemployment rate was close to 4% in 2005, the EFTA countries had remarkably low rates in spite of the increases between 2000 and 2005. Slovakia and Poland had the highest rates with over 10% in both countries.

Total Long-term Unemployment Rate by Sex

The long-term unemployment rates for women in 2005 were lowest in Iceland with 0.3%, followed by the United States, the United Kingdom, Norway, Ireland, Japan and Sweden. In all these countries the long-term unemployment rate for women was not only low, but lower than for men. Switzerland had the largest difference in the unemployment rates between the sexes among the EFTA States, but the unemployment rate for women was less than half of that of the EU. Generally, long-term unemployment rates were rather similar between the sexes in Europe, and only in some countries

like Greece, Italy, Poland and Spain, the rates were clearly higher for women.

Dispersion of Regional Employment Rates

In order to increase employment and ensure social cohesion, it is important to reduce regional imbalances in employment. It is also a priority to stimulate employment and fight unemployment in deprived regions.

The dispersion of regional employment rates is an indicator that aims at measuring the variation in employment between the regions. The employment rate in a region is the share of employed persons aged 15-64 of the population in the same age group. The dispersion of regional employment rates is zero when the employment rates in all regions are identical. If the differences among the regions increase, so will the indicator.

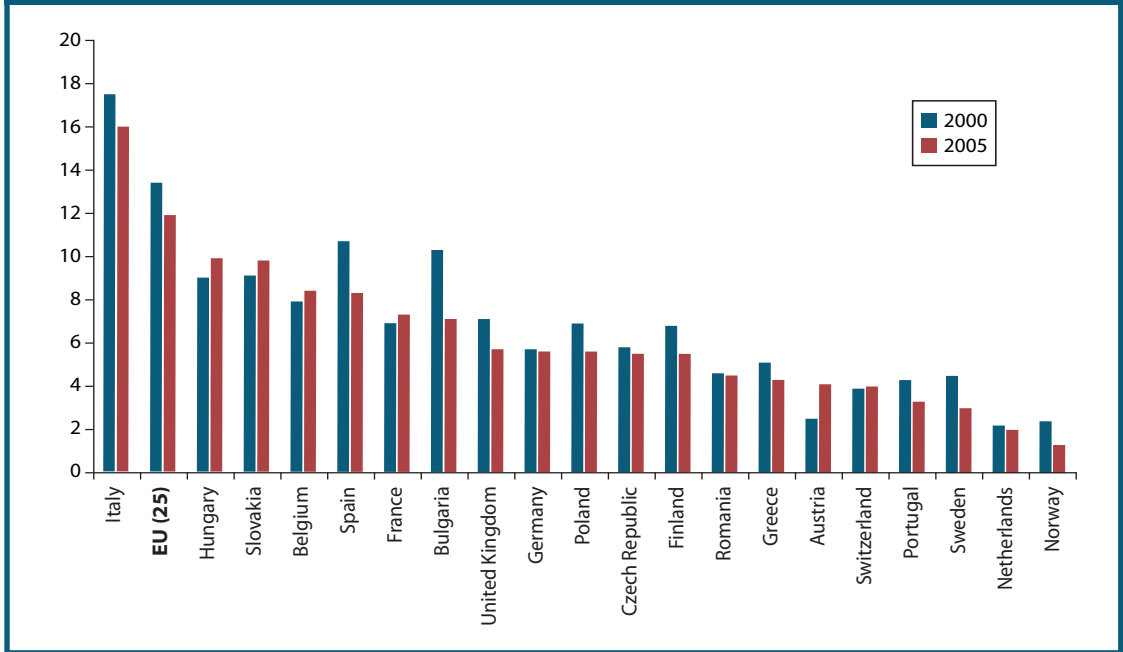
The regions are defined at level 2 of the classification of territorial units for statistics (NUTS). At this rather aggregated level, the indicator is not applicable for Denmark, Ireland, Luxembourg, Cyprus, Estonia, Latvia, Lithuania, Malta, Slovenia and Iceland because these countries comprise only one or two NUTS level 2



