

Key Figures on the Danish Information Society 2005

International Figures



Ministry of Science
Technology and Innovation



STATISTICS
DENMARK

**Key Figures on
the Danish Information Society 2005
International Figures**

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Explanation of symbols

- $\begin{matrix} 0 \\ 0,0 \end{matrix} \}$ Less than 0.5 of the unit applied
- . Category not applicable
- .. Data too uncertain
- ... Data not available
- Nil

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ICT developments are central to Denmark's future

Globalisation places heavy demands on developments in Denmark in the years to come. To compete internationally, we must be among the best in terms of knowledge and innovation. We need to focus on our ability to change and find new solutions.

ICT plays a key role in this regard. ICT affects all parts of our society and contributes to shaping our opportunities. Careful monitoring of ICT developments is therefore crucial.

The work carried out by Statistics Denmark and the Ministry of Science, Technology and Innovation of selecting central, international key figures offers a good opportunity to place Danish ICT developments on the world map. Over the next period, I will intensify the work of setting targets in the field of ICT and give increasing priority to the work by following up on these targets regularly.

The key figures in this publication and the Danish key figures in the publication *Key Figures on the Danish Information Society 2005 - Danish Figures* form the basis of the Government's IT and telecommunications policy 2005.

Helge Sander, Minister of Science, Technology and Innovation

April 2005

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Introduction

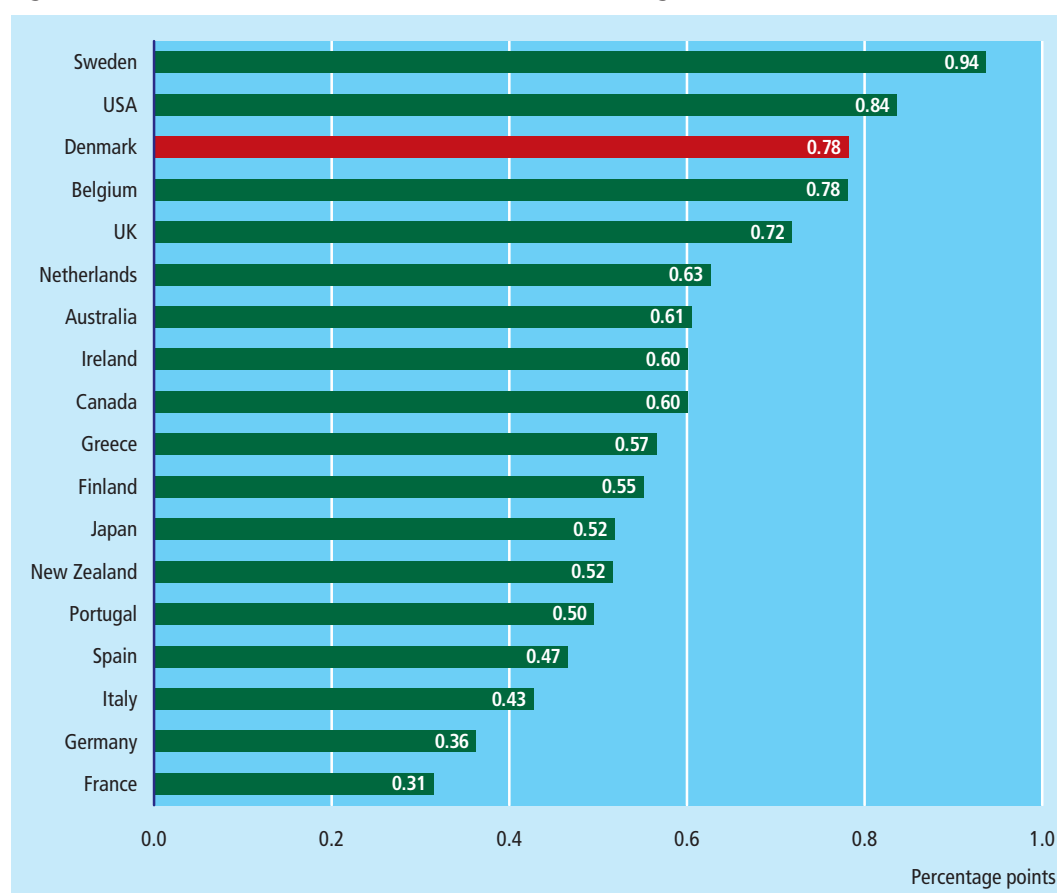
<i>New publication with international ICT statistics</i>	<i>Key Figures on the Danish Information Society 2005 - International Figures</i> is the first publication to present comprehensive statistics on the Danish information society in an international context. The Danish figures are published in <i>Key Figures on the Danish Information Society 2005 - Danish Figures</i> .
<i>Sources</i>	The amount of statistical information on the EU and the OECD countries has increased substantially in recent years. This publication primarily includes results from the so-called EU-15 countries ¹ , Norway and Iceland; this means that the ten new member states as at 2004 ² are not included.
<i>"EU-15 average"</i>	The publication often uses an EU-15 average. This is a weighted average in relation to the populations of the individual countries (e.g., population or number of enterprises) depending on the indicator applied. The average is only computed where at least 60 per cent of the EU population is represented. In certain cases the weighting means that a majority of countries may deviate considerably from the average.
<i>Harmonised Danish figures</i>	In a few cases, the Danish figures used in the international context may deviate from corresponding figures published in a Danish context. This is usually due to adjustment of the Danish figures for the sake of comparability.
<i>Structure of the publication</i>	The structure generally follows the structure of the publication with Danish key figures. <i>The ICT sector</i> describes the supply side, i.e. the production of ICT products and services. The demand, meaning the use of ICT, is described in <i>The digital citizen</i> , <i>The digital business sector</i> and <i>The digital public sector</i> .
<i>Cross-sectoral areas</i>	The publication also presents four cross-sectoral areas that are important to all three user groups. <i>ICT infrastructure</i> is the foundation of ICT diffusion and adoption, and <i>ICT security</i> is central to further integration. The <i>ICT skills</i> of the population are a prerequisite for effective utilisation of ICT in society.
<i>Consequences of ICT</i>	<i>Economic consequences of ICT</i> are described in the first chapter of the publication, illustrating the economic return of the information society. <i>ICT for all</i> shows the penetration and use of ICT among different parts of the population.

¹ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.

² Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

1. Economic consequences of ICT

Figure 1.1 Contribution of ICT investments to growth in GDP, 1995-2002



Note. 1995-2002 for Australia, Canada, France, Germany, Japan, New Zealand and USA. 1995-2001 for other countries.

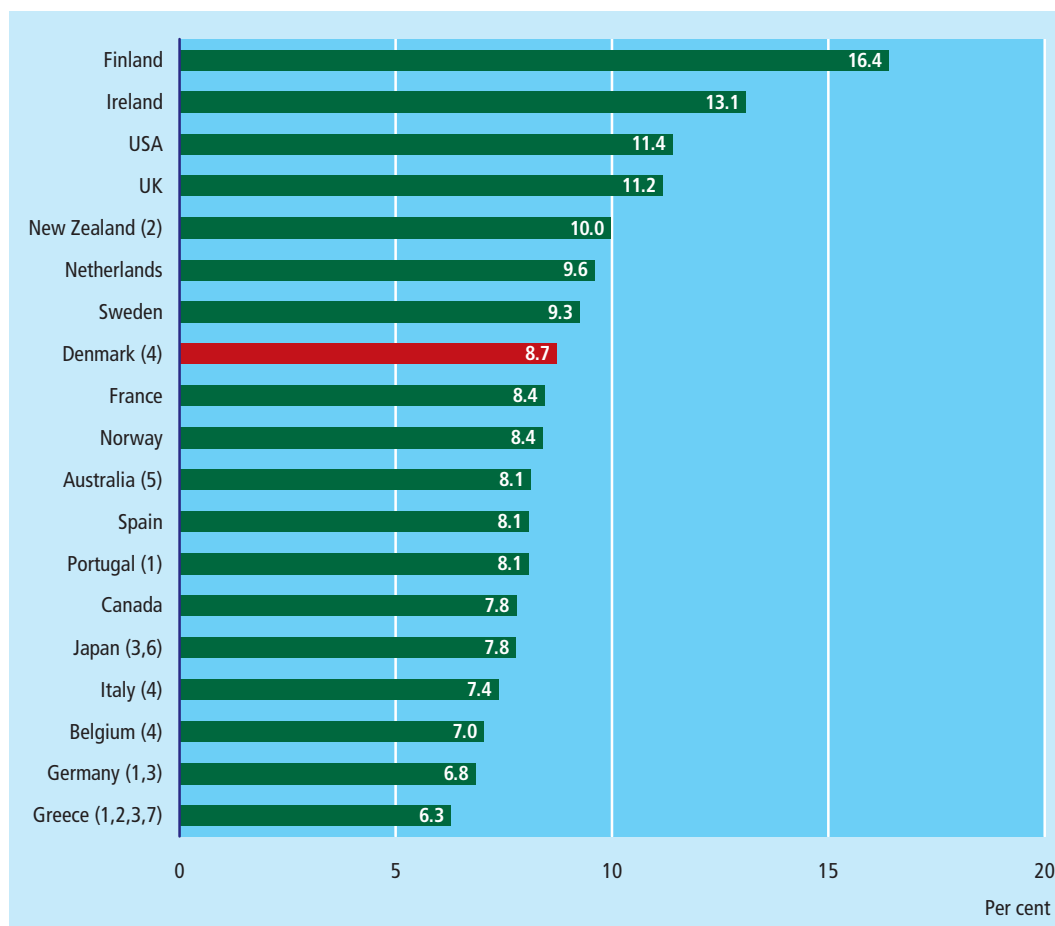
Source: OECD Productivity Database, September 2004.

ICT investments affect growth

Investments in ICT account for a substantial part of total investments in many OECD countries. This fact also affects the development in economic growth, including the contribution of ICT investments to growth in the gross domestic product (GDP).

Danish ICT investments in international comparison

Among the countries illustrated in the figure, Denmark ranks third in terms of the contribution of ICT investments to GDP growth in the period 1995 to 2002. Thus, only the US and Sweden had a higher contribution of ICT investments to economic growth during that period.

Figure 1.2 ICT sector's share of value added, 2001

¹ Rental of ICT products not included. ² Postal services is included under telecommunication services. ³ ICT wholesale not included. ⁴ Figures from 2002. ⁵ 2000/2001 instead of 2001. ⁶ Including only some of the computer-related activities. ⁷ "other ICT manufacturing" includes telecommunication equipment, insulated conductors and cables and precision instruments. This does not apply to Greece, for which only telecommunication equipment is included. "Other ICT services" include wholesale and rental of ICT products.

Source: OECD, March 2004.

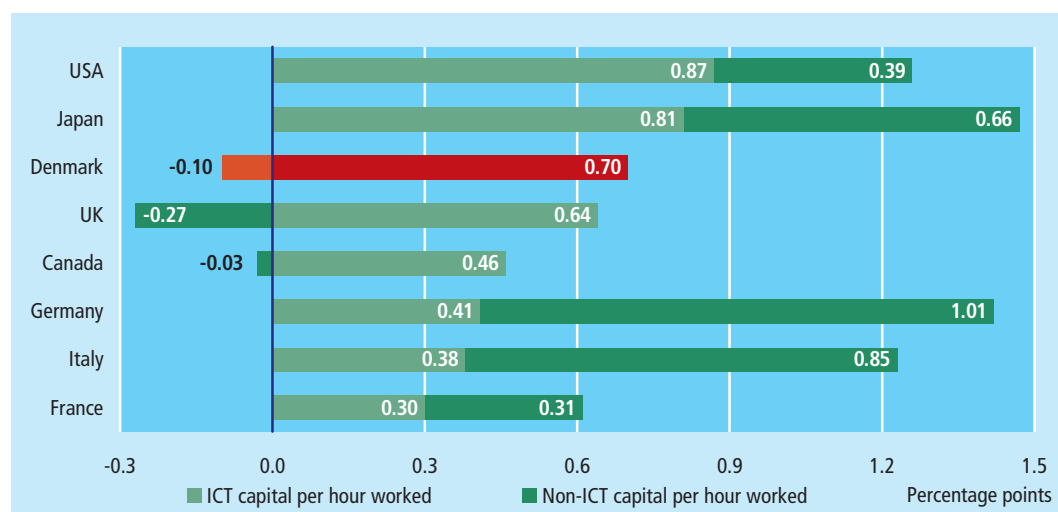
ICT sector accounts for 8.7 per cent of value added

In Denmark, the ICT sector's share of total value added in the private sector is 8.7 per cent. Accordingly, Denmark ranks as number eight among the OECD countries in the survey.

Large mutual differences

There are large mutual differences between the countries. In Finland, the ICT sector accounts for 16.4 per cent of total value added in the private sector, while the corresponding figure for Greece is 6.3 per cent.

Figure 1.3 Contribution of capital investments to labour productivity, 1995-2000



Source: Statistics Denmark, Produktivitetsudviklingen i Danmark (Productivity in Denmark) 1988-2000.

Investments in ICT capital are important

Capital investments have a major impact on the development in labour productivity. For Denmark and the G7 countries capital investments can be divided into ICT capital and non-ICT capital for the period 1995 to 2000.

Denmark comes in third

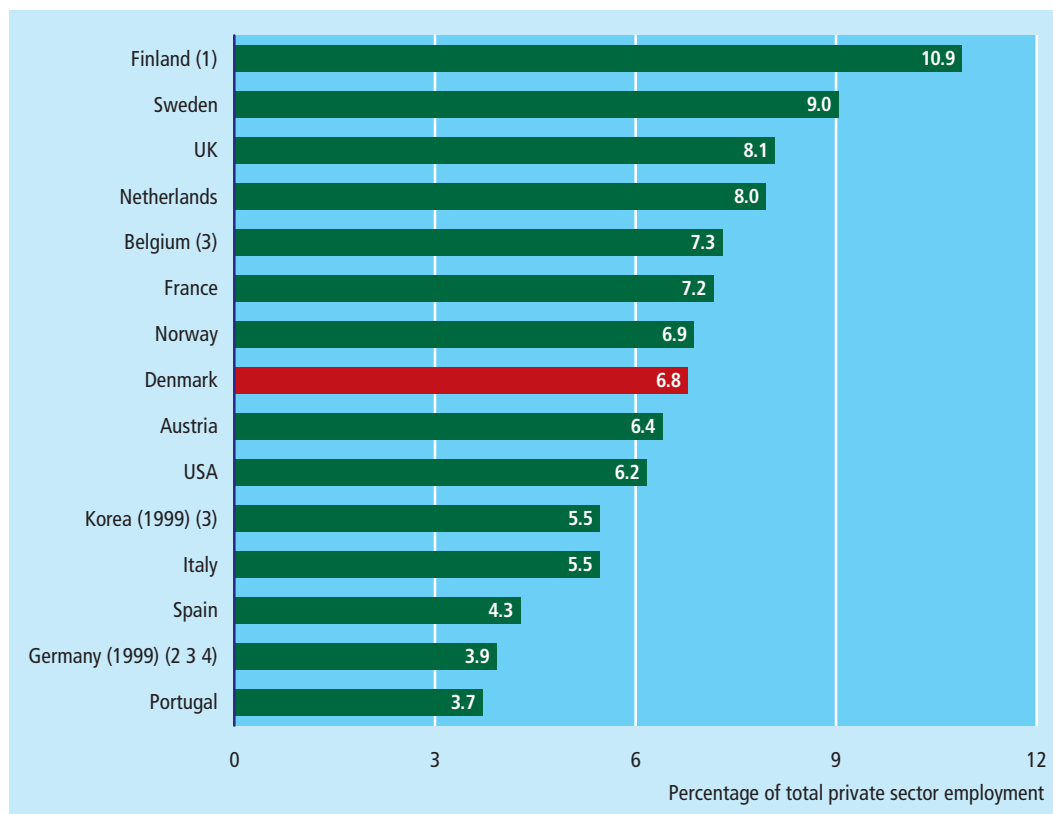
The development shows that Denmark comes in third among the illustrated countries in terms of the importance of ICT capital for growth in labour productivity in the period. Thus, in Denmark ICT capital contributes to labour productivity by 0.7 percentage points.

Diminishing importance of non-ICT capital in several countries

The figure shows that in five of the countries, ICT capital contributed more to labour productivity growth than non-ICT capital over the period 1995 to 2000. Indeed, in Denmark, the UK and Canada the contribution of non-ICT capital was negative.

2. The ICT sector

Figure 2.1 Share of ICT employment in private sector employment, 2000



¹ Calculated in relation to number of employees. ² ICT wholesale data not available. ³ Rental of ICT products not available.

