THE FUTURE OF THE INTERNET ECONOMY

A STATISTICAL PROFILE

June 2011 update

This document has been prepared for the OECD high-level meeting on "The Internet Economy: Generating Innovation and Growth" Paris, 28-29 June 2011 (www.oecd.org/internet/innovation)

It is an update of the version which was prepared for the OECD Ministerial Meeting on the Future of the Internet Economy held in Seoul in June 2008 (www.oecd.org/FutureInternet)

The source for the information herein is official country data unless otherwise indicated in the sources and notes section at the end of the document.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where the governments of 34 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities takes part in the work of the OECD.

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GLOSSARY

Access. A household has access to the Internet if it has a connection that is functional (*i.e.*, in working order), regardless of whether it is actually used. Access can be via a computer, a mobile phone, games machine or related devices.

Blogs. Websites publishing information in a format where the newest items are typically presented at the top of the page and older items move down the page by descending date. Blogs usually allow users to comment on the content in an article/post, allowing for a much more interactive experience. Blogs can cover mainstream topics but are particularly popular for specific content niches. The content can be user-created, professionally created or recycled from other websites. Generally readers can comment on the stories and the blogs maintain readership largely by adding new content at regular intervals.

Bot-infected computer. Programs that are covertly installed on a user's machine in order to allow an attacker to control the targeted system remotely through a communication channel, such as Internet relay chat (IRC), P2P, or HTTP. These channels allow the remote attacker to control a large number of compromised computers over a single, reliable channel in a botnet, which can then be used to launch coordinated attacks.

Broadband. In this context, broadband refers to fixed broadband subscriptions. A high-speed Internet connection capable of downloading 256 kilobits of data per second or higher. The OECD broadband statistics prior to 2010 include Internet connections over *DSL*, *cable modem*, *fibre*, *fixed wireless* , *satellite and other wired connections* capable of downloading data at speeds of 256 kilobits per second. Broadband data for 2010 follow the current methodology (*i.e.* excluding terrestrial fixed wireless and satellite subscriptions).

Cable modem. A type of modem that provides access to a data signal sent over a cable television infrastructure. Cable modems allow the delivery of broadband internet, voice services and on-demand/interactive forms of television.

Digital television. The sending and receiving of moving images and sound by means of discrete (digital) signals, in contrast to the analogue signals used by analogue TV. Digital television allows higher-quality images and sound and more programming choices than analogue does.

Digital subscriber line (DSL). A family of technologies that provides digital data transmission using a local telephone network.

Fibre. Any network architecture that uses optical fibre to replace all or part of the usual copper local loop used for telecommunications. This is also denoted as FTTx.

Fixed wireless. A wireless connection between two fixed locations.

Host. A domain name with an associated IP address. It includes any computer or device connected to the Internet via a full- or part-time, direct or dial-up connection. A host is not necessarily an individual device, as a single machine can act like multiple systems with multiple domain names and IP addresses (virtual hosting).

ISCED. The International Standard Classification of Education was designed by UNESCO in the early 1970's to serve "as an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally".

PCT. The Patent Cooperation Treaty is an international treaty, administered by the World Intellectual Property Organization (WIPO). The PCT makes it possible to seek patent protection for an invention simultaneously in a large number of countries by filing a single "international" patent application.

Peer-to-peer. A network communication structure in which individuals interact directly, without going through a centralised system or hierarchy. Users can share information, contribute to shared projects or transfer files.

Subscription. A current contract for a service, commonly billed on a monthly cycle.

Usage. An individual or a business uses the Internet if they have all the required equipment in working order (*access*) and have actually used it.

Wireless. The possibility to transfer information over a distance without the use of electrical conductors or "wires".

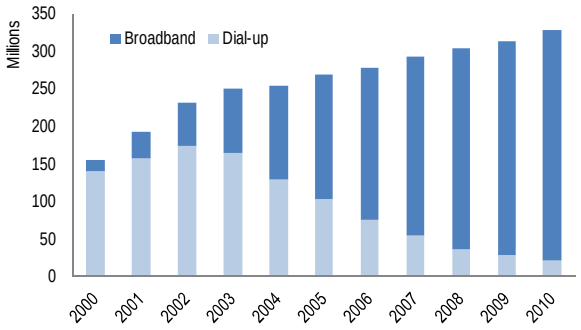
Wireless broadband. The OECD wireless broadband statistics include satellite subscriptions, terrestrial fixed wireless subscriptions and terrestrial mobile wireless (standard mobile subscriptions and dedicated data subscriptions).

The Internet has grown rapidly…

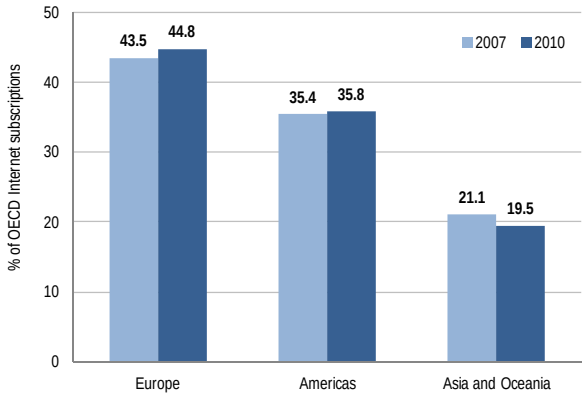
There are 327 million fixed Internet subscriptions in OECD countries, equivalent to 27% of total population.

This number has doubled over the past 10 years.

1. Number of OECD fixed Internet subscriptions



2. OECD broadband subscriptions by geographic area



The number of broadband subscriptions has increased across the OECD between 2007 and 2010.

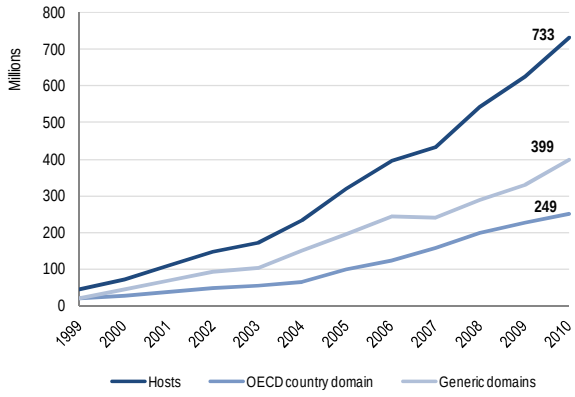
Europe accounts for almost 45% of OECD Internet subscriptions, OECD Americas for 36% and OECD Asia and Oceania for the remaining 19%.

There were about 733 million registered Internet hosts worldwide in 2010, 17 times more than in 1999.

More than half of all hosts have a generic domain, *e.g.* .com, .net.

OECD country domains (*e.g.* .fr, .kr) account for over one-third of all hosts worldwide.