Total dispersion of regional employment rates

Fig. 16

Coefficient of variation of employment rates (of the age group 15-64) across regions (NUTS 2 level) within countries

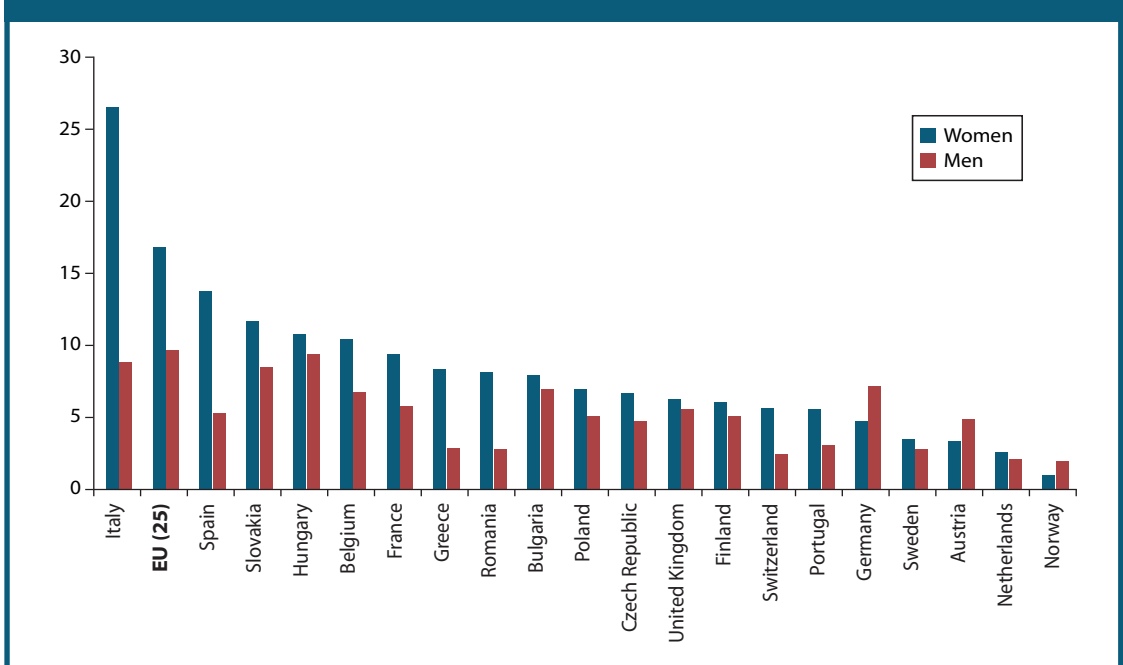


Sources: Eurostat and the Swiss Federal Statistical Office



Dispersion of regional employment rates by sex: 2005

Fig. 17



Sources: Eurostat and the Swiss Federal Statistical Office

regions. Nevertheless, the employment rates of these countries are used to compute the dispersion of regional employment rates for the EU. The regions at level 2 are generally rather large. For instance for Norway, counties are combined to make the NUTS 2 regions. At this level there are 7 regions in Norway.

The dispersion of employment rates in 2005 was rather substantial across Europe, and by far highest in Italy. At the other end of the scale was Norway with the lowest dispersion rate, which even decreased from the already low level in 2000. Switzerland also had small differences in employment rates between the regions. The Netherlands had the smallest regional dispersion among the EU countries.

Dispersion of Regional Employment Rates by Sex

In all the countries apart from Germany, Austria and Norway, the differences in employment rates between the regions were higher for women than for men in 2005. This difference was particularly large within Italy, where the variation was 3 times as high for women as for men measured by the coefficient of variation. This might reflect the strong differences in social structures between the north and the south of the country. Norway had the

lowest employment dispersion rate for women and the difference between men and women was also among the lowest ones in this respect. In Switzerland the difference between women and men was relatively large.