⁴ Telecommunications not available.

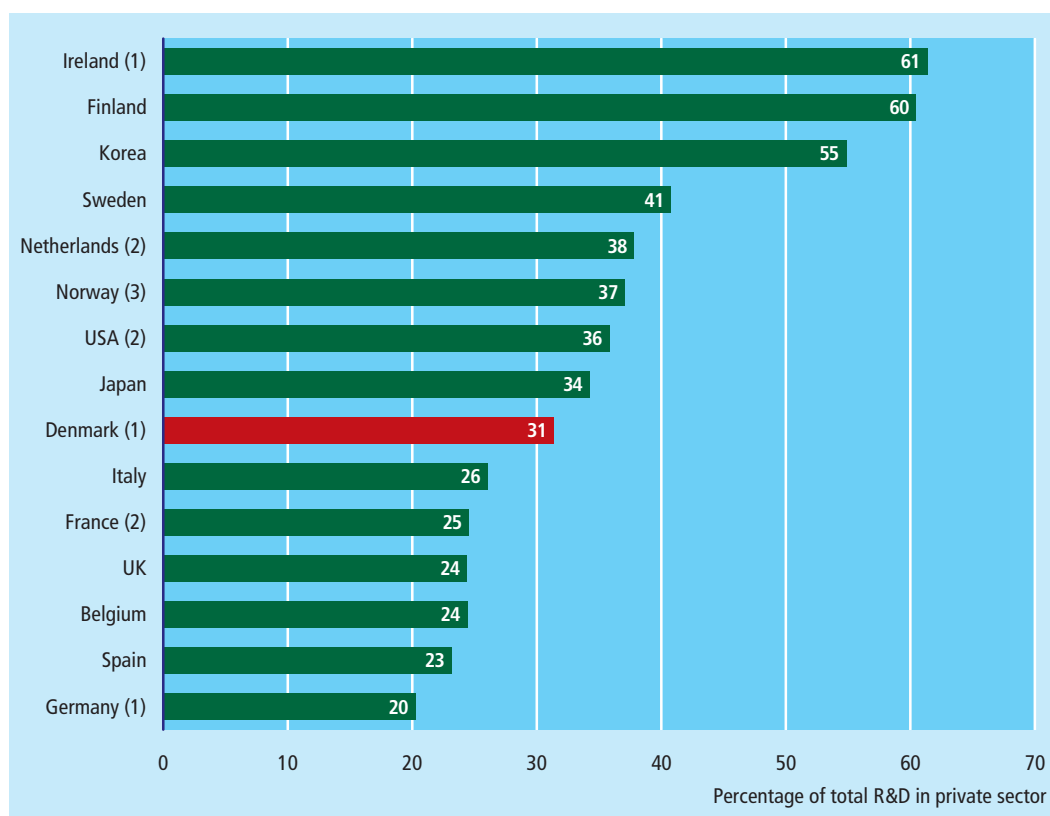
Source: OECD estimates based on national sources, STAN and national accounts, August 2002.

In 2000, 6.8 per cent in the private sector were employed in the ICT sector

In Denmark, the ICT sector accounted for 6.8 per cent of total employment in the private sector in 2000. This places Denmark at mid-level of the countries measured. Finland has the highest share of employment in the ICT sector with 10.9 per cent of total employment.

Larger share in Denmark than in the US and Korea

The share of ICT employment in Denmark is smaller than in the other Nordic countries. But the share of ICT sector employment is larger in Denmark than in otherwise high-tech countries such as the US and Korea, namely by 0.6 and 1.3 percentage points, respectively.

Figure 2.2 R&D expenditure in the ICT sector, 2001

Note: R&D expenditure is computed on the basis of the following classifications: ISIC, rev. 3: 30, 32, 33, 64, 72.

¹ Data from 2002. ² Data from 2000. ³ Data from 1997.

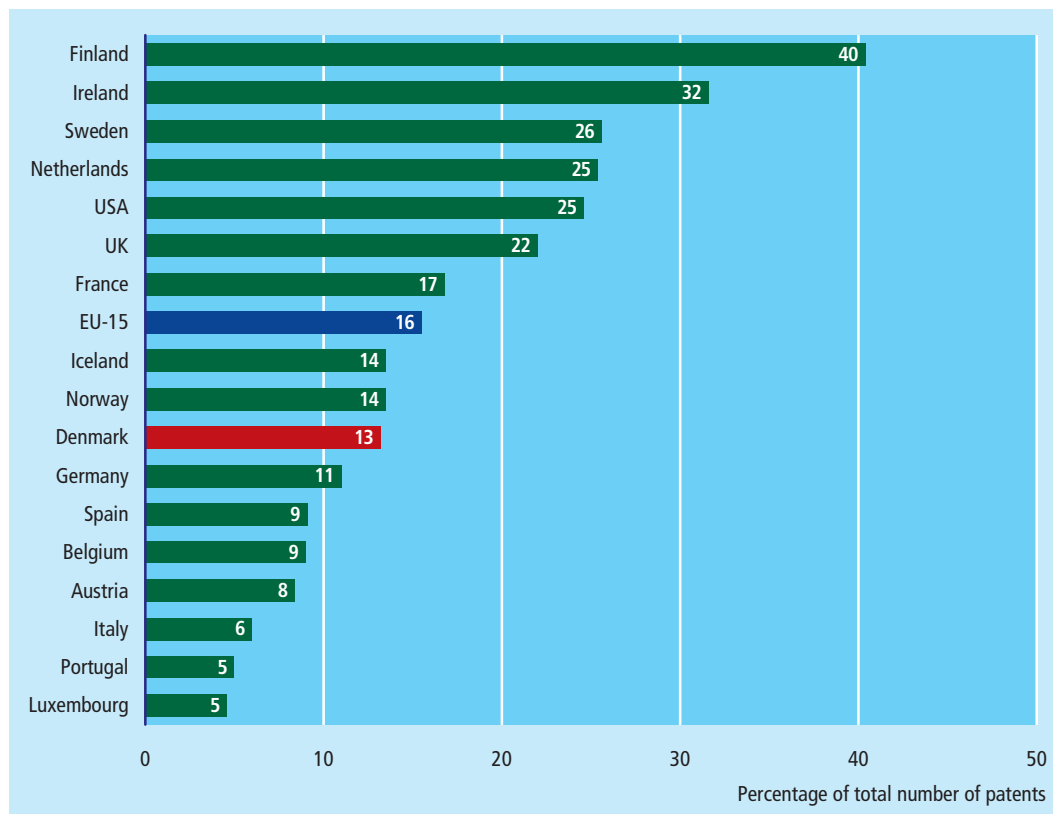
Source: OECD, ANBERD database, January 2004, and Danish Centre for Studies in Research and Research Policy.

*Denmark uses
31 per cent of
private R&D
expenditure
in the ICT sector*

The share of expenditure on research and development (R&D) in selected ICT industries is stated in relation to total R&D expenditure in the business sector as a whole. In Denmark, this share amounts to 31.4 per cent, which is smaller than in the countries with which we usually compare ourselves; In Sweden, for instance, the share of ICT-related R&D expenditure is 9.4 percentage points higher than in Denmark. The figures illustrate the distribution of resources within R&D, but not the magnitude of the R&D of the individual countries.

*Ireland and Finland
spend over
60 per cent of R&D
expenditure on ICT*

The ICT sectors in Ireland and Finland account for particularly large shares of expenditure on ICT-related research and development, namely 61.4 and 60.5 per cent, respectively, of total R&D expenditure.

Figure 2.3 ICT patents, 2000

Source: Eurostat, Statistics in focus, Theme 9 - 06/2003.

Large variations in the share of ICT patents

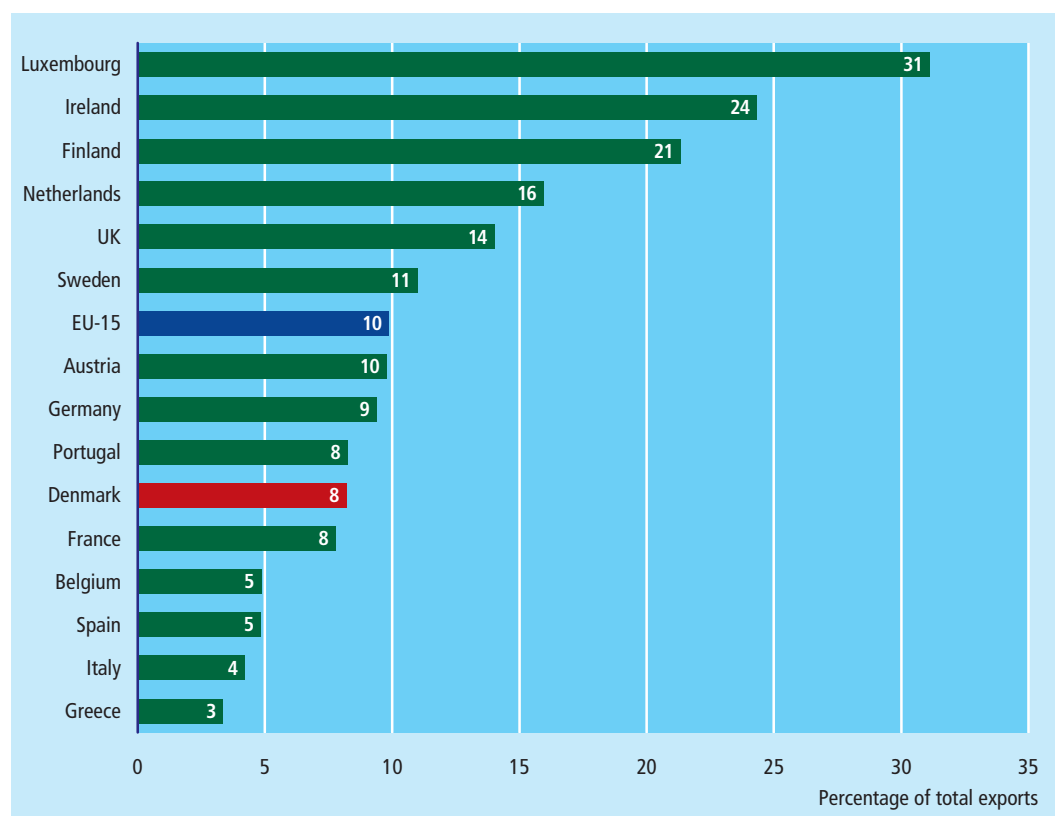
The share of ICT patents in the ICT sector in relation to the total number varies substantially among the countries in the survey. With 40.4 per cent, Finland has by far the largest share of ICT-related patents, while the share in Luxembourg is a mere 4.6 per cent.

Smaller share of ICT patents in Denmark than in EU-15

Denmark's share of ICT-related patents in relation to the total number of patents is 13.2 per cent, which is 2.3 percentage points below the EU-15 average.

Different composition of ICT patents in Denmark

The composition of patents in Denmark is different from that of the EU-15 countries as a whole. This particularly applies to patents in the fields of computer technology and computation, which account for about 41 per cent of the Danish ICT patents, but only 33 per cent in the EU-15 countries as a whole. Contrary to this, about 60 per cent of patents in the EU-15 countries as a whole relate to communication technology, while the corresponding figure in Denmark is only 51 per cent.

Figure 2.4 ICT exports as share of total exports, 2003

Source: European Community, Eurostat, Comext Database.

*Large differences
in exports of
ICT products*

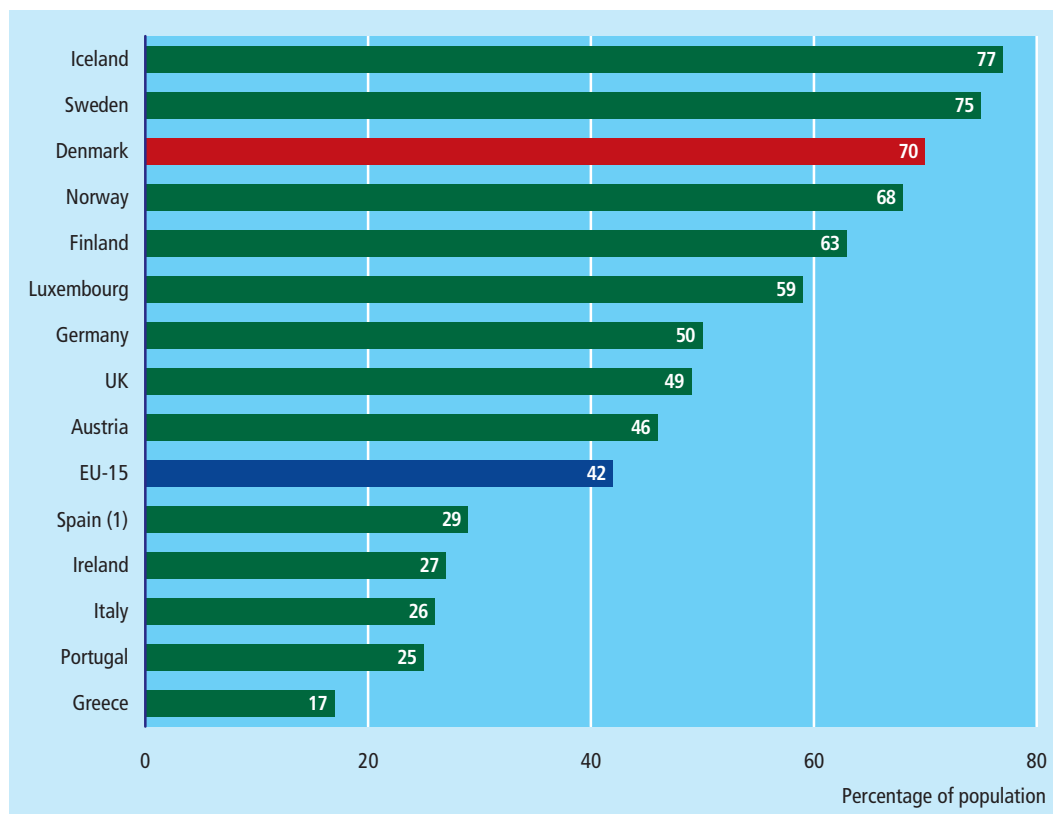
Exports of ICT products vary substantially between the EU member states, measured in relation to the total exports of the individual countries. In Luxembourg, ICT products account for a very large share of total exports, namely 31.1 per cent, while in Greece exports of ICT products constitutes only 3.4 per cent of the total volume.

*Denmark is below
the EU-15 average*

In Denmark, exports of ICT products account for 8.2 per cent of total exports, which is 1.7 percentage points below the EU-15 average. Compared to the other two Nordic countries in the survey, Denmark is somewhat lower, particularly in relation to Finland. In Finland, ICT products make up 21.3 per cent of total exports. The high positions of Finland and Ireland may be explained by the great importance of the ICT sector in these countries.

3. The digital citizen

Figure 3.1 Internet use by the population, 2004



¹ Data for 2003.

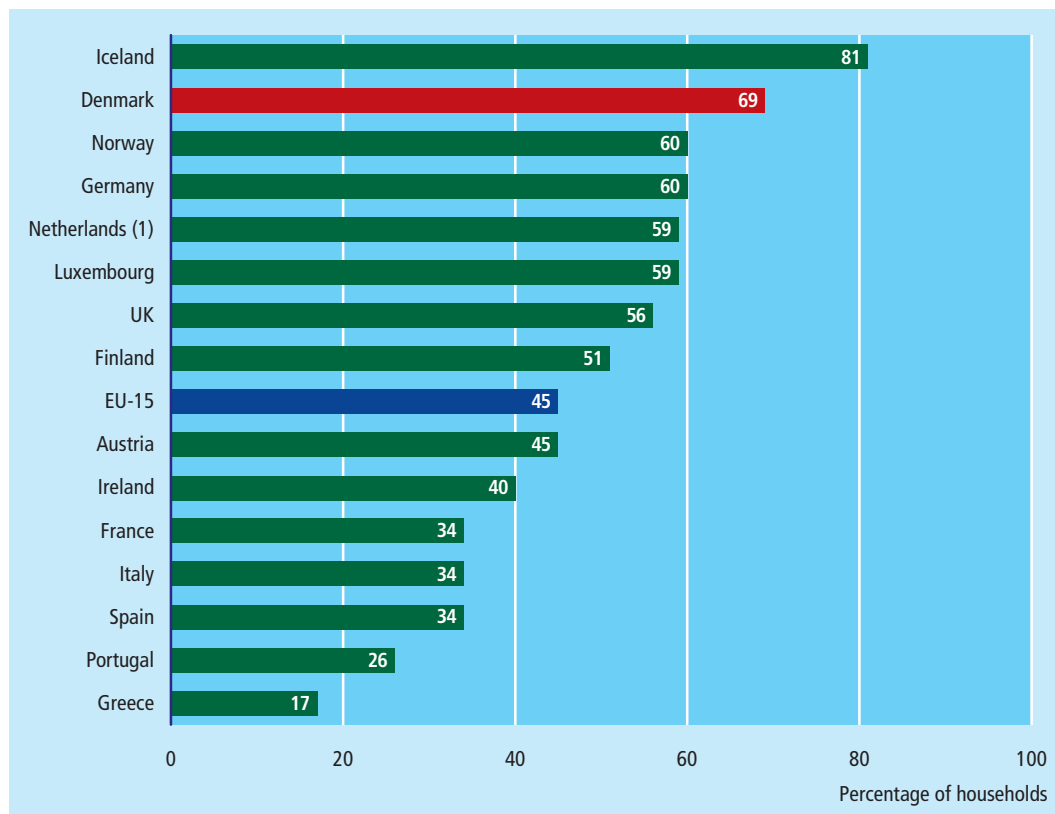
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Danes often on the Internet

In 2004, 70 per cent of the Danish population used the Internet at least once a week. Thus, of the countries included in the survey, Denmark is only surpassed by Iceland and Sweden, where the shares are 77 per cent and 75 per cent, respectively.