3. Number of Internet hosts by domain

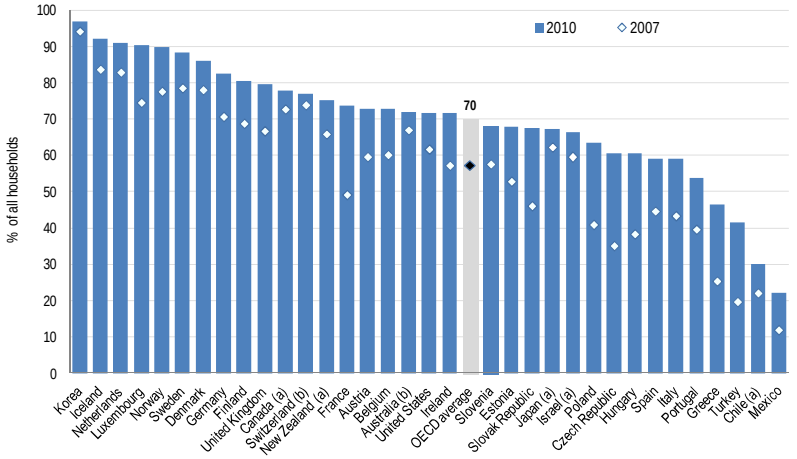


…connecting people and businesses in the OECD…

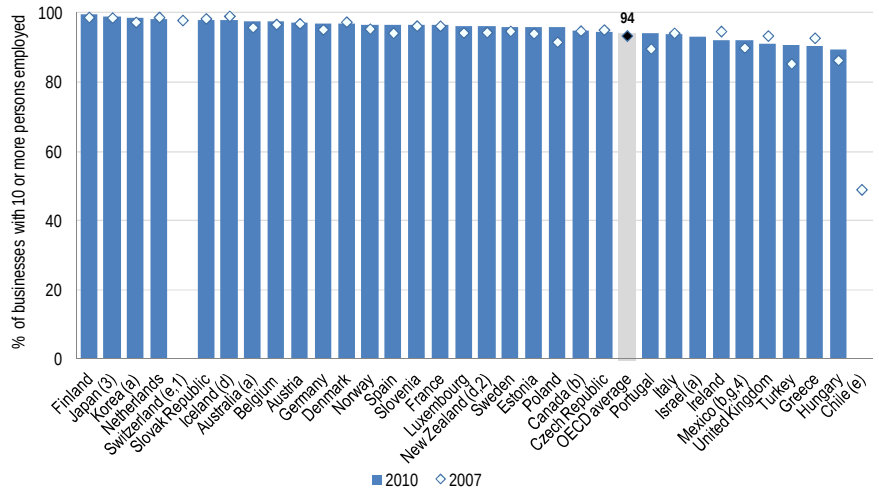
On average, 70% of households in OECD countries have access to the Internet at home.

Korea (97%), Iceland (92%) and the Netherlands (91%) have the highest share of households with home access to the Internet. Between 2007 and 2010, the most rapid growth for Internet access was in Turkey, Mexico, Greece and the Czech Republic.

1. Households with access to the Internet, 2010 or latest



2. Businesses using the Internet, 2010 or latest



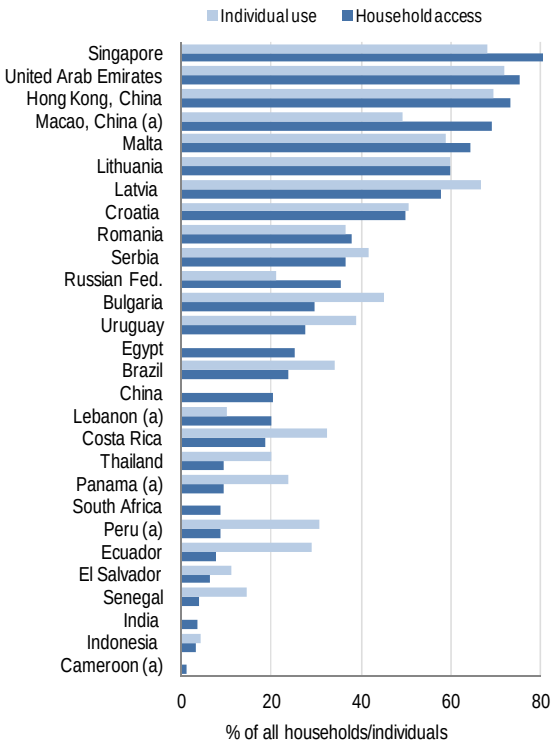
On average, 94% of businesses with 10 or more persons employed in OECD countries are connected to the Internet.

In Finland, Japan, Korea, the Netherlands and Switzerland over 98% of businesses use the Internet.

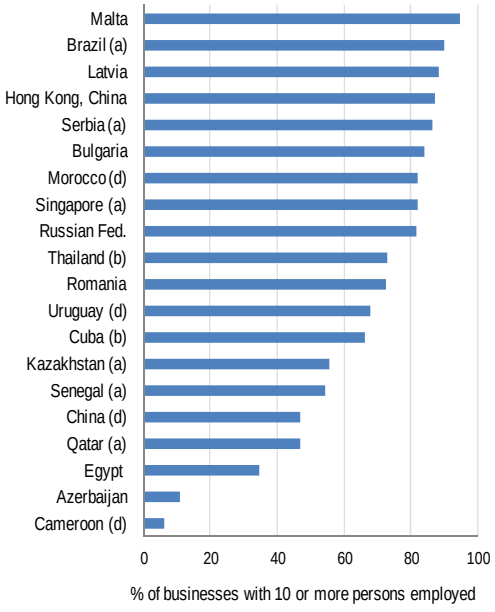
…and worldwide.

In Singapore and the United Arab Emirates, the share of households with access to the Internet is comparable to those of the top-ranking OECD economies.

1. Households accessing/individuals using the Internet, 2009 or latest



2. Businesses using the Internet, 2009 or latest



Businesses in non-OECD economies are getting better connected too.

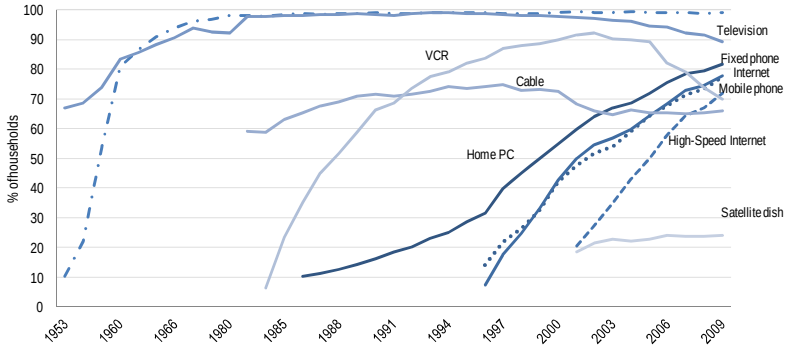
Over 85% of businesses (with 10 or more employees) had an Internet connection in Malta, Brazil, Latvia, Hong Kong (China) and Serbia.

Broadband has tremendous potential…

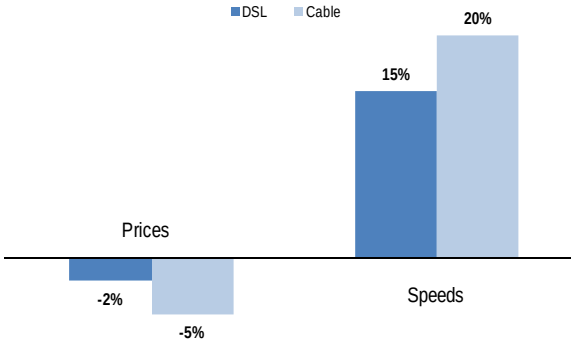
Internet diffusion has been driven by a series of innovations allowing people to choose how they access the Internet.

Home PC and fixed telephone lines opened the way to Internet diffusion but broadband and mobile phones are increasing Internet access and enlarging the scope for its use.

1. Historical diffusion of selected goods, Canada



2. OECD broadband price and speed changes, similar offers, September 2008-10



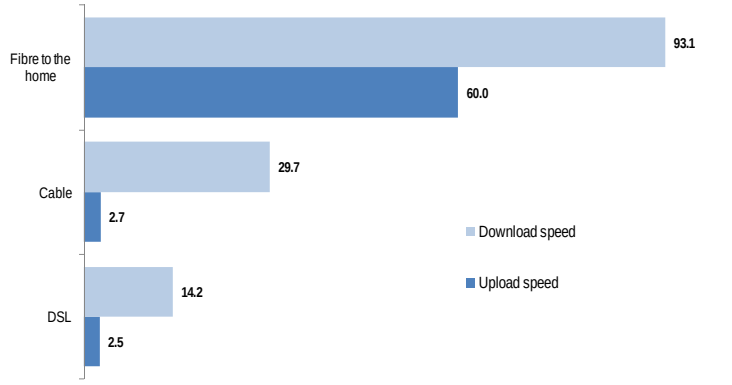
Broadband speed keeps on increasing while prices are falling.

Over 2008-10, the speed of DSL and cable broadband increased annually by 15% and 20%, respectively in OECD countries. At the same time, prices declined by 2% and 5%.