The Environment

Total Green House Gas Emissions

Emissions of greenhouse gases pollute the environment and contribute to climatic change, specifically global warming. The negative impacts of the emissions of such gases on the environment are so severe that they could affect the main targets of the Lisbon Process, namely sustainable growth. Emissions have effect locally, regionally and globally. Reducing these emissions require in general international cooperation.

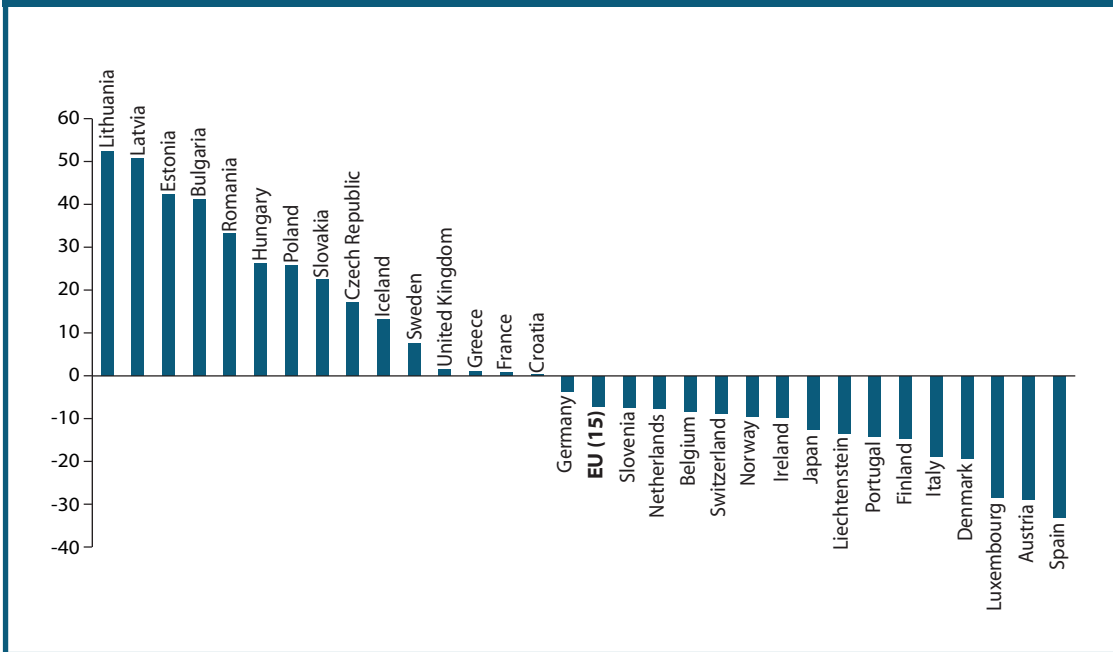
The Kyoto Protocol quantifies the commitments of industrialised countries to reduce their greenhouse gas emissions. The signatories of the Protocol are to individually or jointly ensure that their aggregate emissions do not exceed their assigned amounts.

The EU has agreed to an 8% reduction in the emissions of its greenhouse gases by 2008-2012, compared to the base year 1990. Furthermore, reductions for each of the



Distance to Kyoto targets for greenhouse gas emissions: 2004

Fig. 18



Sources: Eurostat and the Swiss Federal Statistical Office
 Notes: For Liechtenstein the data is for 2003 instead of 2004.

EU15 countries have been agreed under the EU Burden Sharing Agreement, which allows some countries to increase emissions, provided these are offset by reductions in other Member States.

Emissions of greenhouse gases are measured in aggregated CO2 equivalents and weighted by their global warming potentials. If the Kyoto target is not fulfilled, the emissions will exceed the target value. A negative percentage indicates the distance to the target. However, about half of the EU fulfilled the aims in 2004. Several of the less developed economies in Europe have targets which allow for considerable growth not only in the economy but also in the emissions.

In 2004, the countries that were furthest away from the Kyoto targets were Spain, Austria and Luxembourg. Norway's and Switzerland's emissions were higher than the target in 2004. From the EFTA countries, only Iceland has already reached their target.