Nordic countries in the lead

Internet use by individuals varies considerably within the European Union. In the Nordic countries, over 60 per cent used the Internet at least once a week in 2004, while countries such as Spain, Ireland, Italy, Portugal and Greece were far below the EU-15 average of 42 per cent.

Figure 3.2 Percentage of households who have Internet access at home, 2004

¹ Data for 2003.

Note. Data not available for Sweden.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

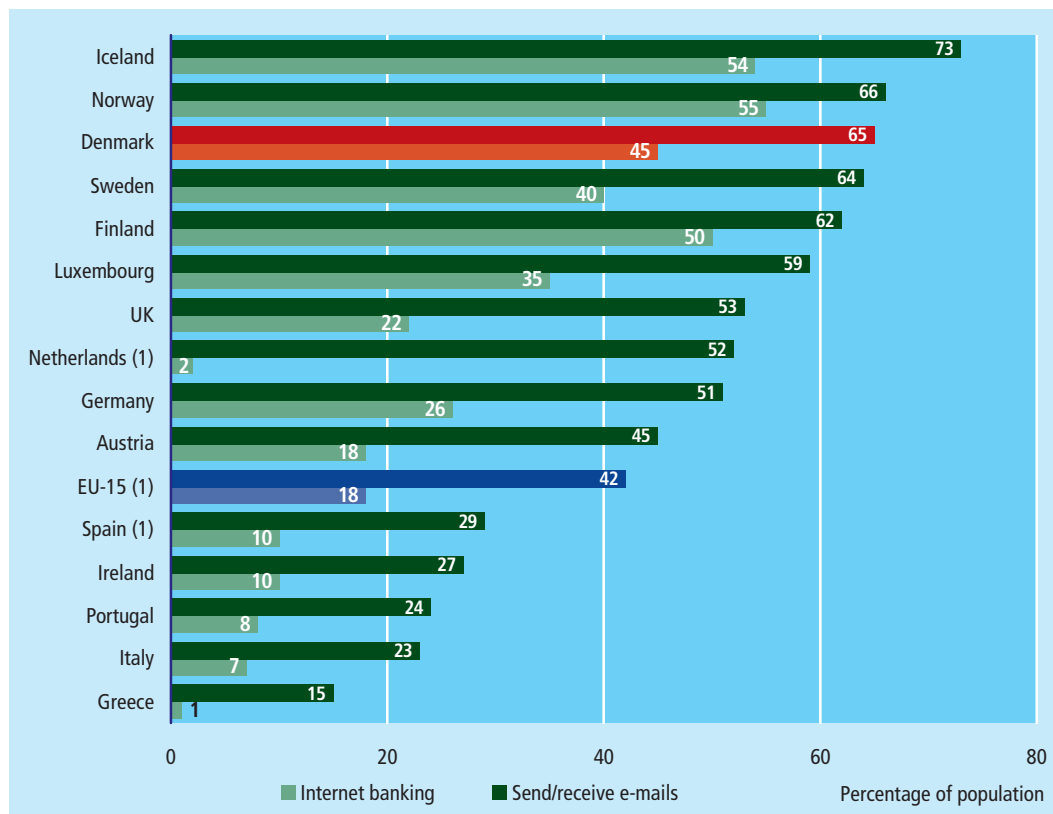
Large proportion of Danish households has Internet access

In 2004, 69 per cent of all Danish households had access to the Internet at home. Only Iceland, with 81 per cent, had a higher share than Denmark, which was well above the average for EU-15 of 45 per cent.

Penetration of Internet access highest in Northern Europe

Similar to the situation for Internet use by the population, the percentage of households who have Internet access at home varies considerably among the countries in the survey. Over half of the households in Finland, Norway, the Netherlands and Germany, for instance, had Internet access at home in 2004, while the shares in the Southern European countries were below the EU-15 average.

Figure 3.3 Private purposes for using the Internet, 2004



¹ Data for 2003.

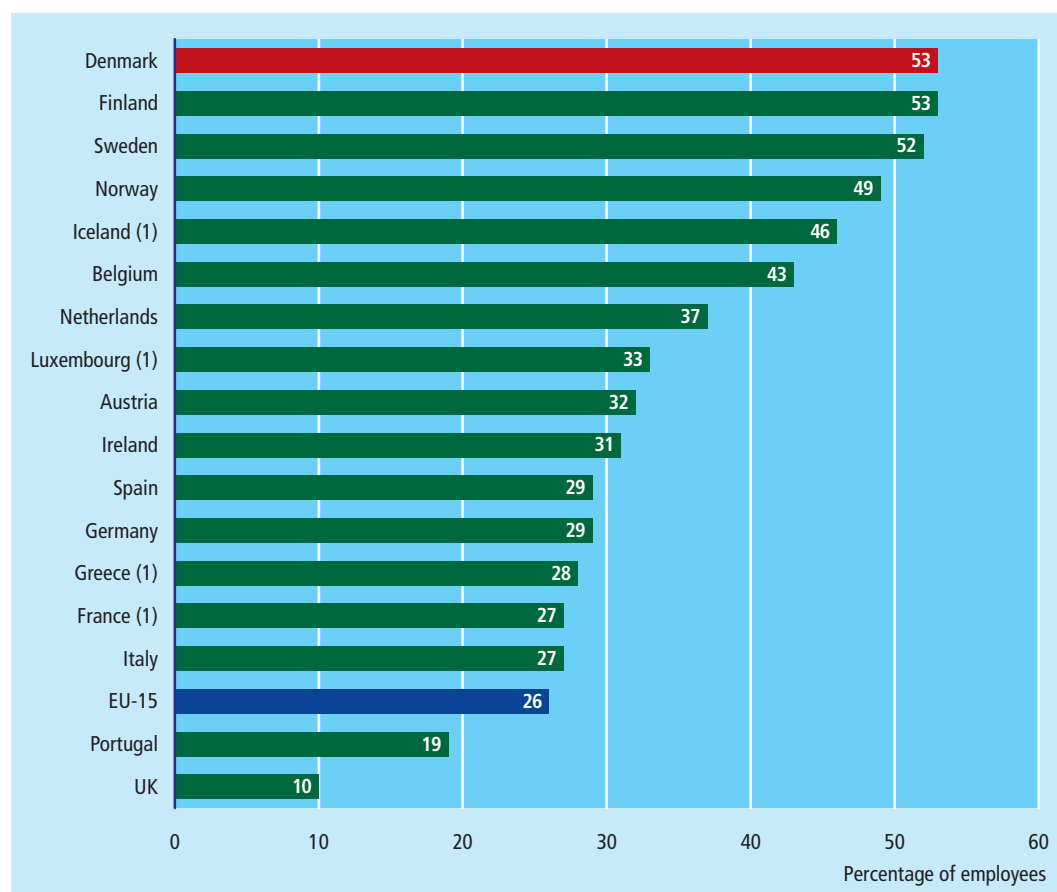
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Nordic citizens frequently send and receive e-mails

In 2004, 65 per cent of the Danes used the Internet to send and receive e-mails, which is exceeded only by Iceland and Norway with 73 per cent and 66 per cent, respectively. The Nordic countries are in the lead in Europe, with more than six in ten people using the Internet for that purpose. On average, four in ten people in the EU-15 countries used the Internet to send and receive e-mails.

Danes frequently use Internet banking

Turning to a more advanced form of Internet use such as Internet banking, this is less frequent in the countries included in the survey. Here, Denmark came in fourth with 45 per cent, after Norway, Iceland and Finland, but well above the EU-15 average of 18 per cent in 2004.

Figure 3.4 Number of PC users in relation to total number of employees, 2004

¹ Data for 2003.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

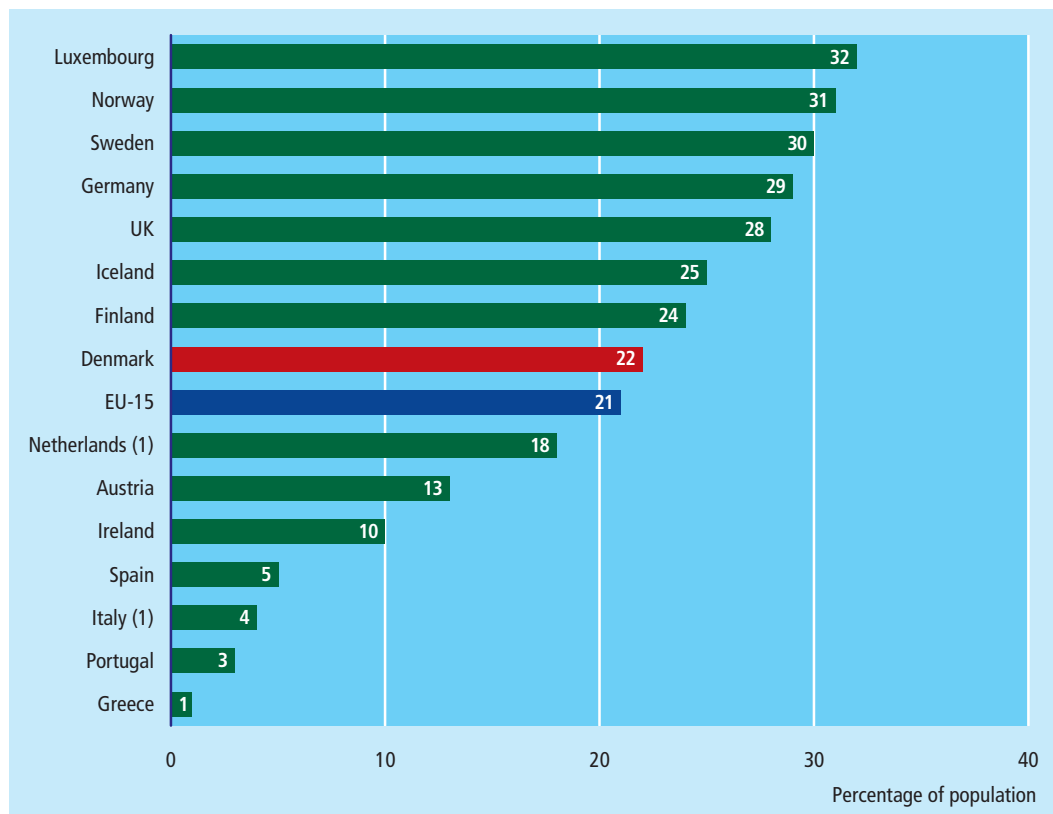
Most PC users in the Nordic countries

The share of PC users of the total number of employees in Denmark was very high in 2004 compared to several European countries. Together with Finland, Denmark came in first, with more than one in two employees being PC users in the two countries in 2004. The Nordic countries take the lead with equally high shares in Sweden, Norway and Iceland.

Low EU-15 average

For the EU-15 countries as a whole, the average was 26 per cent in 2004, which is markedly lower than in the Nordic countries. With a mere 10 per cent, the UK came in last of the countries included in the survey.

Figure 3.5 Share of individuals having ordered/bought goods or services, 2004



¹ Data for 2003.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

*Denmark at
EU-15 average*

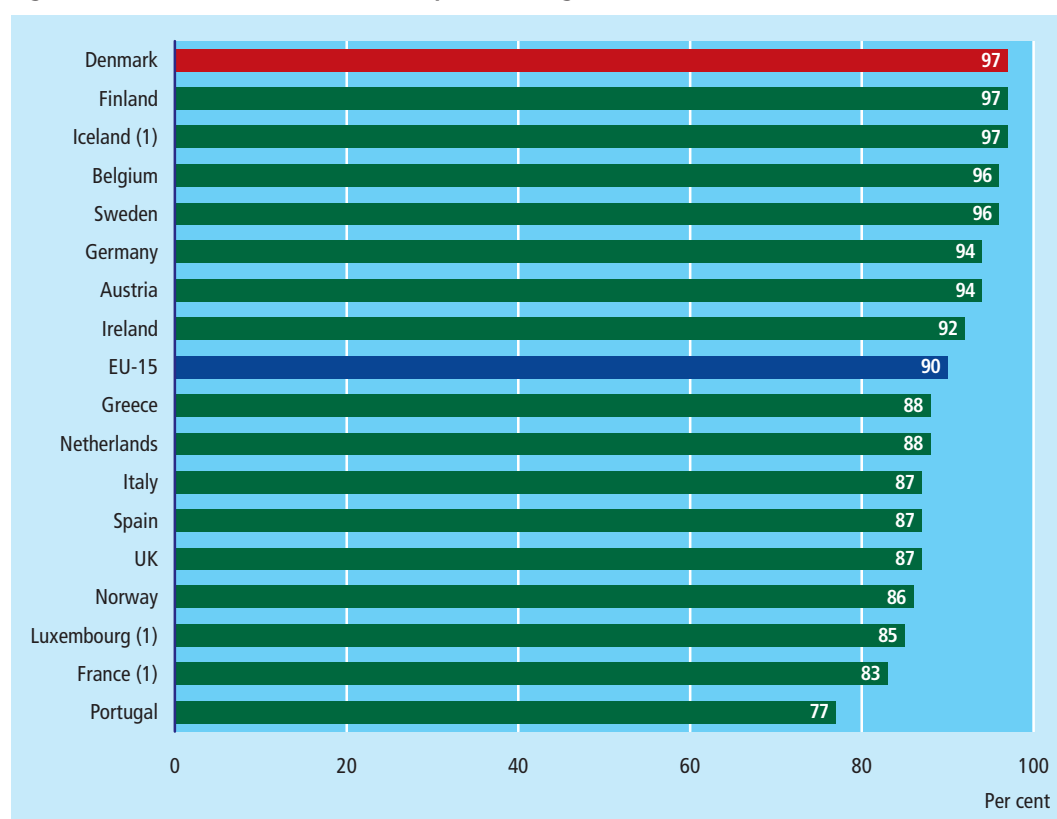
The above figure shows the share of individuals in each country in 2004 who ordered or bought goods or services for private use in the last three months. With a share of 22 per cent, Denmark is down to number 8 and just above the EU-15 average.

*Higher shares
in the other
Nordic countries*

It further shows that the other Nordic countries had higher shares than Denmark in 2004. Contrary to the case of the other indicators concerning Internet use by individuals, the Nordic countries had no distinct lead at the European level in this regard. Luxembourg is at the top with a share of 32 per cent.