New broadband technologies are increasing the potential for Internet use. Fibre provides greater opportunities for content creation by end users because of high upload speeds.

In 2010, advertised upload speeds on fibre were over 20 times faster than on DSL and cable, despite significant gains on the latter two.

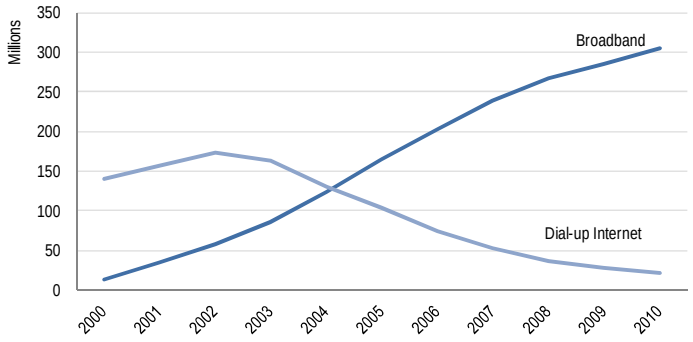
3. OECD average advertised broadband speeds, by technology, September 2010 (Mbit/s)



…which is feeding Internet diffusion…

Broadband has quickly replaced dial-up Internet in OECD countries. The number of OECD Internet broadband subscriptions grew 20 times over the past decade.

1. Dial-up and broadband Internet subscriptions in the OECD

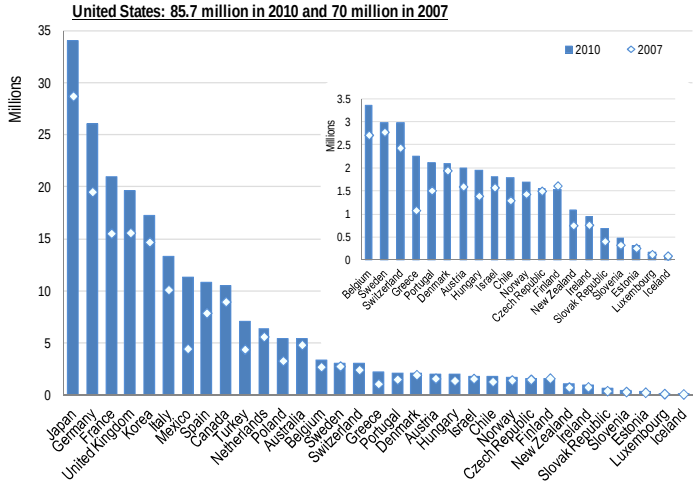


Over 90% of Internet subscriptions in OECD countries use broadband.

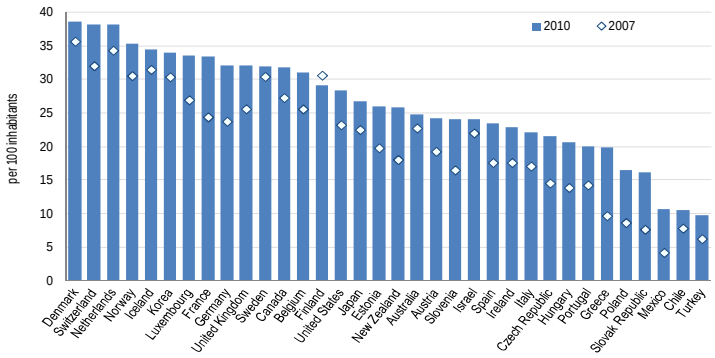
In December 2010, there were over 305 million broadband subscriptions in OECD countries.

2. OECD broadband subscriptions, December 2010

The United States has the largest number of broadband subscriptions of all OECD countries, with more than 85 million subscriptions. European OECD countries account for 137 million subscriptions.



3. OECD broadband subscriptions per 100 inhabitants, December 2010



On average, there are 25 broadband subscriptions per 100 inhabitants in the OECD.

…and driving convergence among ICTs.

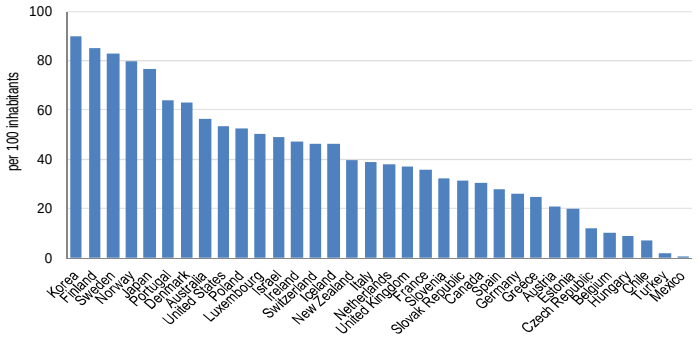
Convergence is blurring the boundaries between different forms of ICTs.

The Internet is becoming more important, as a broad range of devices for daily activities are now making use of Internet connectivity. Since 2005, the number of mobile phone subscriptions worldwide has doubled, with particularly strong growth in non-OECD countries where the number has tripled.

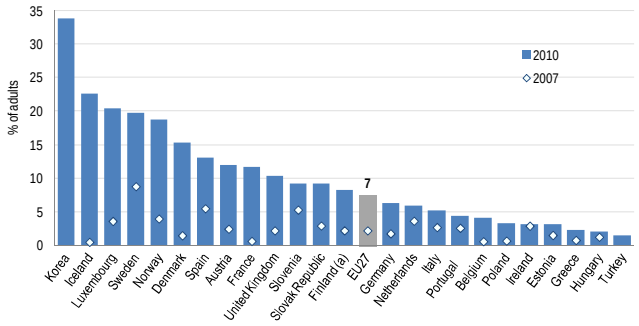
Mobile broadband outnumbers fixed broadband in most OECD countries.

Korea has 90 wireless broadband subscriptions per 100 inhabitants, followed by Finland, Sweden and Norway with 80 or more subscriptions per 100 inhabitants.

1. OECD wireless broadband subscriptions per 100 inhabitants, December 2010



2. Individuals using a mobile phone with broadband connection to access the Internet, 2010 or latest



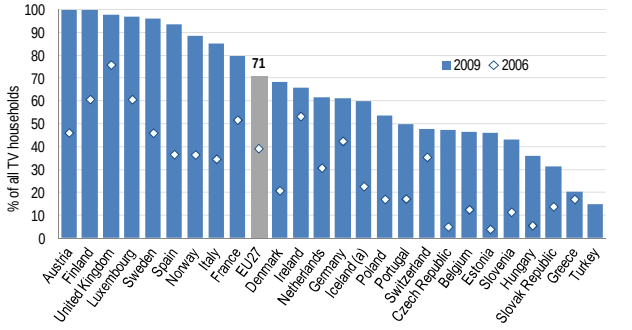
Mobile broadband usage is taking off.

In 2010, over 20% of adults had a broadband connection via mobile phone in Korea, Iceland and Luxembourg. This number is still relatively low but growing very quickly with the uptake of smart phones.

Digital television use is increasing steadily. In 2009, over 90% of households had access to digital television in Austria, Finland, the United Kingdom, Luxembourg, Sweden and Spain.

By the end of 2010, 13 OECD countries have already switched completely to digital TV.