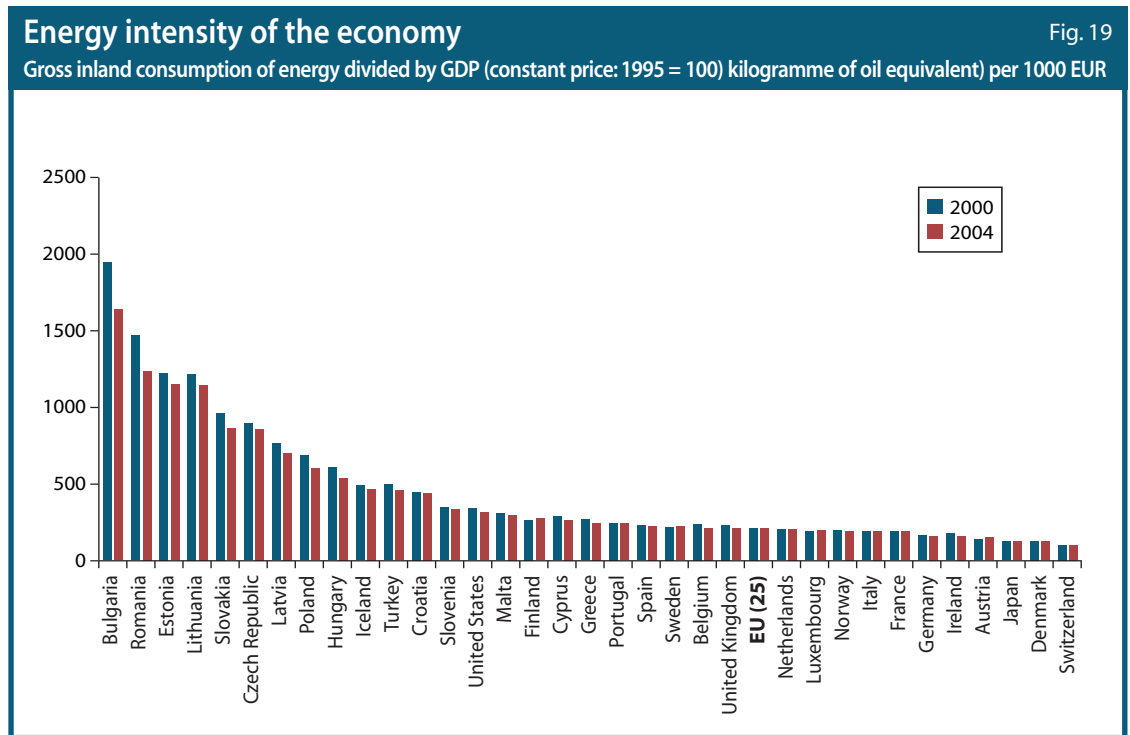
Energy Intensity of the Economy

Energy intensity is measured as gross inland consumption of energy divided by the GDP at constant prices. The consumption of energy is calculated in kilograms of oil equivalent and includes coal, electricity,

oil, natural gas and renewable energy sources. The consumption and production of energy very often imply negative effects on the environment. Improving energy efficiency is vital to the fulfilment of the EU's Lisbon objectives and particularly to the achievement of sustainable growth.

The ratio between the gross inland consumption of energy and gross domestic product provides a rough indicator of the overall energy efficiency. However, it does not take into account differences in the countries' industry structures, climatic or the actual negative effects of the consumption of different energy types.

Several countries with low GDP levels had the highest energy intensities. Bulgaria and Romania had the highest consumption of energy relative to the GDP, i.e., the least efficient energy use. Switzerland had the lowest energy intensity of all listed countries. Concerning the other EFTA countries, Norway was relatively energy-efficient according to this indicator, and its consumption was below the EU average. Iceland had a relatively high consumption of energy. However, this rough indicator, as mentioned earlier, takes neither the climatic nor industry structure into account.