4. The digital business sector

Figure 4.1 Share of enterprises having access to the Internet, 2004



¹ Data for 2003.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

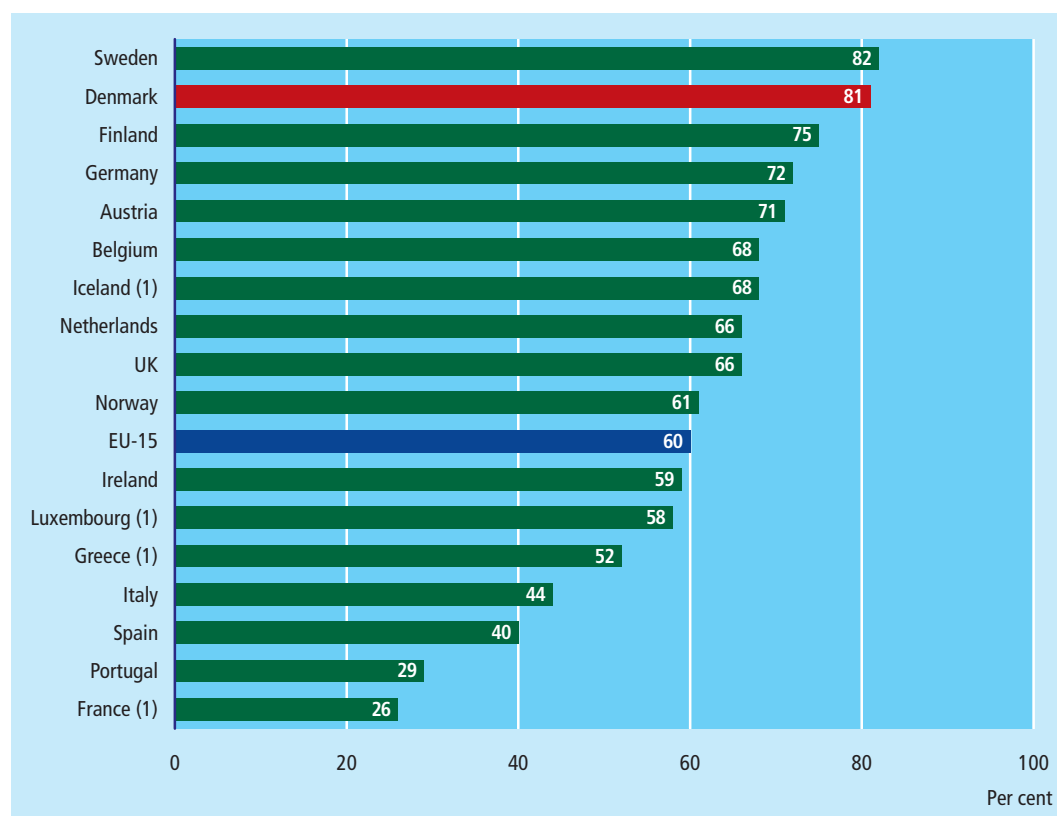
*Danish enterprises
in the lead regarding
Internet access*

Except Norway, the Nordic countries are in the lead regarding the penetration of Internet access in Europe. In these countries, and in Belgium, less than 5 per cent of enterprises have no Internet access.

*Nine in ten European
enterprises have
Internet access*

The EU-15 average for all enterprises is 90 per cent. There are no major variations between the countries, and only Portugal is markedly below the EU-15 average, with 77 per cent Internet users among its enterprises. The generally high level of Internet access has reduced the differences between the countries, and no large growth rates are expected in future regarding penetration.

Figure 4.2 Share of enterprises having web sites, 2004



¹ Data for 2003.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

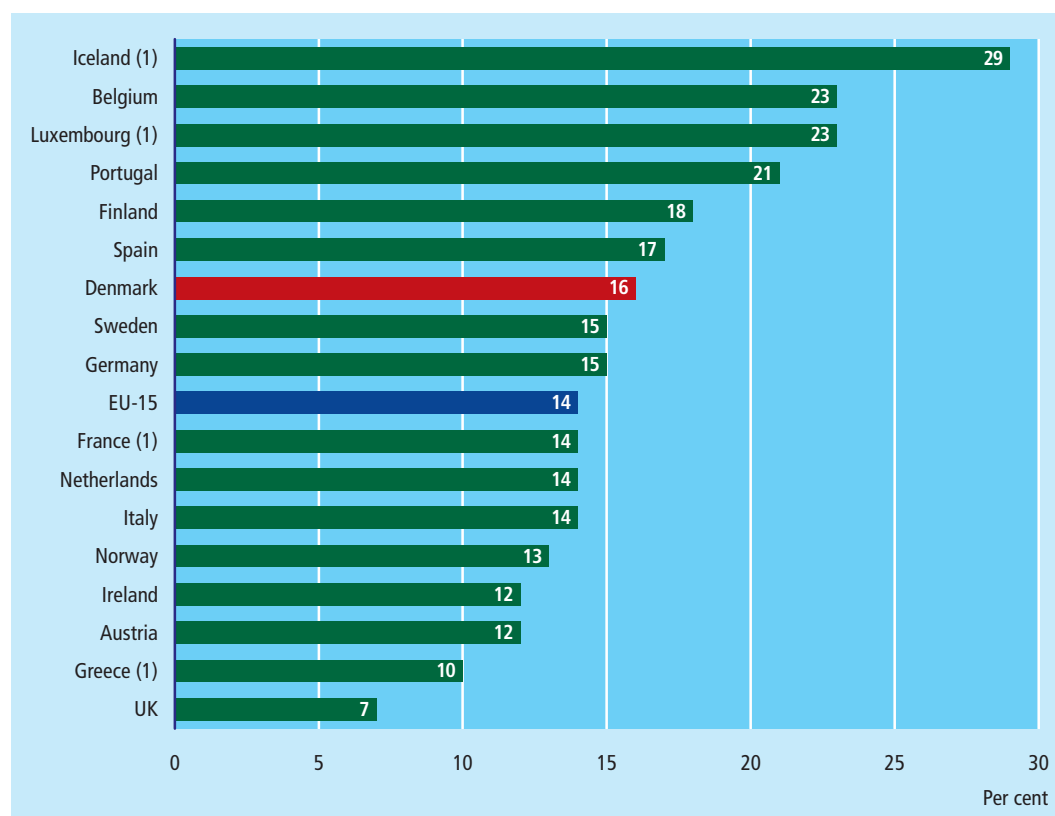
*Eight in ten
Swedish and Danish
enterprises
have web sites*

Swedish and Danish enterprises are at the top regarding web sites, with 82 and 81 per cent, respectively, of enterprises with 10 or more employees. Finland is slightly lower, with 75 per cent, followed by a number of Northern European countries.

*Six in ten
European enterprises
have web sites*

This is well above the EU-15 average, which is 60 per cent. The spread between the countries is considerably larger compared to the penetration of Internet access (Figure 4.1). Among Southern European countries less than one in two enterprises has a web site, and in Portugal the share is just over one in four.

Figure 4.3 Share of enterprises having extranet, 2004



¹ Data for 2003.

Note. In the Danish survey, extranet is defined as web sites that are only made available to a limited group of users outside the enterprise. The definitions of other countries may be different.

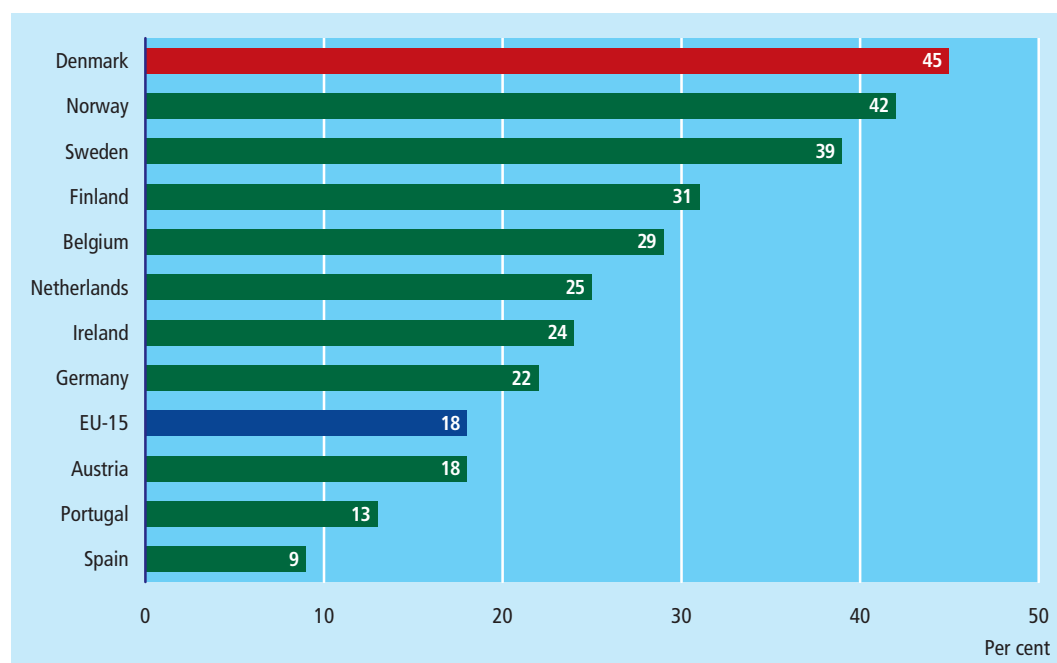
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

*One in seven
European enterprises
has extranet*

Roughly one in six Danish enterprises, or 16 per cent, has extranet, which is slightly above the EU-15 average where one in seven enterprises has extranet, corresponding to 14 per cent.

*Iceland
in the lead*

Iceland has taken a distinct lead with extranet at 29 per cent of its enterprises (2003 figures). Finland is slightly above Denmark with 18 per cent, and Sweden is slightly below with 15 per cent.

Figure 4.4 Enterprises using ICT teleworking, 2004

Note. ICT teleworking means that the enterprise has employees who regularly work at a different location than at the premises of the enterprises and who have access to the ICT systems of the enterprises (e.g., e-mail). A number of countries with a lower use of ICT teleworking than those shown are included in the weighted EU-15 average.

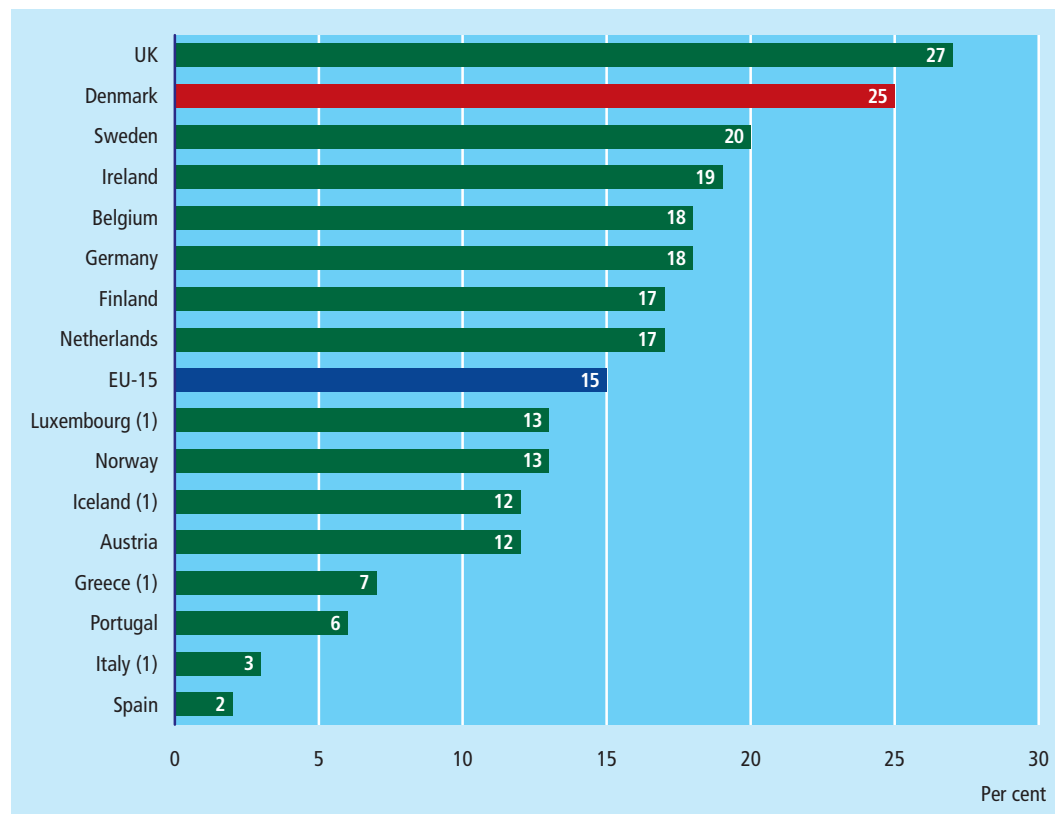
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

*ICT teleworking
is frequent
in Scandinavia*

In Denmark, 45 per cent of enterprises use ICT teleworking. This is the highest level among the EU-15 countries. Also countries such as Norway and Sweden are at the high end of the scale with 42 and 39 per cent of their enterprises.

*One in five
European enterprises
uses ICT teleworking*

The EU-15 average is 18 per cent, or just under one in five enterprises. The seemingly low level of this average is due to the fact that a few large countries with a high weighting are not represented in the figure.

Figure 4.5 Share of enterprises having received orders online in 2003

¹ Data for 2002.

Note. The figures were collected in 2004, but refer to orders received in the course of 2003.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Sales over the Internet most frequent in the UK

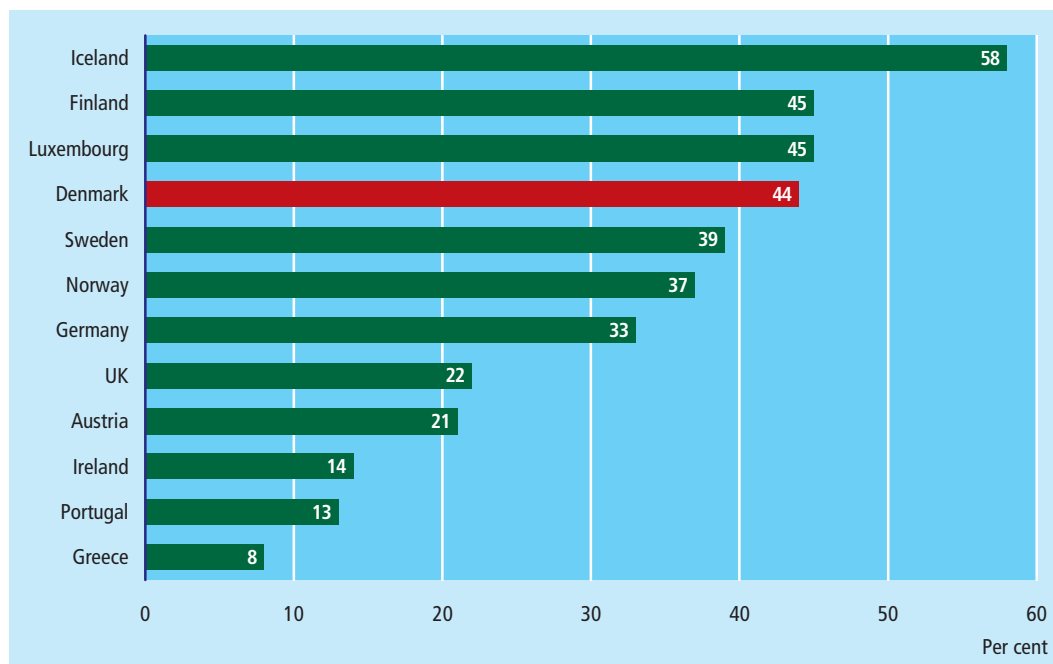
In the course of 2003, 25 per cent of Danish enterprises received orders over the Internet. Denmark is only exceeded by the UK where 27 per cent of enterprises received orders online. The other Nordic countries are slightly below Denmark. In Sweden the percentage is 20 per cent, in Finland 17 per cent, and further down come Norway with 13 per cent and Iceland with 12 per cent (2002 figures).

Internet sales by one in seven EU enterprises

The EU-15 average is 15 per cent, corresponding to one in seven European enterprises having received orders over the Internet. The Southern European countries are noticeably below average.