3. Households with access to digital television, 2009 or latest

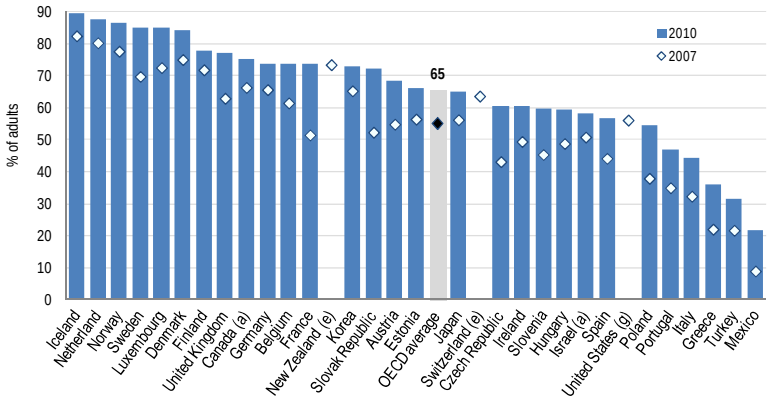


The Internet is changing traditional behaviour…

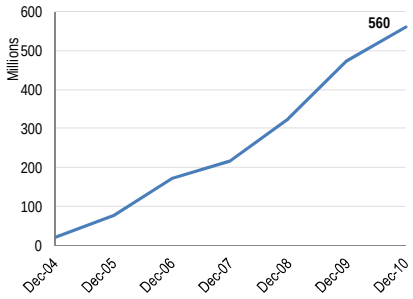
Daily activities such as mailing, calling, shopping, banking, reading news and playing music and games are increasingly done online.

On average, more than 65% of adults in OECD countries use the Internet to send e-mails or make voice calls. This figure is over 86% in Iceland, the Netherlands and Norway.

1. Individuals who used Internet for communicating, 2010 or latest



2. Skype registered users, worldwide

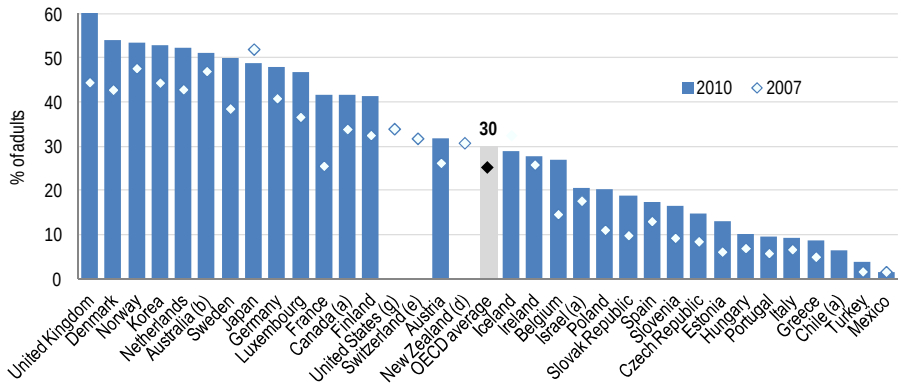


Calling over the Internet (Voice over IP) is growing quickly, associated with the uptake of broadband.

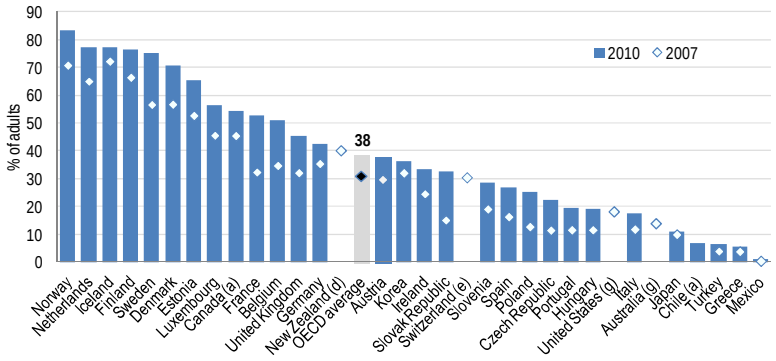
Between 2004 and 2010, the number of registered Skype users increased by almost 30 times, up to 560 million worldwide.

Around 30% of people in the OECD buy goods or services over the Internet. Over half do so in the United Kingdom, Denmark, Norway, Korea, the Netherlands and Australia.

3. Individuals who ordered or purchased goods or services on the Internet, 2010 or latest



1. Individuals who used Internet for banking services, 2010 or latest



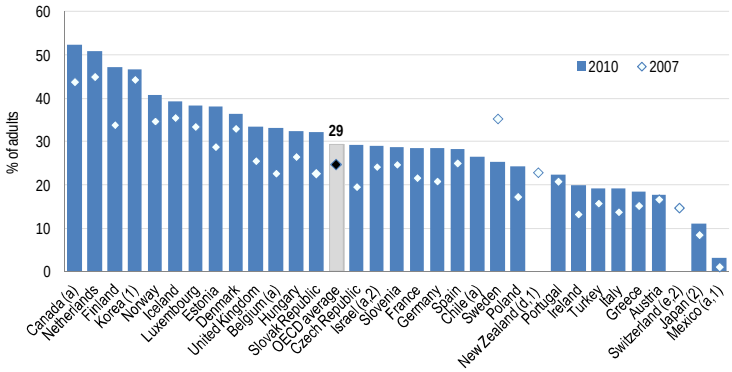
On average, close to 40% of people in OECD countries use banking services on the Internet.

E-banking is very popular in the Nordic countries and in the Netherlands, where over 75% of individuals use the Internet for banking.

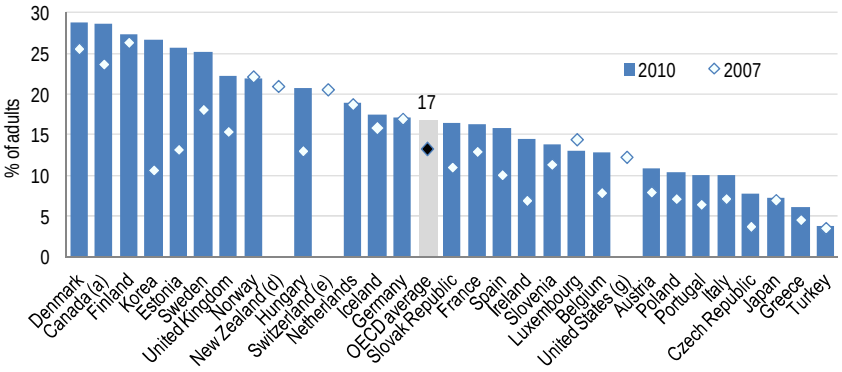
Almost 30% of individuals downloads music or plays games on the Internet.

Playing or downloading games and music is most popular in Canada (52%), the Netherlands (51%), Finland (47%) and Korea (44%).

2. Individuals who used Internet for playing/downloading games, 2010 or latest



3. Individuals who used Internet for job research, 2010 or latest



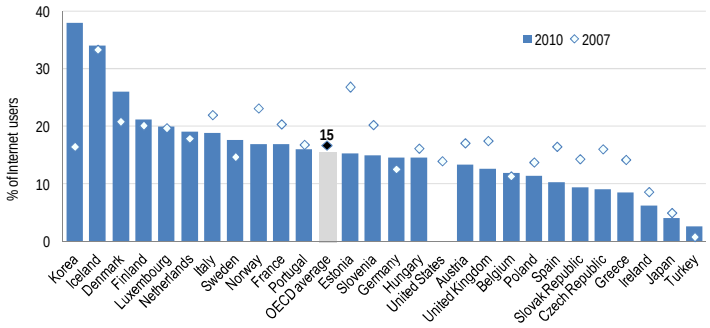
Over 25% of adults in Denmark, Canada, Finland, Korea, Estonia and Sweden use the Internet to look for jobs.

…and creating new activities.

In Web 2.0, or the participative Web, Internet users do not simply access information but they create their own content, such as various forms of written, audio, visual and combined media.

On average, 15% of Internet users in the OECD created web pages in 2010.