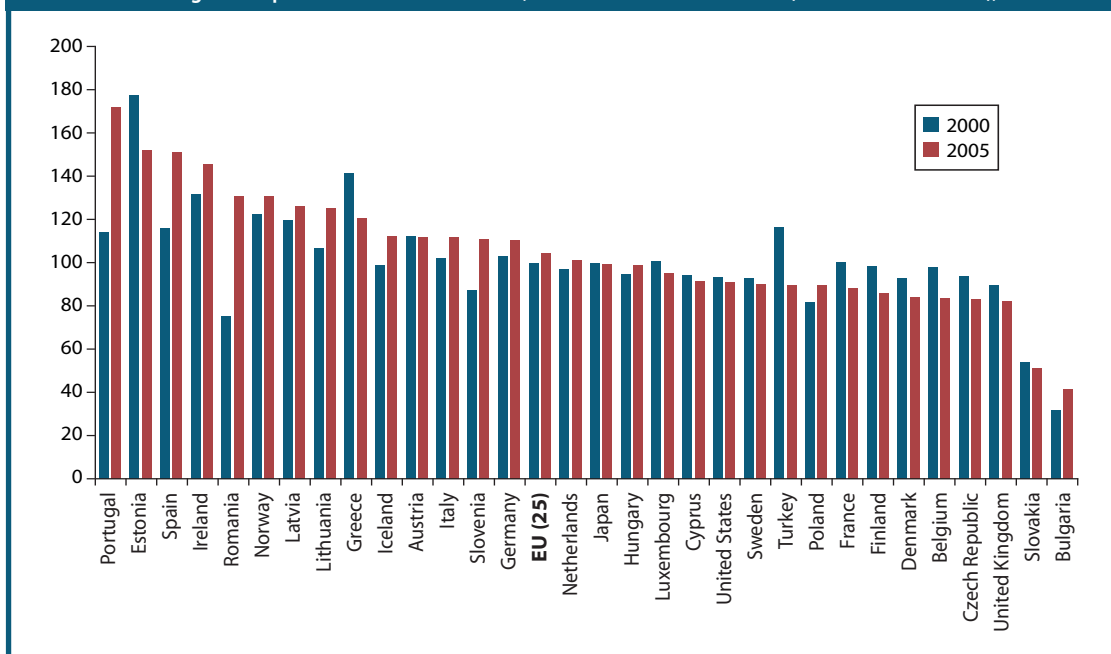


Sources: Eurostat and the Swiss Federal Statistical Office

Volume of freight transport relative to GDP

Fig. 20

Index of inland freight transport volume relative to GDP; measured in tonne-km/GDP (in constant 1995 EUR), 1995 = 100



Source: Eurostat

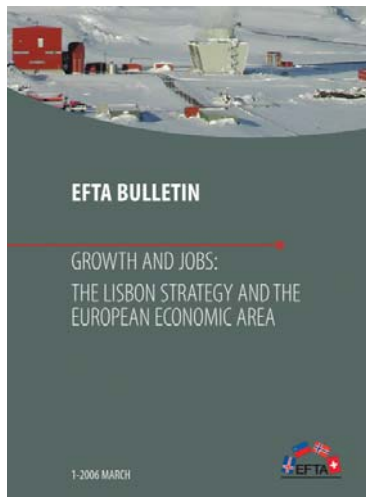
Notes: For Japan the data are for 2004 and for the USA they are for 2003 instead of 2005. For Greece the data are for 1999 instead of 2000.



Volume of Freight Transport

Economic growth will often result in the increased transport of goods, and more transport has an effect on the environment. The indicator volume of freight transport relative to GDP is defined as the ratio between inland transport in tonne-km and GDP in constant prices. Transport by road, rail and inland waterways is included in the indicator.

The indicator does not take geographical or industry structure into account and it does not distinguish between more or less pollutive means of transport. Norway was above the EU average in terms of freight transport relative to its GDP in 2005, a small increase compared to 2000. Iceland was situated above the EU average in 2005.



This publication is an update of the Structural Indicators published in the EFTA Bulletin 1-2006 March. For a digital copy of the original Bulletin, please visit <http://secretariat.efta.int/>





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