5. The digital public sector

Figure 5.1 Share of individuals using public digital services, 2004



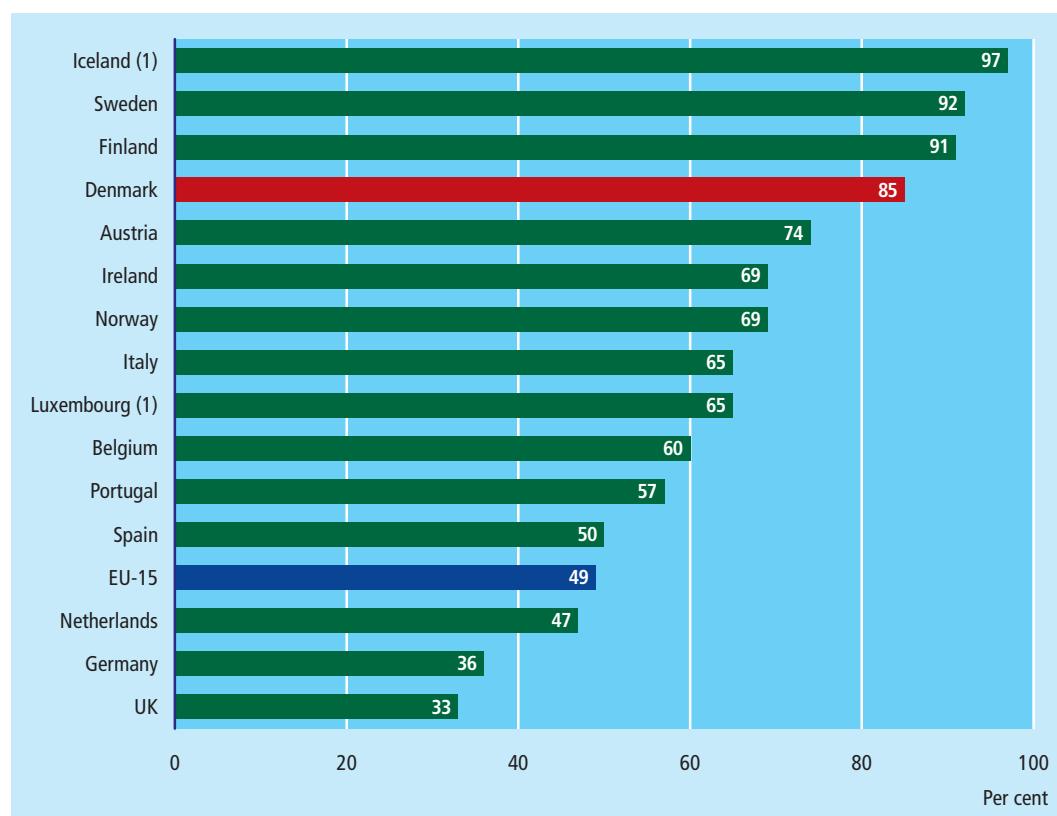
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Four in ten Danes interacted with public authorities over the Internet

Of the Danish citizens, 44 per cent used the Internet in 2004 to interact with public authorities, i.e., to search for information, download forms or submit information. Only Iceland, Finland and Luxembourg had larger shares of their citizens using the Internet for those purposes.

Primarily a Nordic phenomenon

The figure shows that primarily Nordic citizens used the Internet for interacting with public authorities in 2004. No less than six in ten Icelandic citizens used public digital services over the Internet.

Figure 5.2 Share of enterprises using public digital services, 2004

¹ Data for 2003.

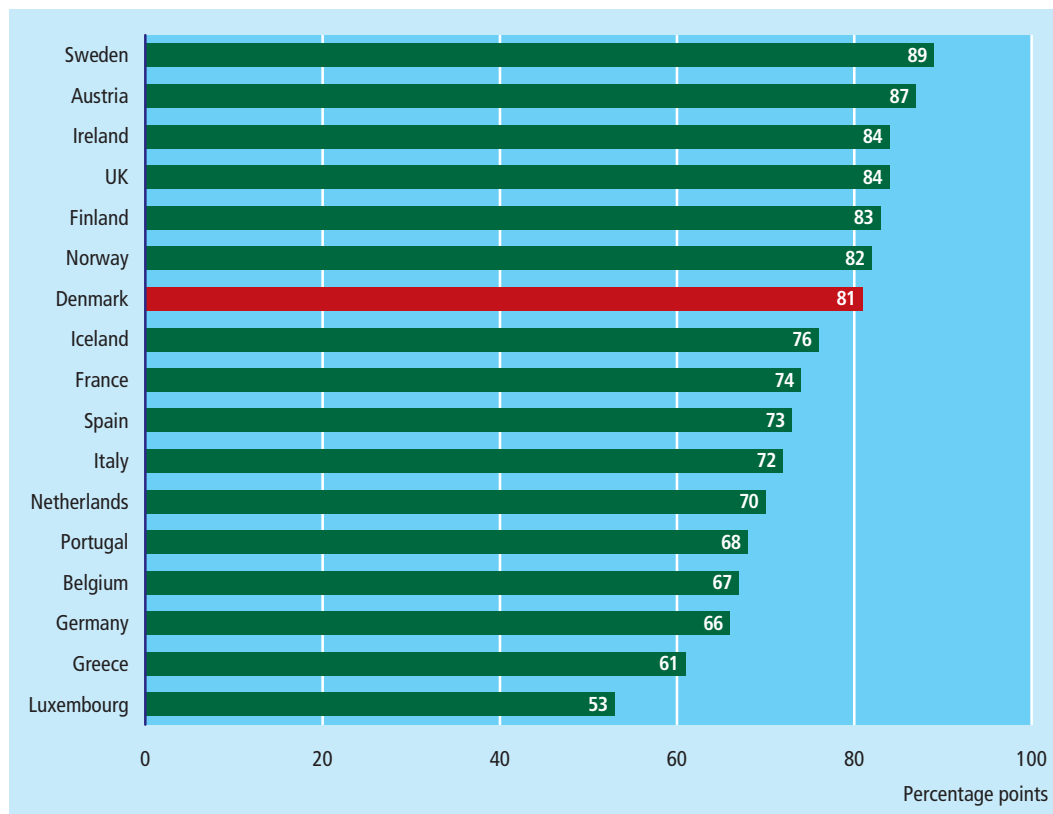
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

*Nordic enterprises
often use
public web sites*

In 2004, 85 per cent of Danish enterprises used web sites of public authorities. This is a larger share than in most European countries, with the exception of Iceland, Sweden and Finland where more than nine in ten enterprises use public web sites. In Norway the share is 69 per cent.

*Large variations
between
the countries*

There are relatively large mutual variations, and the majority of countries are above the EU-15 average, which is 49 per cent of enterprises. The seemingly low level of this average is due to the fact that a few large countries with a high weighting rank fairly low. A few countries may be included in the average without being represented in the figure.

Figure 5.3 Online availability of public services, October 2004

Note. The figures are based on 20 selected services and illustrate the level of sophistication of the online solutions as a whole. The measurement comprises 16 public services aimed at individuals and 8 aimed at enterprises.

Source: European Commission/Cap Gemini Ernst & Young: Online Availability of Public Services: How is Europe progressing? March 2005.

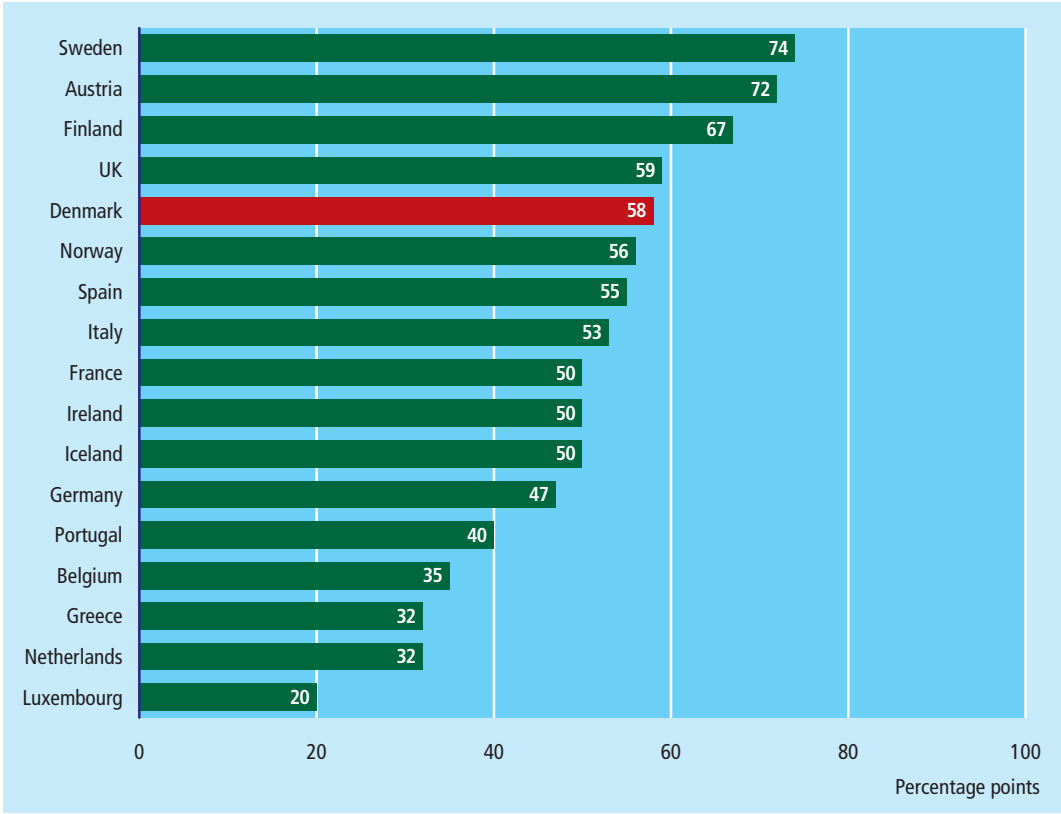
*Sweden
furthest ahead*

Sweden is furthest ahead with 89 percentage points, followed by Austria with 87 percentage points. Then come Ireland and the UK. A little further down, but still at the upper half of the scale, come Finland, Norway and Denmark.

*About the
measurement*

The European Commission has measured 20 different public services and their availability on the Internet. In the comparison of countries, each country was assigned a score on the basis of availability and level of sophistication of the solutions.

Figure 5.4 Online availability of transactional public services, October 2004



Note. The figures are based on 20 selected services and illustrate the share of these solutions offering full electronic case handling, including decision and delivery. The measurement comprises 16 public services aimed at individuals and 8 aimed at enterprises.

Source: European Commission/Cap Gemini Ernst & Young: Online Availability of Public Services: How is Europe progressing? March 2005.

*Advanced
availability
in the
Nordic countries*

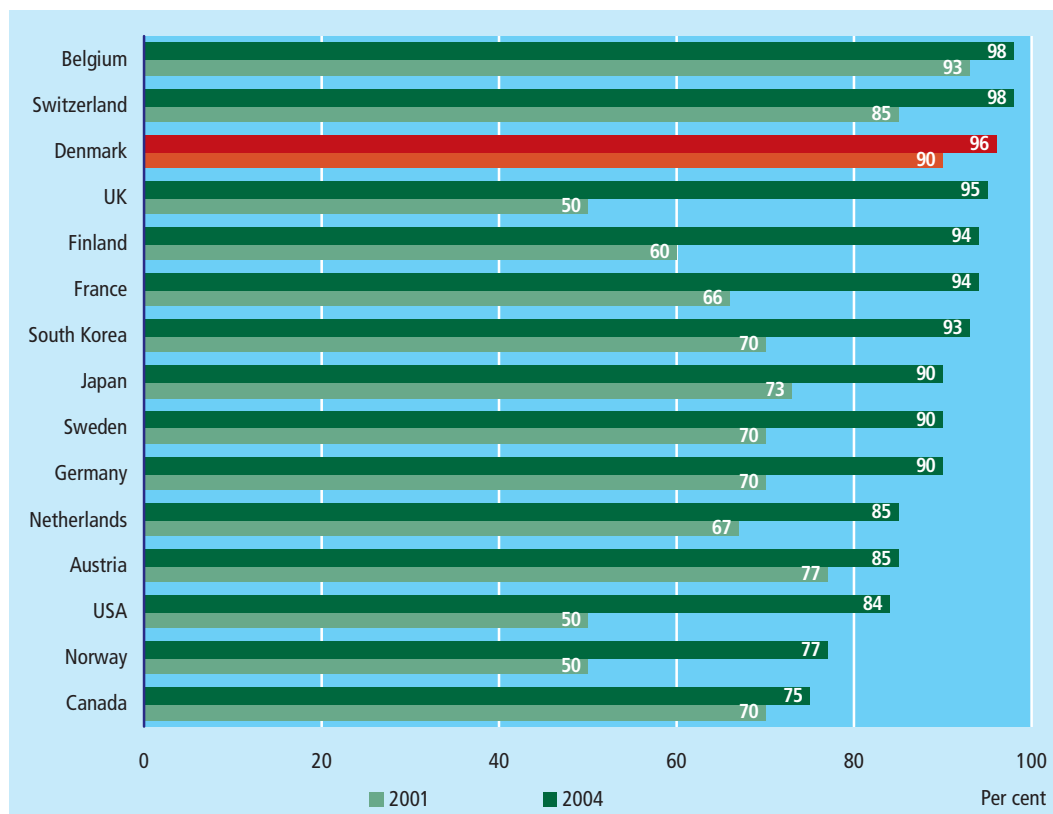
Sweden is in the lead with 74 percentage points, followed by Austria with 72 percentage points and Finland with 67 percentage points. After the UK comes Denmark with 58 percentage points, followed by Norway with 56 percentage points. Thus, the Nordic countries have a clear presence at the upper end of the scale.

*About the
measurement*

The European Commission has measured 20 different public services and their availability on the Internet. In the comparison of countries, each country was assigned a score on the basis of availability and the level of sophistication of the solutions.

6. ICT infrastructure

Figure 6.1 Availability of ADSL



Note. Availability covers whether households and enterprises have the option to acquire a broadband Internet connection.

Source: OECD, December 2004.

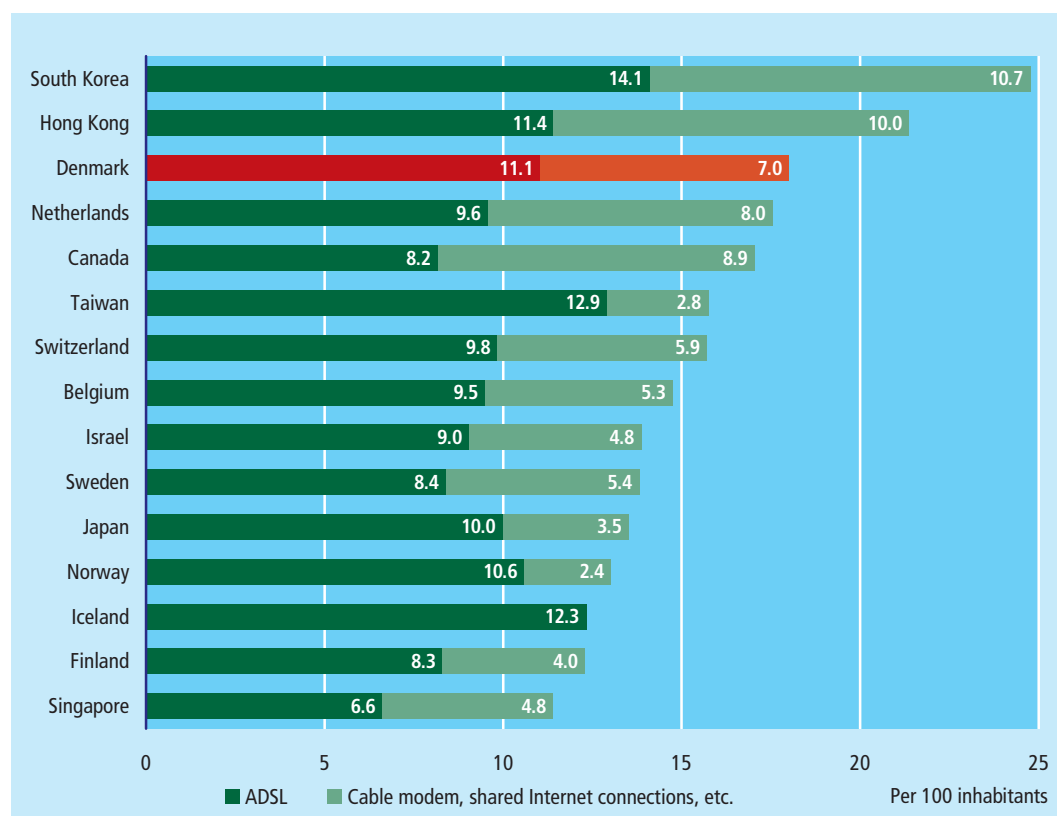
ADSL available to nearly all Danes

With 96 per cent, Denmark had the third highest availability of ADSL in 2004, exceeded only by Belgium and Switzerland, both with 98 per cent. ADSL availability will increase in Denmark to 98 per cent in October 2005. In 2001, only Belgium had a higher availability than Denmark.

Marked increase in availability

Among the illustrated countries, the availability of ADSL increased substantially from 2001 to 2004. In 2004, the availability was 90 per cent or higher in ten of the countries compared to only two countries in 2001.