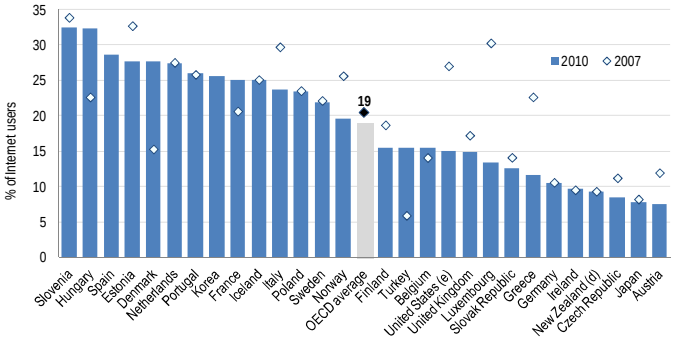
1. Internet users who created a web page, 2010



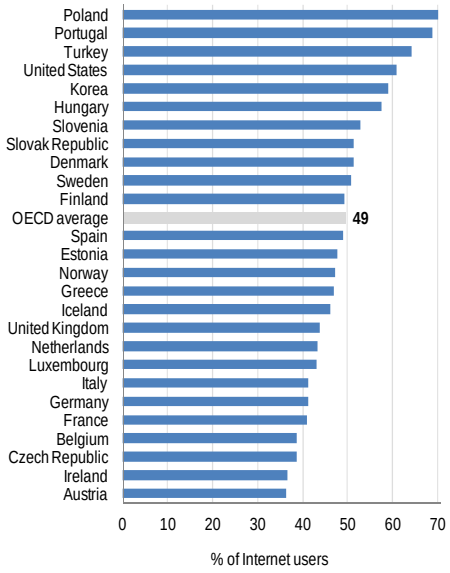
In Korea and Iceland, at least one Internet user out of three has created a web page.

2. Internet users who used peer-to-peer file sharing for exchanging movies, music, etc., 2010

Around 20% of OECD Internet users use peer-to-peer file sharing. Slovenia has the highest percentage at 32%, followed by Hungary and Spain.



3. Internet use with a social networking activity, 2010



Social networking has rapidly gained importance as nearly 50% of OECD Internet users are active social network users.

In 2010, at least 60% of Internet users in Poland, Portugal, Turkey and the United States engage in social networking on the web.

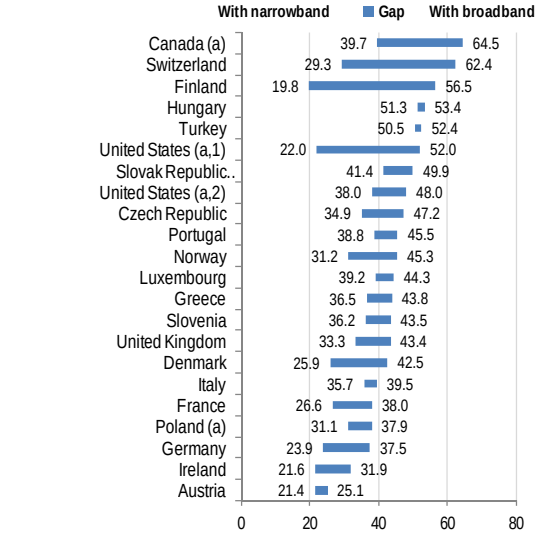
Broadband is increasing Internet use.

Broadband users are still more active on the Internet than narrowband users.

The difference in use between broadband and narrowband Internet users for some OECD countries is still significant.

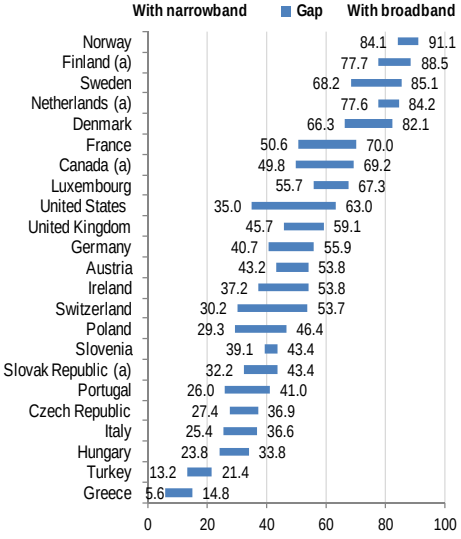
Up to 37 percentage points for gaming and music in Finland

1. Playing/downloading games and music, 2010 or latest



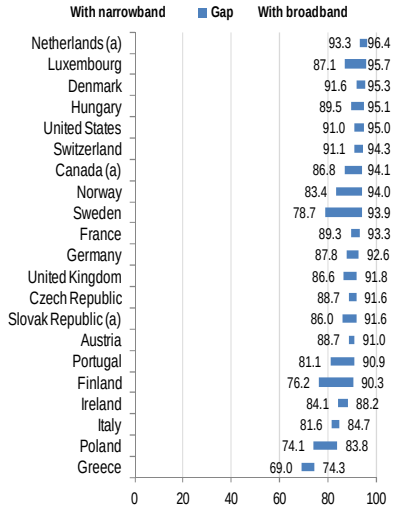
Up to 28 percentage points for Internet banking in the United States

2. Internet banking, 2010 or latest



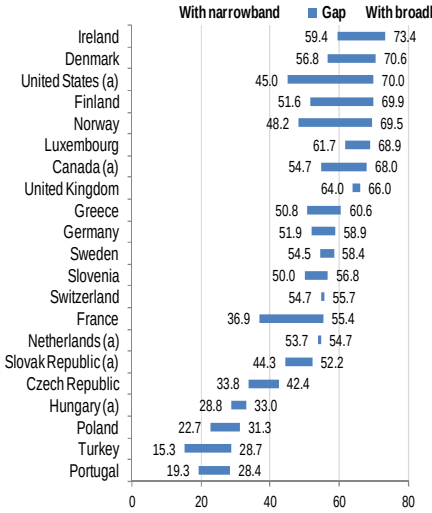
Up to 15 percentage points for sending and receiving e-mail in Sweden

3. Sending/receiving e-mails, 2010 or latest



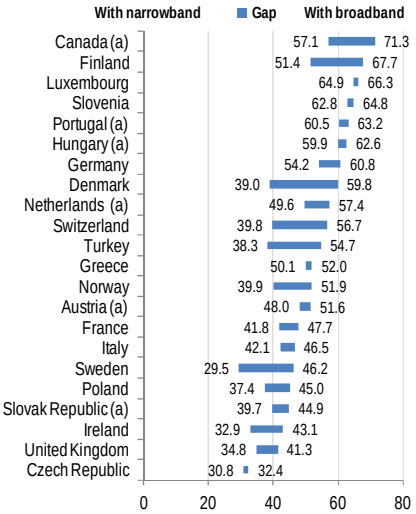
Up to 25 percentage points for using travel and accommodation services in the United States

4. Using services related to travel and accommodation, 2010 or latest



Up to 21 percentage points for seeking health information

5. Seeking health information on injury, disease or nutrition, 2010 or latest

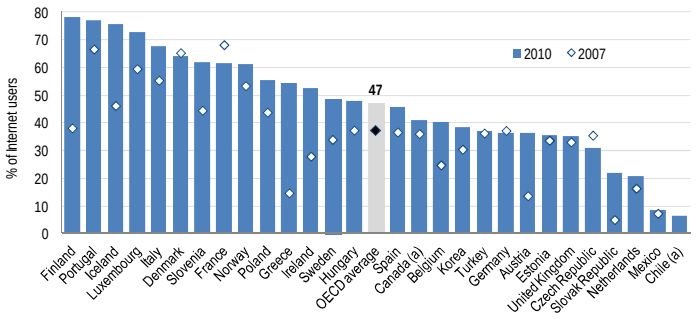


New opportunities are emerging for education…

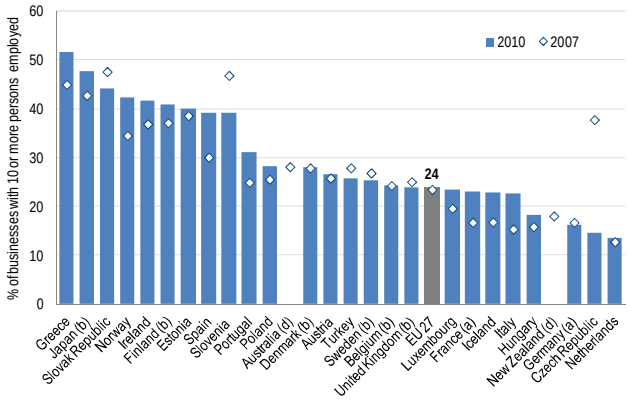
The Internet is an increasingly important means of distance learning.