Figure 6.2 Broadband penetration per 100 inhabitants, top 15, September 2004



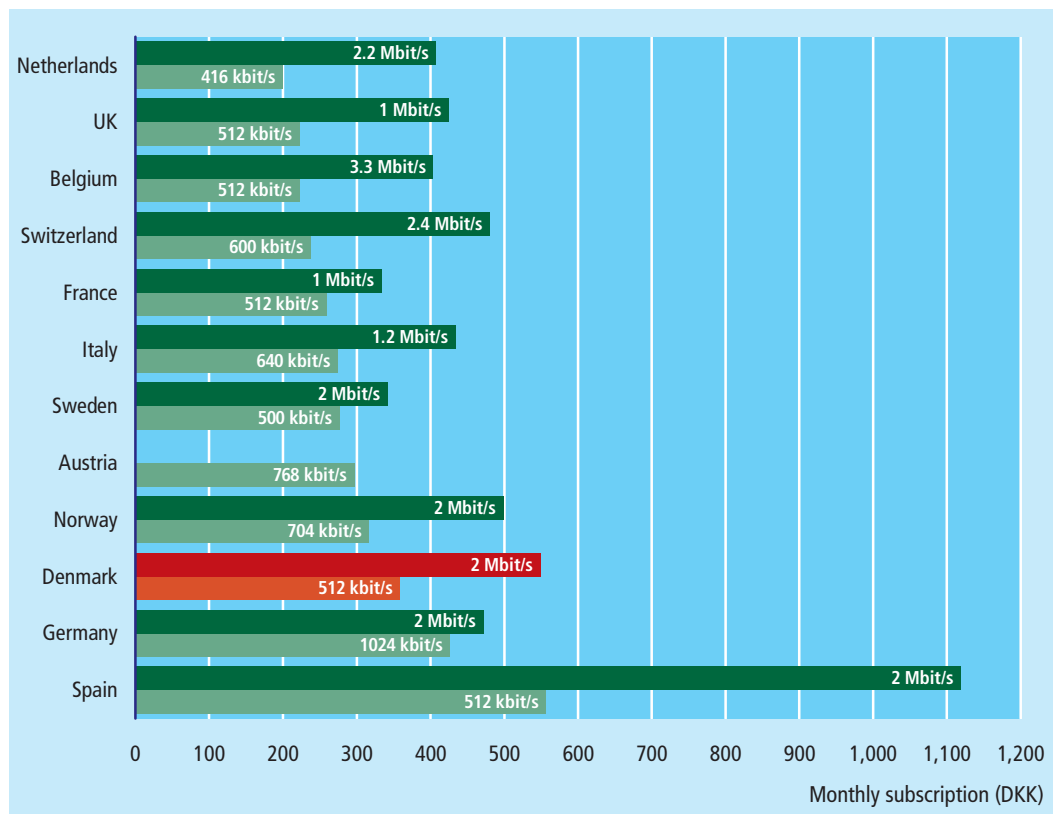
Note. Penetration generally concerns the number of broadband subscriptions for both households and enterprises. Thus, the figures do not relate to the number of users or who can gain access, but rather to how many connections have been established.

Source: www.point-topic.com, World Broadband Statistics, December 2004.

*Denmark
ranks third
in the world*

In September 2004, Denmark had the third largest broadband penetration in the world with about 18 connections per 100 inhabitants. Broadband means ADSL, cable modems, shared Internet connections in housing associations, etc. Only South Korea and Hong Kong had a larger penetration, and Denmark is thus the leading European country in that respect.

Figure 6.3 ADSL prices, June 2004



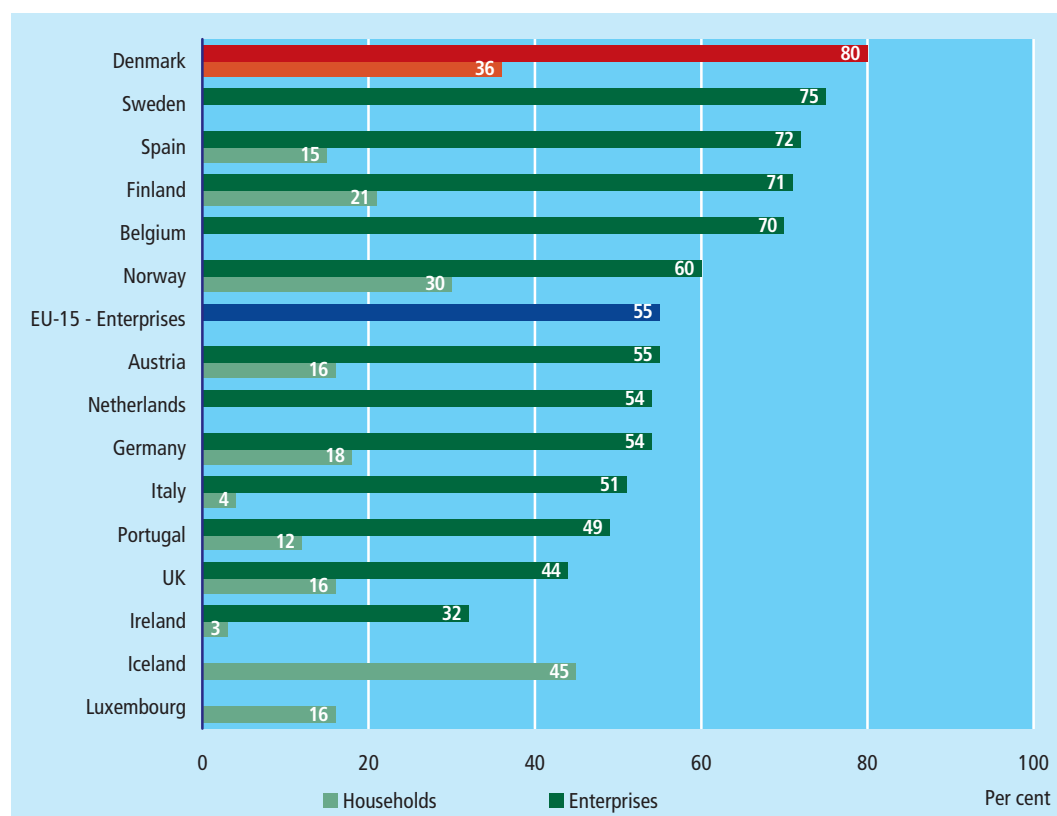
Note. Prices inclusive of VAT. The survey only includes the former sole ISP in each country. The survey does not take into account any differences in upstream speed or differences in the purchasing power of the individual countries. In Austria and the UK (512 kbit/s) a variable traffic charge is payable if the subscriber exceeds a specified monthly volume of traffic. In Belgium, the speed is reduced to 64 kbit/s for the rest of the month if the subscriber exceeds a fixed volume of traffic of 400 MB (512 kbit/s) and 15 GB (3,3 Mbit/s), respectively.

Source: Broadband Markets, Western European Tarifwatch, June 2004, and www.telenor.no and www.tdc.dk

Relatively high ADSL prices in Denmark

Generally, the figure shows that ADSL prices are relatively high in Denmark compared to other countries. This applies to both low-speed ADSL connections and fast connections. The Netherlands, Belgium and Sweden are the cheapest countries, while Spain, Germany, Denmark and Norway are the most expensive ones.

Figure 6.4 Broadband in enterprises and in households, 2004



Note. For enterprises, broadband means ADSL and similar, or other cable-based Internet connection. For enterprises, no data are available for Iceland and Luxembourg. For households, broadband means ADSL and other fast fixed-line connections (e.g., cable modem). For households, no figures are available for Belgium, the Netherlands, Sweden and EU-15.

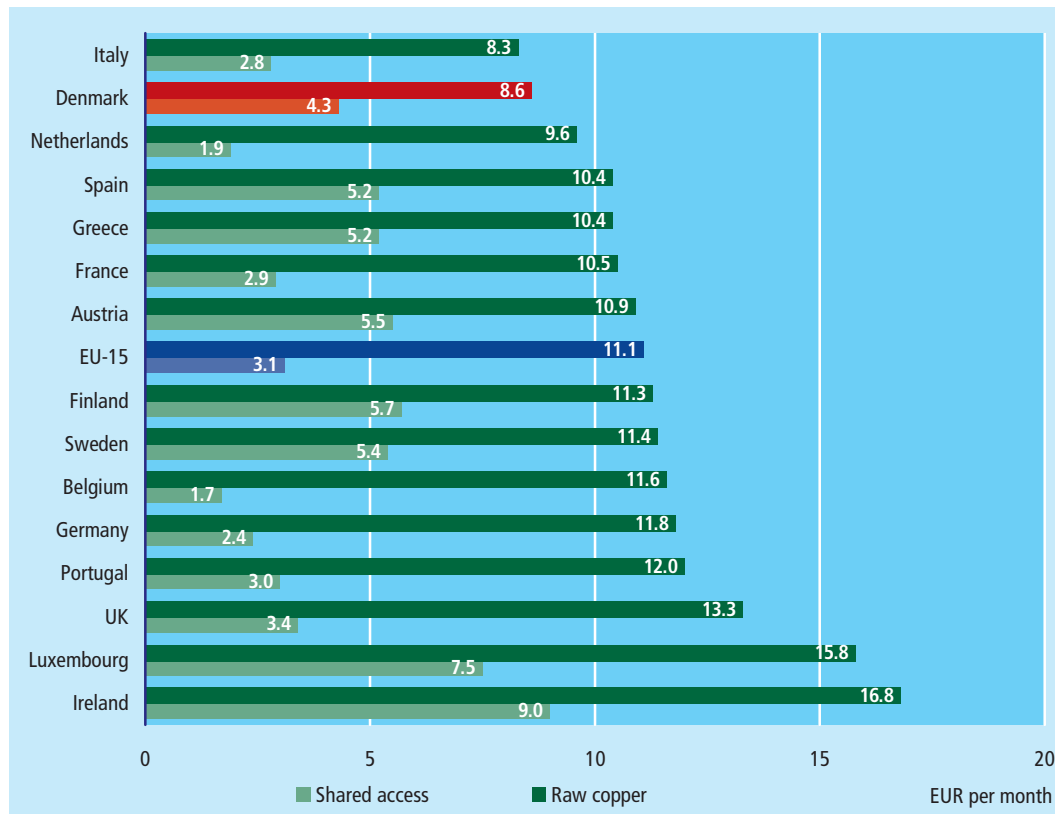
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

*Danish enterprises
in the lead
internationally*

In 2004, 80 per cent of all Danish enterprises with 10 or more employees had a broadband connection to the Internet. This is the highest share among the countries included in the figure. Only countries such as Sweden, Spain and Finland come close to the share in Denmark.

*Only Iceland has
more households
with broadband*

The share of households in Denmark with broadband connections in 2004 was high compared to the other countries. Of all Danish households, 36 per cent had broadband connections and only Iceland, with 45 per cent, had a higher share.

Figure 6.5 Wholesale prices of raw copper and shared access, August 2004

Source: European Commission, 10th Implementation Report, December 2004.

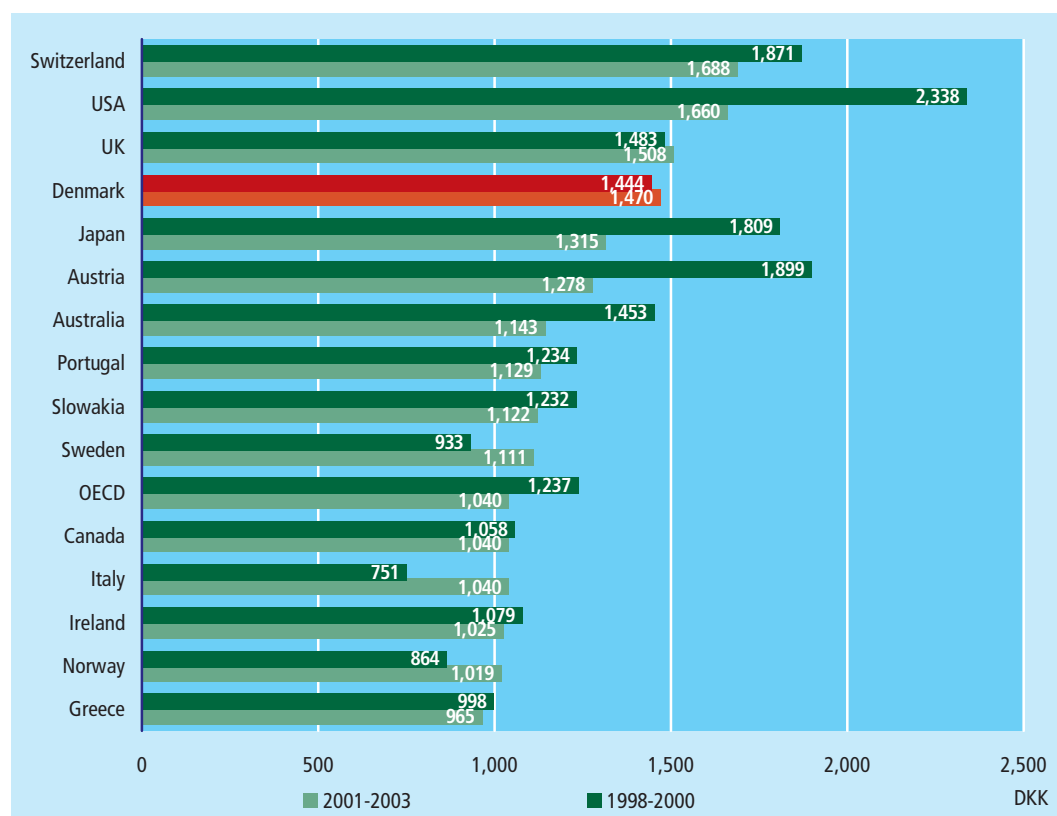
Continued low wholesale prices of broadband in Denmark

Denmark had the second-lowest prices of raw copper in the European Union in August 2004. Raw copper means that TDC, the incumbent operator, makes the last section of the copper line to subscribers available to new operators, who set up their own equipment at both ends of the connection.

Price of shared access above EU-15 average

The price of shared access was above the EU-15 average, however. Shared access means that the new operator uses part of the copper line to provide an ADSL connection, while TDC uses another part of it to provide traditional telephony. The monthly lease charge as such is slightly lower than the EU-15 average, but to this should be added a connection charge, which is above the EU-15 average. The connection charge is distributed over 36 months in the figure.

Figure 6.6 Annual telecom investments in the OECD countries per inhabitant



Source: OECD Communications Outlook 2005.

Denmark has the fourth-highest investment level

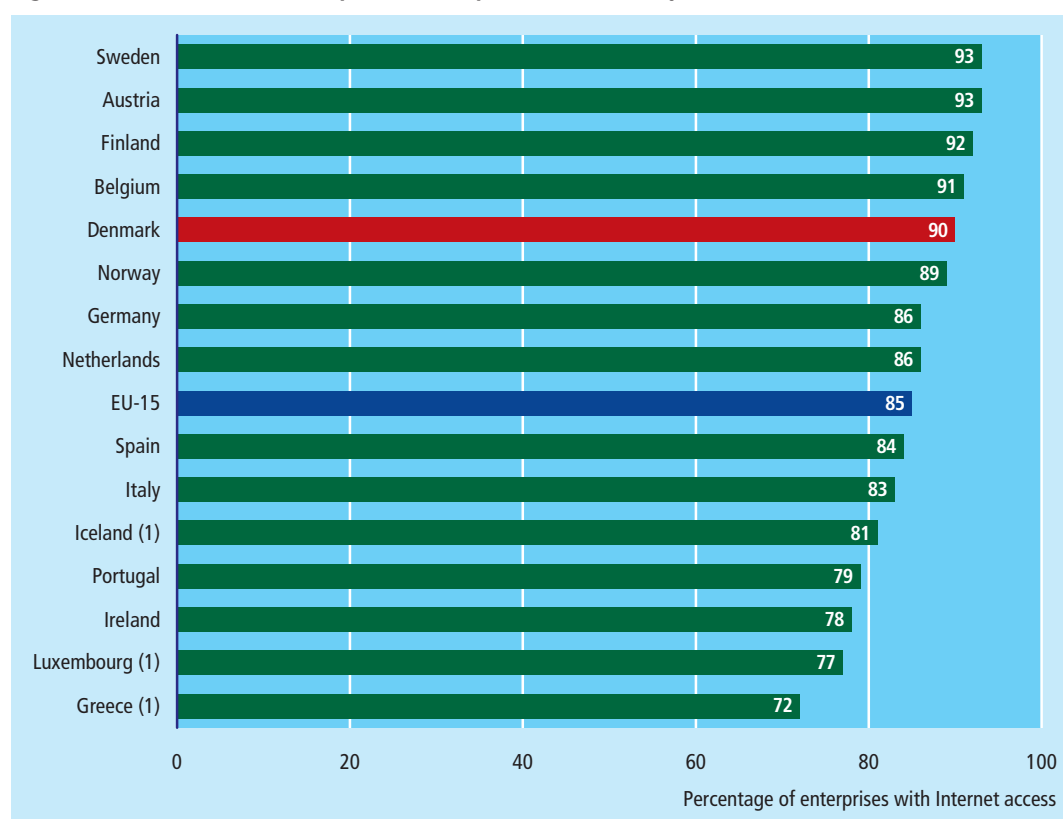
Denmark is one of the countries in the OECD that invest the most in telecommunications per inhabitant. Thus, Denmark was only exceeded by Switzerland, the US and the UK during the period 2001 to 2003 with average telecom investments amounting to DKK 1,470 per inhabitant, corresponding to 40 per cent above the OECD average.

Lower position between 1998-2000

In the preceding period, from 1998 to 2000, Denmark ranked number seven among the countries included.

7. ICT security

Figure 7.1 Enterprises with updated ICT security measures, 2004



¹ Data for 2003.

Note. Security measures mean at least one measure.

The updating must have been made within the last three months (including automatic updating of anti-virus programs).

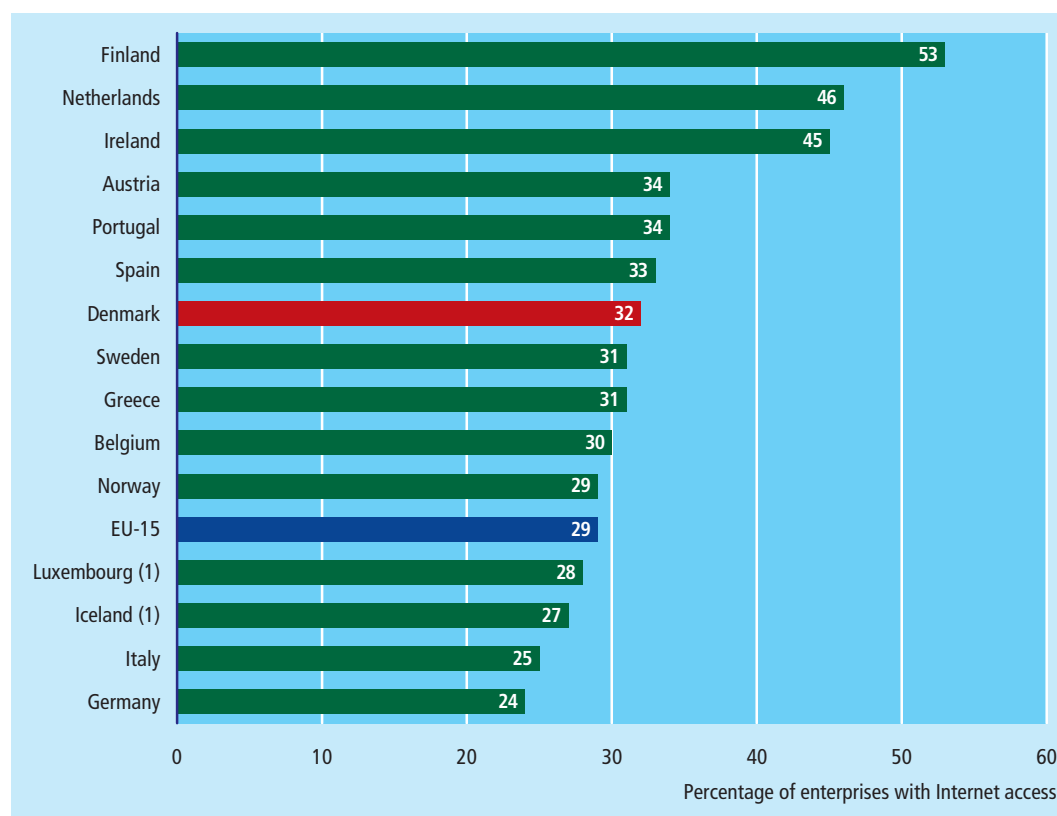
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Danish ICT security above average

The vast majority of enterprises in EU-15, namely 85 per cent, had updated their ICT security measures within the last three months. Among Danish enterprises, the corresponding share was 90 per cent. Sweden and Austria were in the lead with 93 per cent, followed by Finland with 92 per cent and Belgium with 91 per cent.

Nearly all enterprises have ICT security measures

In this field, there are no major variations between the European countries. The share of enterprises with Internet access that use ICT security measures, which need not be updated, is around 95-99 per cent in all countries.

Figure 7.2 Share of enterprises having encountered virus attacks, 2004

¹ Data for 2003.

Note. Computer virus causing loss of information or time within the last 12 months.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

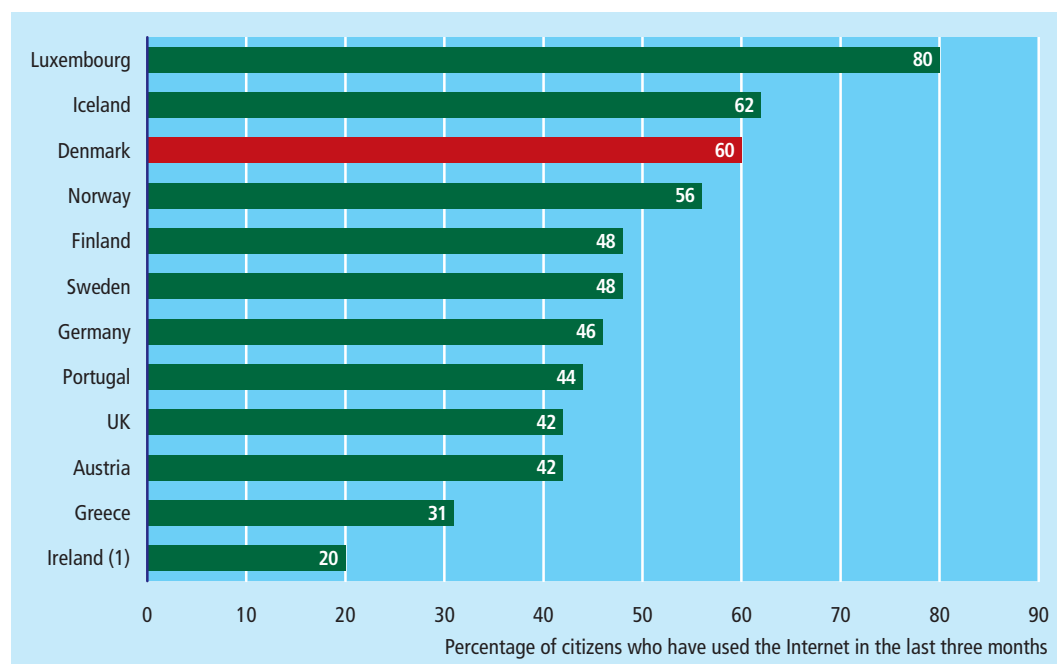
Disruptive virus attacks on nearly one in three enterprises

In 2004, 32 per cent of Danish enterprises had experienced virus attacks causing loss of data or working hours. In this regard, Denmark is close to the majority of the European countries and the EU-15 average of 29 per cent. In a few countries, the figure is much higher. This applies to Finland, where 53 per cent experienced virus attacks, and in the Netherlands and Ireland with 46 and 45 per cent, respectively.

International phenomenon

The generally minor difference between the countries could be due to the international character of computer viruses. The mutual differences that nevertheless exist, may be due to several factors: The preparedness and size of the enterprises, their behaviour and the intensity of their use of ICT and networking. Therefore, no clear-cut conclusion can be drawn on the basis of either a high or a low position.

Figure 7.3 Citizens who have updated anti-virus programs within the last 3 months, 2004



¹ Data for 2003.

Note. Updating of anti-virus program includes automatic updates over the Internet.

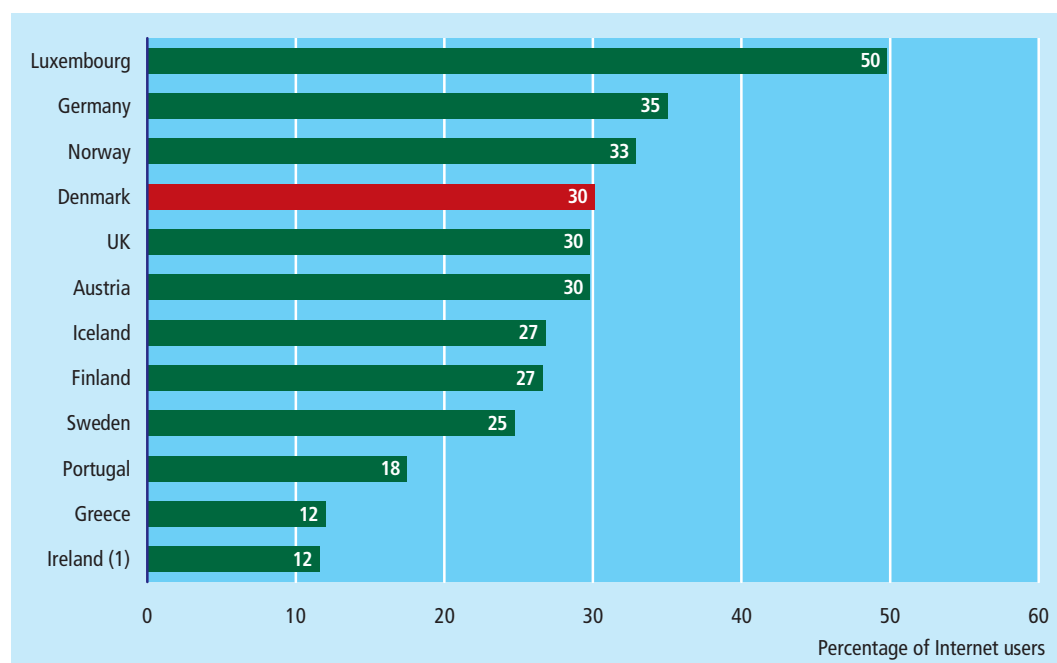
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Six in ten Danes updated their anti-virus programs

Of the Danes who had used the Internet within the last three months in 2004, 60 per cent had updated their anti-virus programs within the same period. This share is only exceeded by Luxembourg and Iceland, with 80 per cent and 62 per cent, respectively, of their citizens.

Nordic countries among the best at updating anti-virus programs

Of the countries included, Luxembourg and the Nordic countries were at the top. Apart from citizens of Luxembourg and the Nordic countries, German citizens most frequently updated their anti-virus programs, with a share of 46 per cent in 2004.

Figure 7.4 Share of citizens having encountered virus attacks, 2004

¹ Data for 2003.

Note. Computer virus causing loss of information or time within the last 12 months.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Three in ten Danes experienced virus attacks

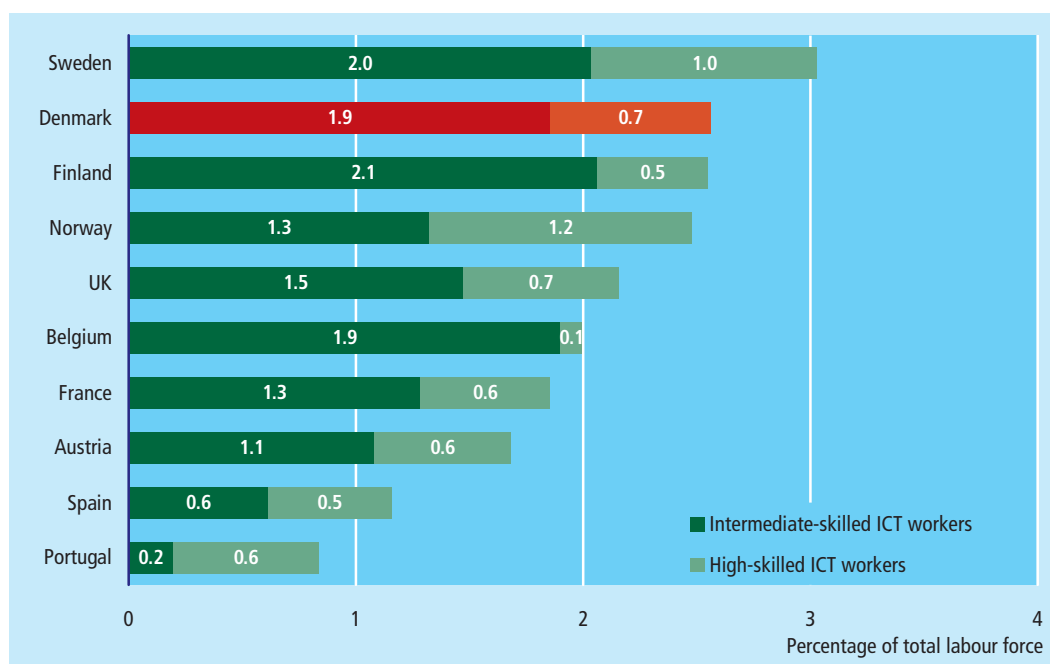
Denmark is among the countries in which a marked share of the population in 2004 experienced virus attacks in the form of loss of information or time. Thus, 30 per cent of Danish Internet users experienced virus attacks in 2004.

One in two experienced virus attacks in Luxembourg

Compared to the other Nordic countries, the citizens of Denmark and Norway were the most exposed to virus attacks in 2004. With a share of 50 per cent, Luxembourg had the highest exposure to virus attacks.

8. E-skills

Figure 8.1 Share of high-skilled ICT workers, 2004



Note. The definition of high-skilled ICT workers is based on occupational categories and includes ISCO-88, minor group 213. 213 comprises computing professionals, including computer system designers, analysts and programmers. Intermediate-skilled ICT workers include ISCO-88, minor group 312, who are computer associate professionals, including computer assistants, computer equipment operators and industrial robot controllers.

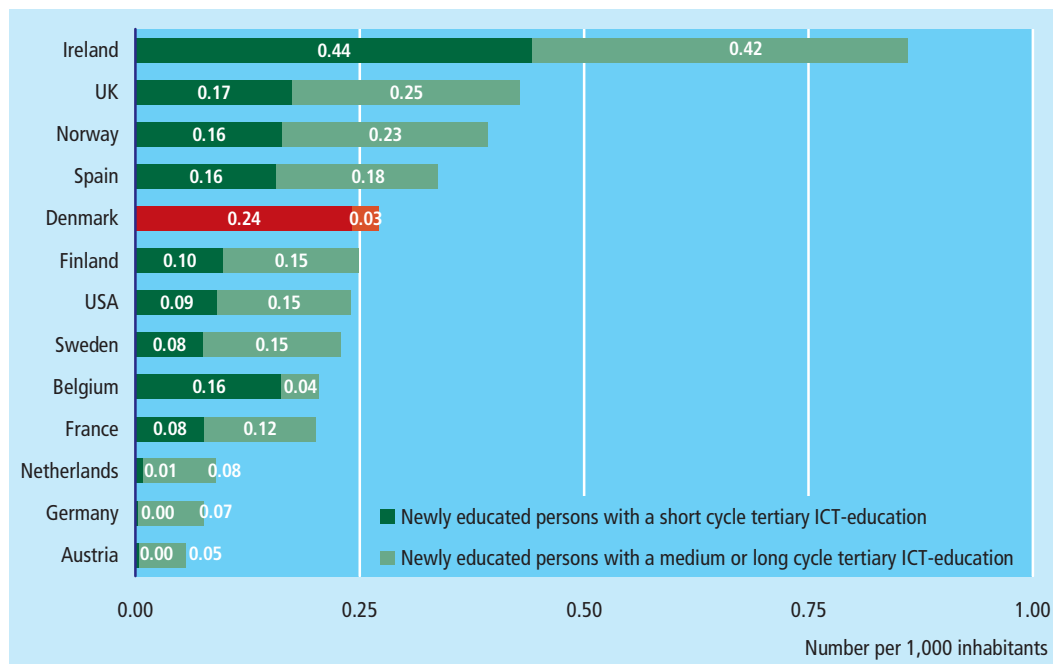
Source: Special extract from Eurostat, Labour Force Survey Database, 2004.

Denmark has the second-largest share of ICT jobs that require high skills

Of the countries included in the figure, Denmark has the second-largest share of workers in ICT jobs that require an intermediate or high level of skills. Altogether, 2.6 per cent of the labour force in Denmark have jobs that require at least intermediate E-skills, such as computer equipment operators.

Nordic countries at the top

The four Nordic countries have the largest shares of high-skilled ICT workers. The average share in the Nordic countries measured is 0.6 percentage points above the average for the EU countries measured.

Figure 8.2 Number of persons with newly completed ICT education, 2001

Note. Based on the number of persons with newly completed short-cycle, medium-cycle or long-cycle education in the field of ICT (Codes 5a, 5.b and 6).

Source: OECD - Education at a Glance, database, 2004.