Almost half of Internet users use the Internet for formalised education activities. In Finland, Portugal, Iceland and Luxembourg the share is over 70%.

1. Internet users who consulted with the purpose of learning, 2010 or latest



2. Businesses using e-learning applications for training and employee education, 2010 or latest

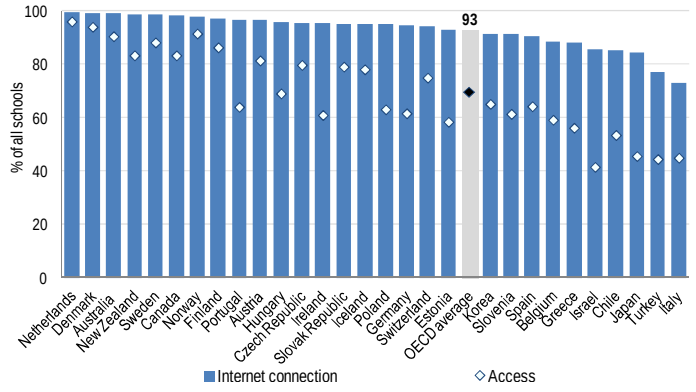


In most OECD countries, enterprises use e-learning applications for training and education of their employees.

Access to the Internet for education has steadily improved in OECD countries, although usage among students could still increase.

On average, over 90% of schools had an Internet connection in 2009 but only 70% of the students report that they use it.

3. Schools with Internet connection and access, 2009



…government and citizen relations…

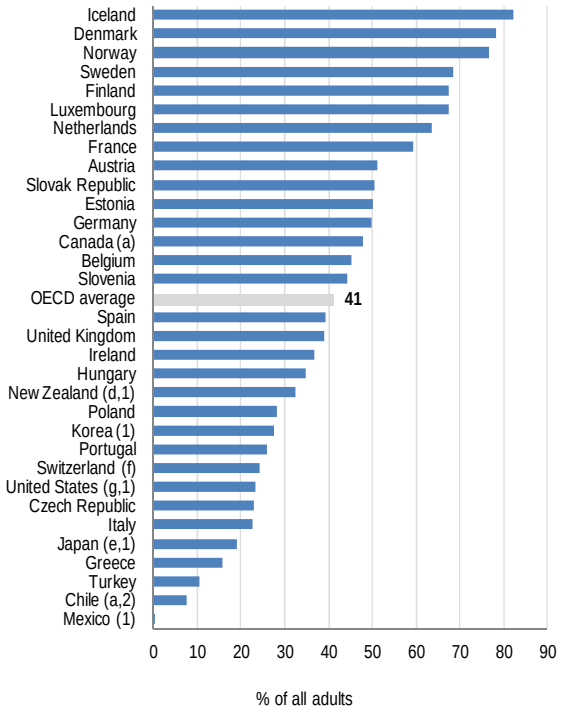
E-government has the potential to improve relationships between citizens, businesses and governments.

Over 40% of citizens in OECD countries use the Internet for interacting with public authorities.

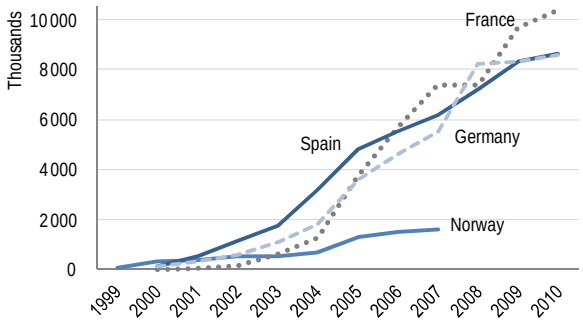
The type of interactions range from simply obtaining information from web sites to more complex two-way interactions.

Over the past years, on-line tax declarations have accelerated in several countries.

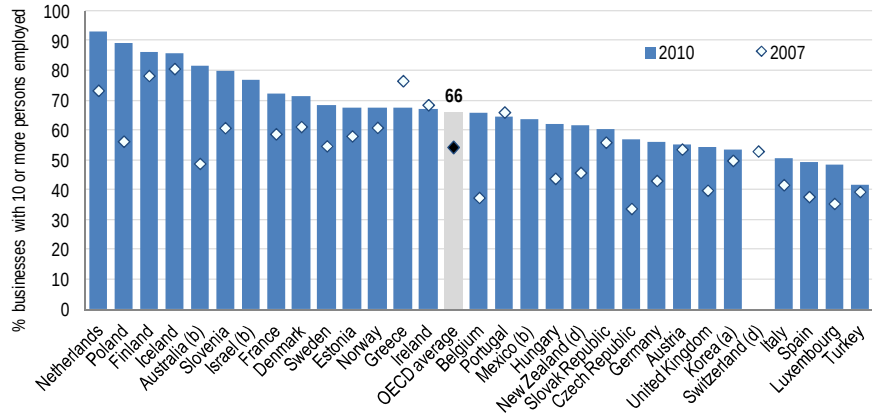
1. Individuals who used the Internet for interactions with public authorities, 2010 or latest



2. Number of online tax declarations



3. Businesses using the Internet for returning filled-out forms to public authorities, 2010 or latest

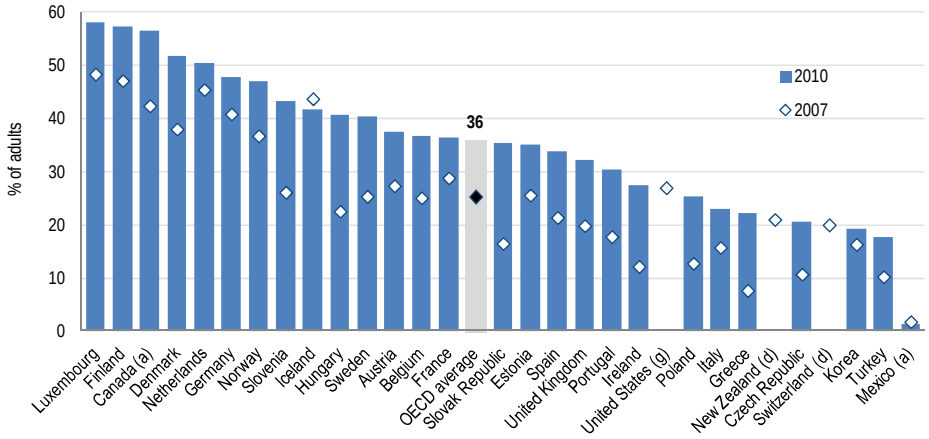


In 2010, 66% of OECD businesses used the Internet for returning completed forms to public authorities. This figure was over 80% in the Netherlands, Poland, Finland and Iceland.

…and health.

Seeking information on health is another frequent use of the Internet. In 2010, more than 50% of adults in Luxembourg, Finland, Canada and Denmark, sought health information on the Web – as did over 45% of adults in the Netherlands, Germany and Norway.

1. Individuals who used Internet to seek health information, 2010 or latest

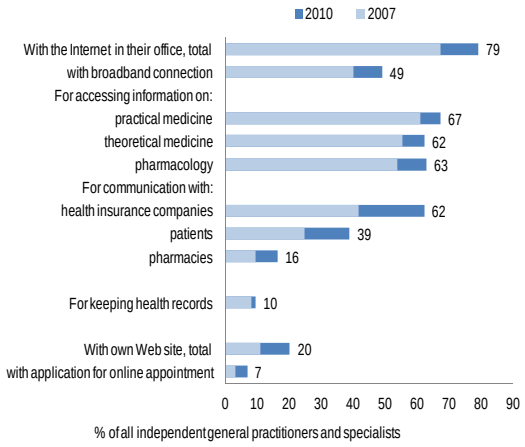


The range of possibilities for digital delivery of health-care related services is enormous.