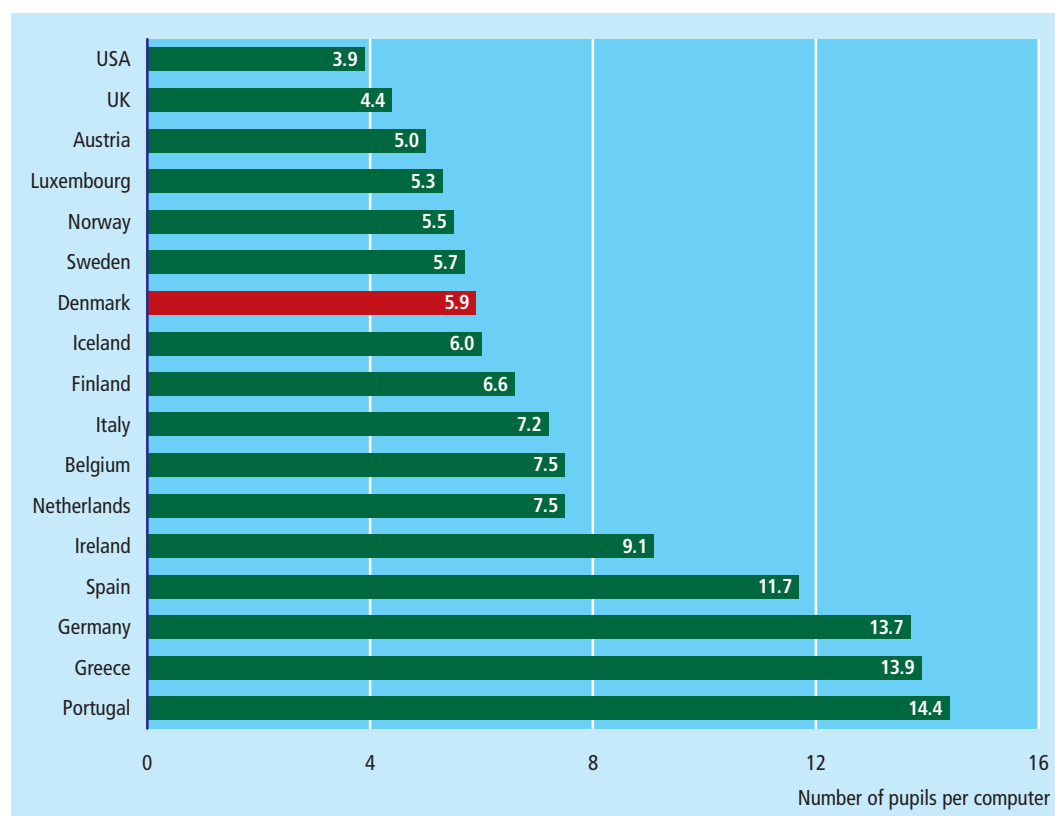
Denmark in favourable position

In Denmark, an average of 0.27 of 1,000 inhabitants graduated from further education in the field of ICT in 2001. This places Denmark as number five among the countries measured and ahead of several of the countries with which we usually compare ourselves. Ireland stands out with a share of 0.86 per 1,000 inhabitants with an ICT degree.

Small share of new ICT graduates with long-cycle education

Further ICT education includes both short-cycle programmes, such as datamaticians, and medium-cycle and long-cycle programmes, such as MSc in engineering. Compared to most other countries in the survey, relatively few Danes graduated from a medium- or long-cycle programme. Conversely, Denmark had the second-largest number of new graduates from short-cycle ICT programmes.

Figure 8.3 Number of pupils per computer, 2003



Note. Statistics based on the type of school in the individual countries where 15-year-olds are enrolled. The statistics comprise only schools that have stated both the number of pupils and the number of computers.

Source: OECD - PISA Survey 2003.

5.9 pupils per computer in Denmark

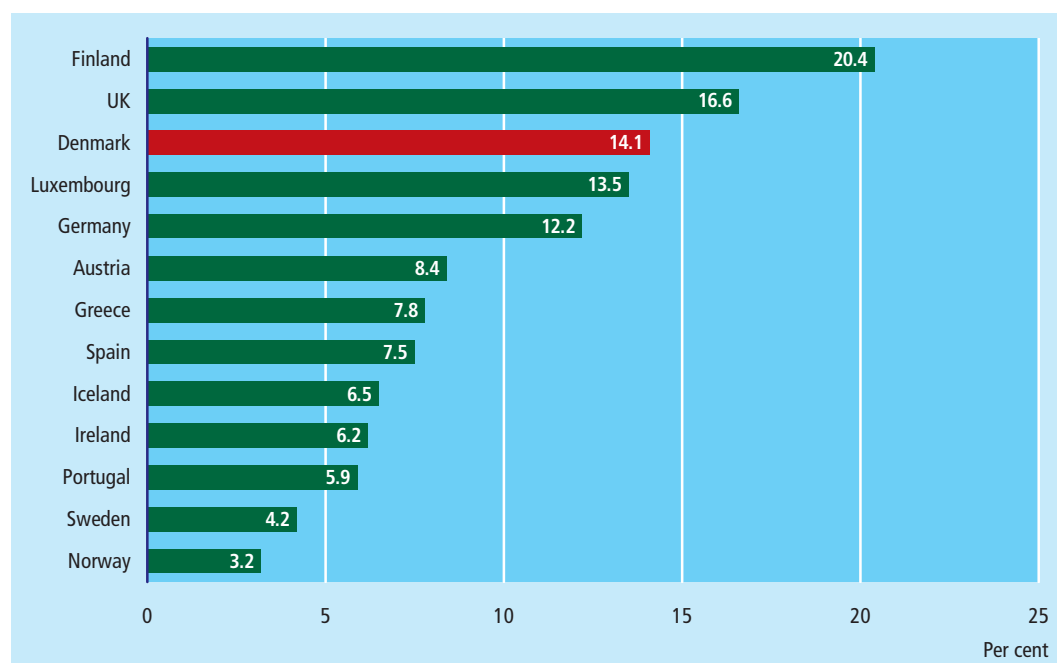
In Denmark, there was an average of 5.9 pupils per computer in 2003, which is the seventh-lowest number of pupils per computer.

The US markedly ahead of EU countries

The US has the best result by far, with an average of 3.9 pupils per computer, or two pupils less per computer than in Denmark. In Ireland and Germany, for example, the number of pupils per computer is nearly twice as high as the number in the US.

Nordic countries at the top

The Nordic countries rank close to each other and they all have good results compared to the other European countries in the survey.

Figure 8.4 Internet use by the population for formal education, 2004

Note. Formal education means the educational activities going on at primary schools, lower secondary schools, upper secondary schools, universities, etc.

Source: Eurostat, 2004.

*14 per cent
in Denmark
use e-learning
in connection
with school*

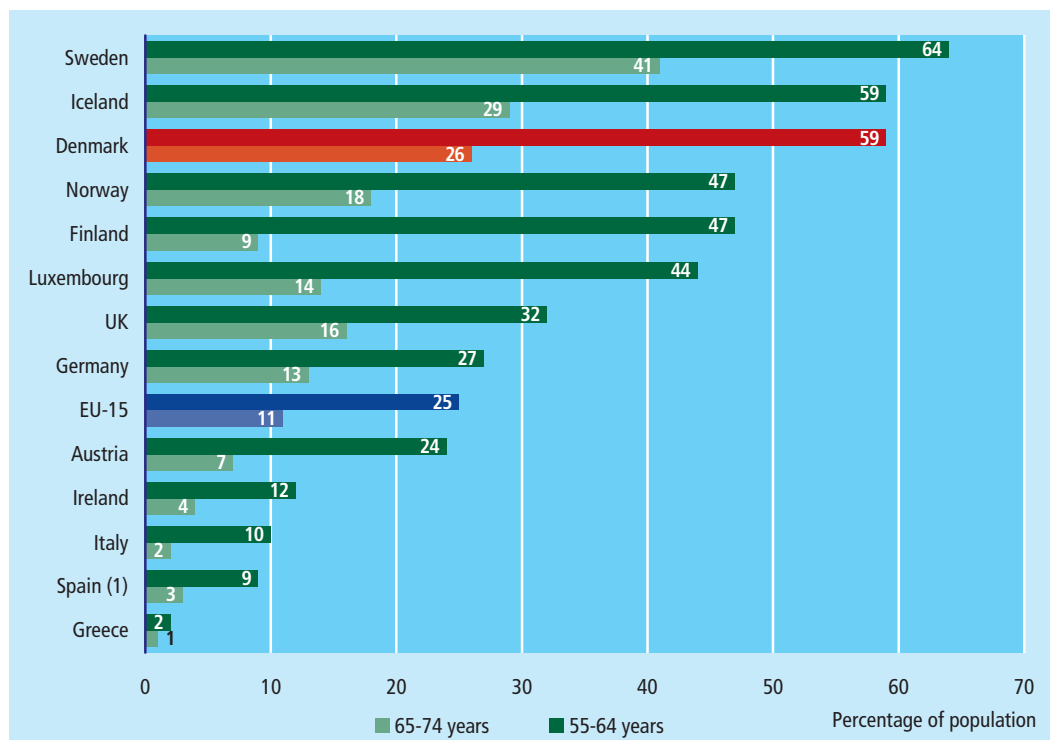
Danes have the third-highest use of e-learning for formal education of the countries in the comparative survey. The statistics include e-learning at all levels of education at the formal educational institutions, from primary schools to universities.

*Large spread
between the
countries*

Finland has the highest share of e-learning in connection with education with 20.4 per cent; this is nearly 4 percentage points higher than in the UK, which comes in second. Denmark's share is also considerably higher than in most other European countries included in the survey. There is a large spread between the Nordic countries; Sweden and Norway rank surprisingly low in the survey with 4.2 and 3.2 per cent, respectively.

9. ICT for all

Figure 9.1 Internet use by the population aged 55 to 74 years, 2004



¹ Data for 2003.

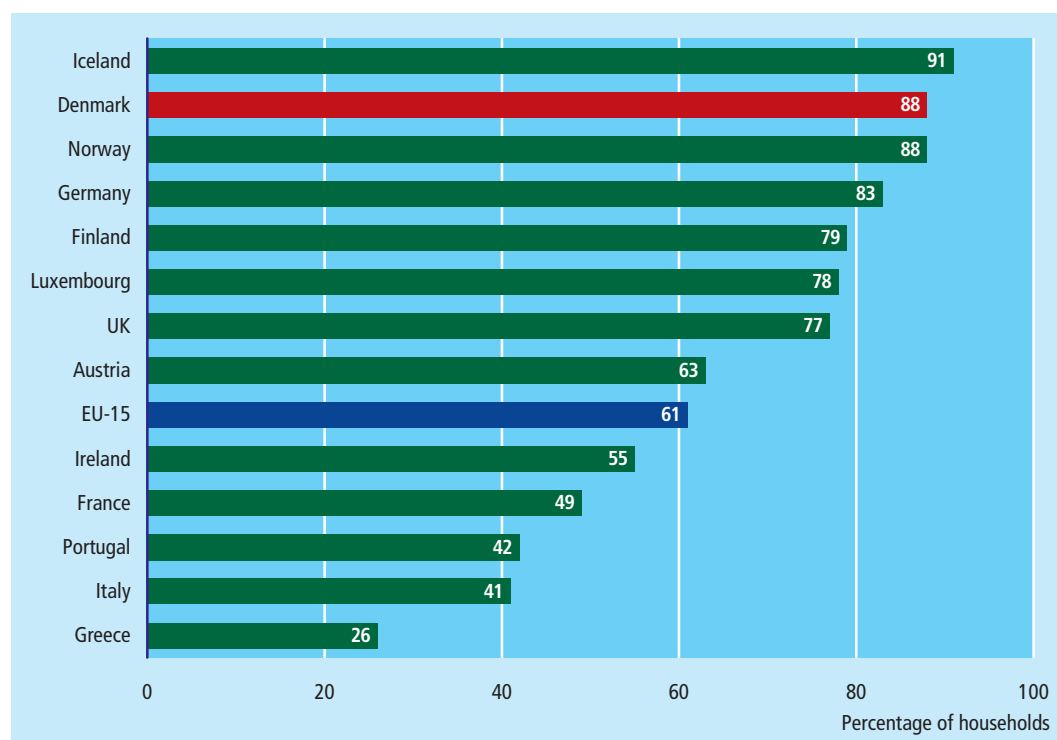
Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

*One in four
65 to 74-year-old
Danes
is on the Internet*

Denmark has the highest share in the European Union regarding 55 to 74-year-olds that use the Internet at least once a week. For the 55 to 64-year-olds, Denmark has a share of 59 per cent, which is only exceeded by Sweden. Similarly, the share of persons aged 65 to 74 years is 26 per cent in Denmark, which is the third largest share of the countries illustrated.

*Few elderly persons
on the Internet
in Finland*

Except for Finland, the Nordic countries rank highest in respect of both age groups in 2004. In Finland, only one in ten 65 to 74-year-olds uses the Internet at least once a week. This share is below the average for the EU-15 countries.

Figure 9.2 Household access to the Internet - couples with children, 2004

Note. Data not available for Sweden.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

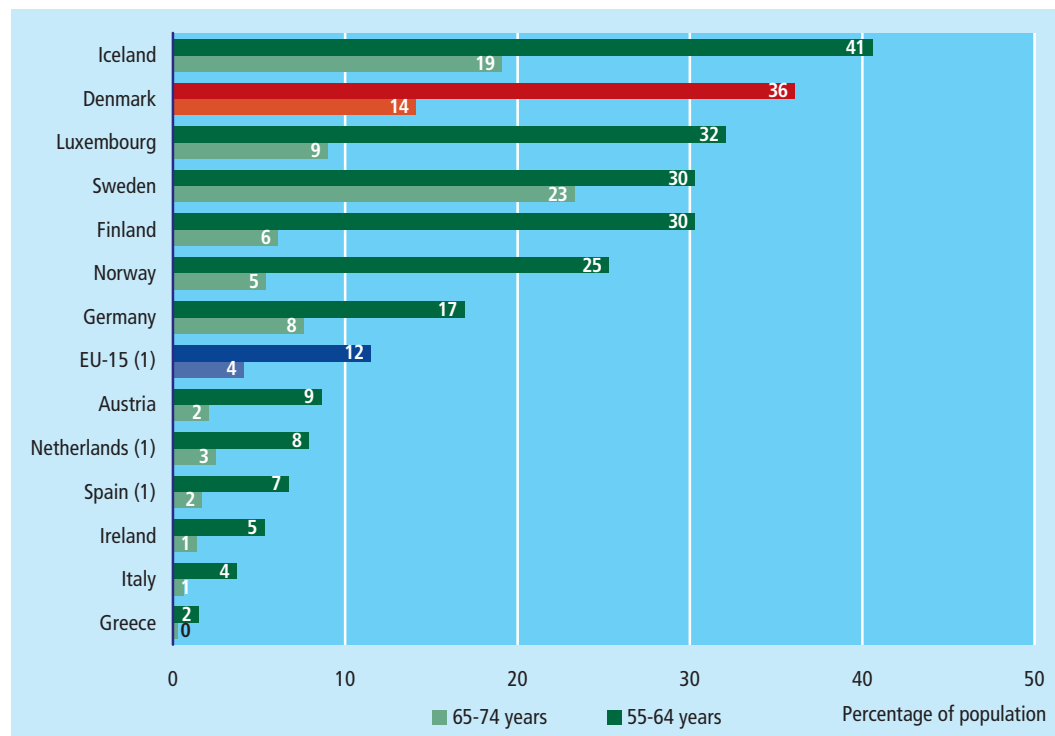
Danish couples with children are on the Internet at home

In Denmark, 88 per cent of couples with children had Internet access at home. Together with Norway, Denmark came in second among the countries included in the survey, just after Iceland with a share of 91 per cent.

Large spread in the EU

In terms of couples with children that had Internet access at home, the spread between the countries in the European Union was large in 2004. In the Nordic countries, over 75 per cent of couples with children had access, while the shares in most Southern European countries were considerably below the EU-15 average of 61 per cent.

Figure 9.3 Information searches on public web sites by people aged 55 to 74 years, 2004



¹ Data for 2003.

Source: Eurostat, February 2005 (<http://europa.eu.int/comm/eurostat/>).

Danes browse frequently

The figure shows that 36 per cent of Danes aged 55 to 64 years used public web sites to search for information in 2004. The corresponding share for 65 to 74-year-olds is 14 per cent. In a European context, this means that Denmark is second regarding 55 to 64-year-olds, and third regarding 65 to 74-year-olds.

Primarily a Nordic phenomenon

In the two age groups, searches for information on public web sites occur most frequently in the Nordic countries, and in Luxembourg and Germany. The shares in the South of Europe and in Ireland were very low in 2004.