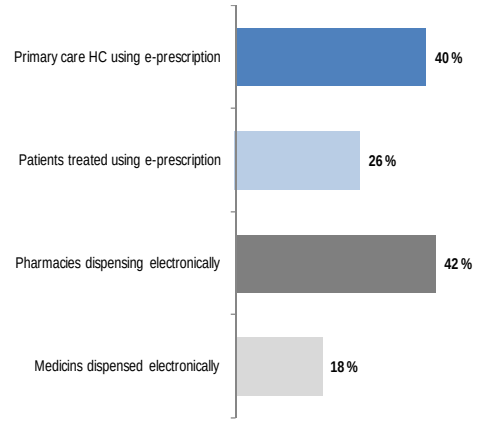
In the Czech Republic, 79% of all physicians had access to the Internet in their medical office, 20% had their own website and 10% used it for keeping health records in 2010.

In 2009, 18% of medicines dispensed in Spain were based on an electronic prescription. Of the primary care health centres, 40% had an e-prescription system that allows e-dispensing. This service is available for 26% of the population.

2. Physicians using the Internet or their website for selected activities, Czech Republic



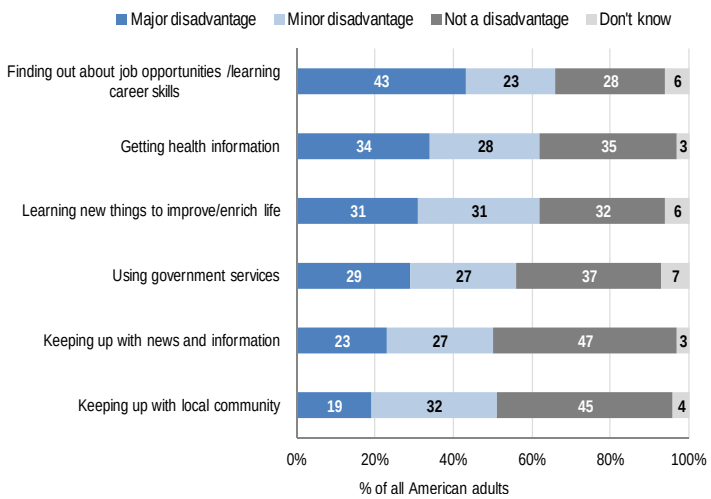
3. Electronic prescriptions in primary health care centres, Spain, 2009



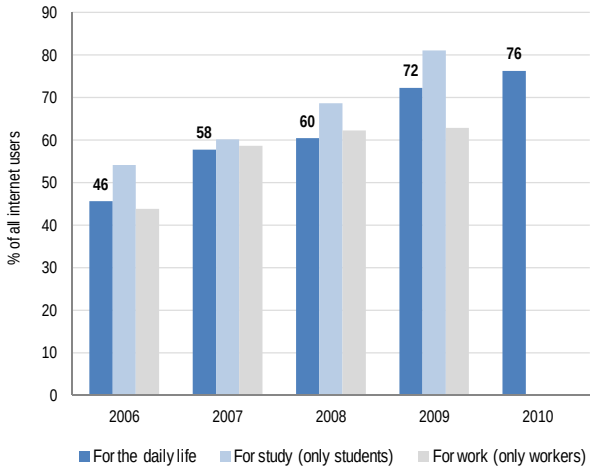
The Internet is having an important impact on people's lives.

In the United States people are split in their views of how much a lack of access hurts non-users: 43% view those without broadband access as being most disadvantaged when it comes to job and career opportunities. In other areas, lack of broadband access is seen as less of a disadvantage (*i.e.* interacting with the local community).

1. Impact of not having home broadband access on selected activities in the US, 2010



2. Korean Internet users who said that the Internet is important for their daily life, study or work



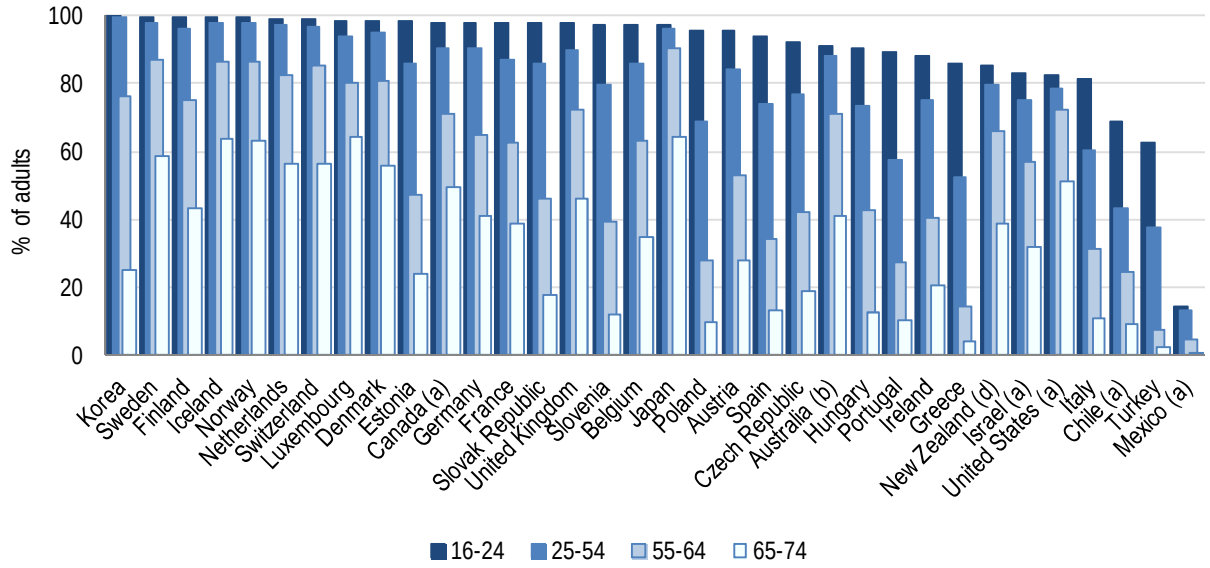
A significant and positive impact of the Internet is also reported in Korea.

In 2010, 76% of Korean Internet users thought that the Internet was important for their daily life. In 2009, among Internet users, over 80% of students considered the Internet as highly important.

Still, usage could be increased among the elderly and women…

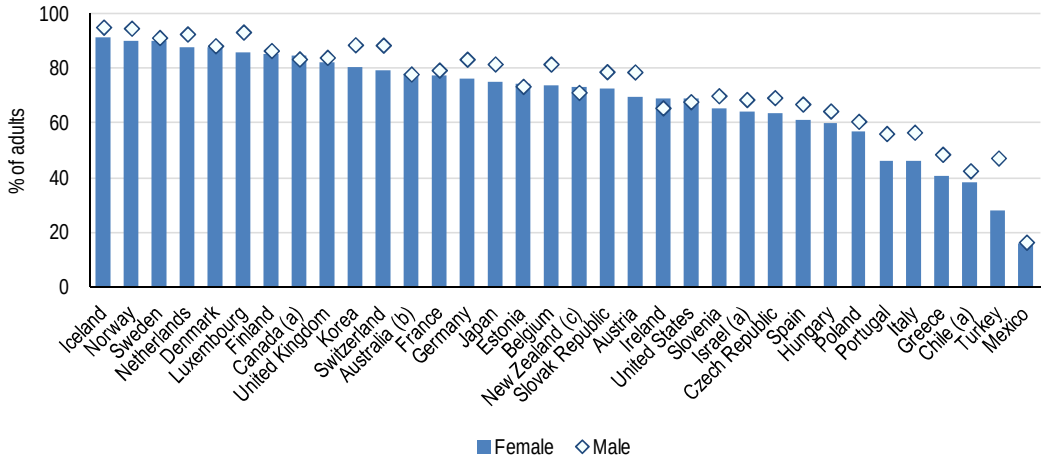
In 2010, the "age divide" in OECD countries is still present even though elderly people on average have increased their use of the Internet by 44% since 2007. Poland, Slovenia and Greece have the largest "age divide".

1. Individuals using the Internet from any location, by age group, 2010 or latest



Men are more likely than women to use the Internet in most OECD countries. This is not the case for Ireland, New Zealand, Estonia, the United States and Canada, where in 2010, slightly more women used the Internet than men. Between 2007 and 2010, the percentage of women using the Internet increased by more than 50% in Turkey and Mexico, but the gap remains large in Turkey, Italy and Portugal.

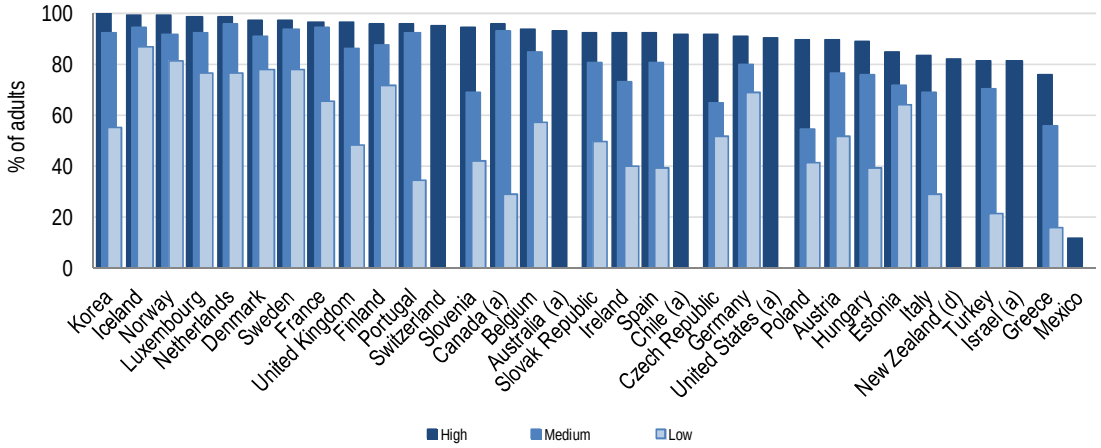
2. Individuals using the Internet from any location, by gender, 2010



…people with lower education and lower incomes…

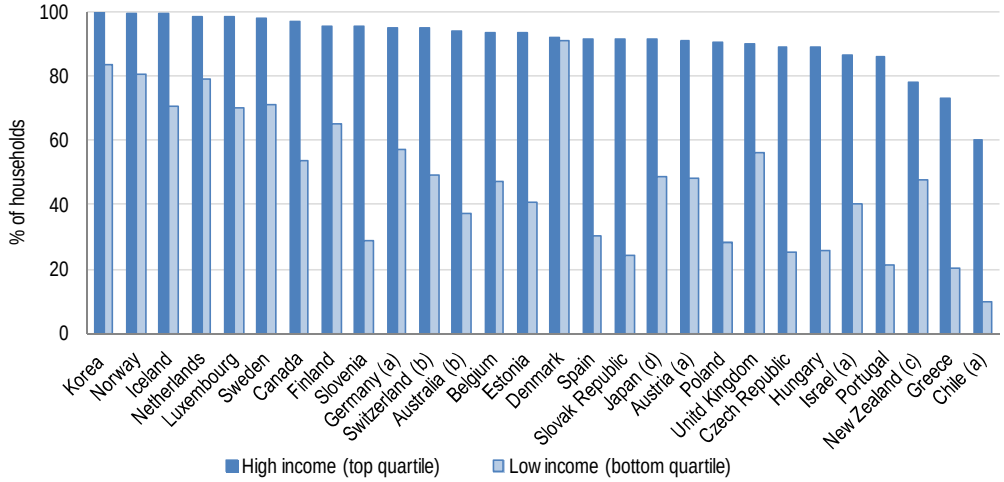
Internet usage is lower for less educated individuals, both men and women. In 2010, Iceland followed by the Nordic countries presented the smallest gap between those with high education levels (university degree and over) and low education levels (primary school or less). Nevertheless, in Korea, Portugal, Turkey and Greece there is still a significant gap.

1. Individuals using the Internet from any location by educational level, 2010 or latest



Internet penetration is the highest among high-income households. In 2010, the difference in Internet access between high and low-income households in Denmark was insignificant. However, in some countries: Slovak Republic, Slovenia, Portugal, the Czech Republic and Hungary the gap is still quite large.

2. Household Internet access by income, 2010 or latest

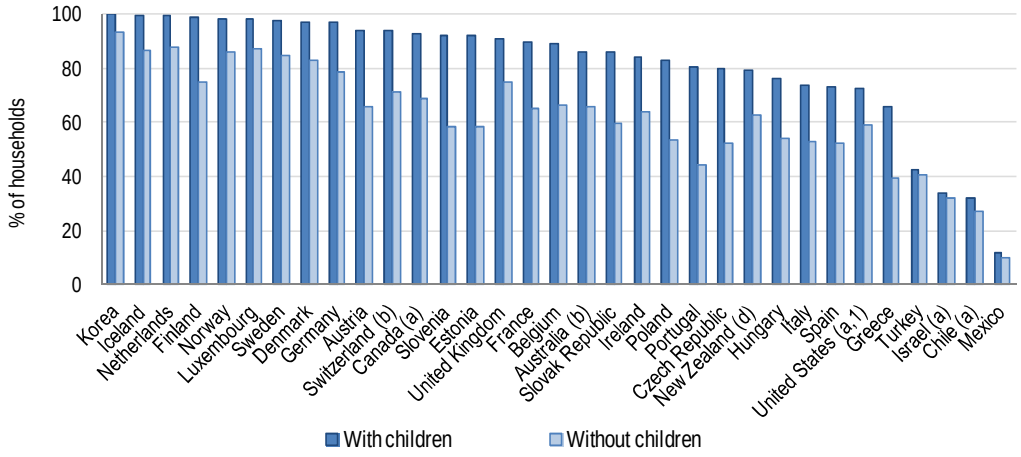


While differences between high and low-income households tend to decrease over time, the divides between elderly and young people and between highly and lowly educated individuals are more persistent.

…and among some households and small firms.

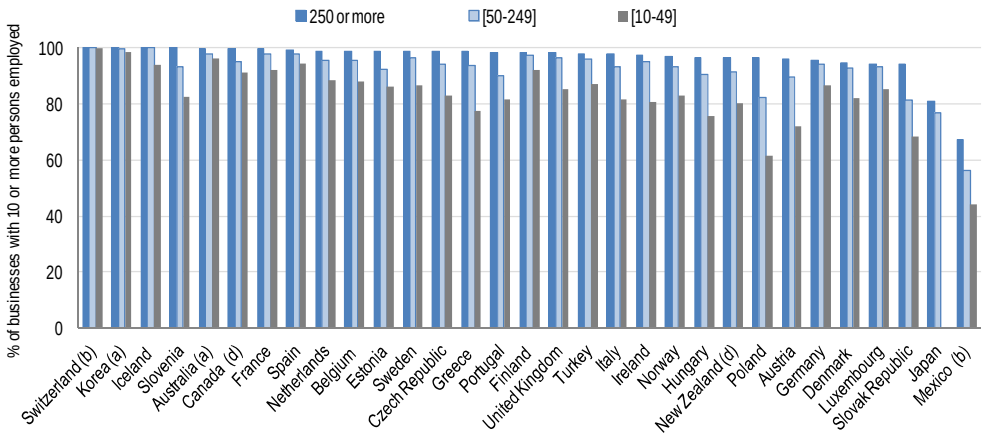
Households with children keep on using the Internet more than those without. In 2010, the divide is the largest in Portugal, Slovenia, Estonia, Poland and Austria. On the other hand, Mexico, Turkey and Korea have the smallest gap.

1. Household Internet access by household type, 2010 or latest



Broadband penetration tends to increase with firm size. In Poland and the Slovak Republic, differences in Internet penetration rates between large (250 or more employees) and small firms (10 to 49 employees) exceed 25 percentage points in 2010. Meanwhile in Switzerland all firms with 10 or more employees had broadband, followed by Korea, Australia and Spain had less than a 5 percentage point gap in broadband penetration between large and small firms.

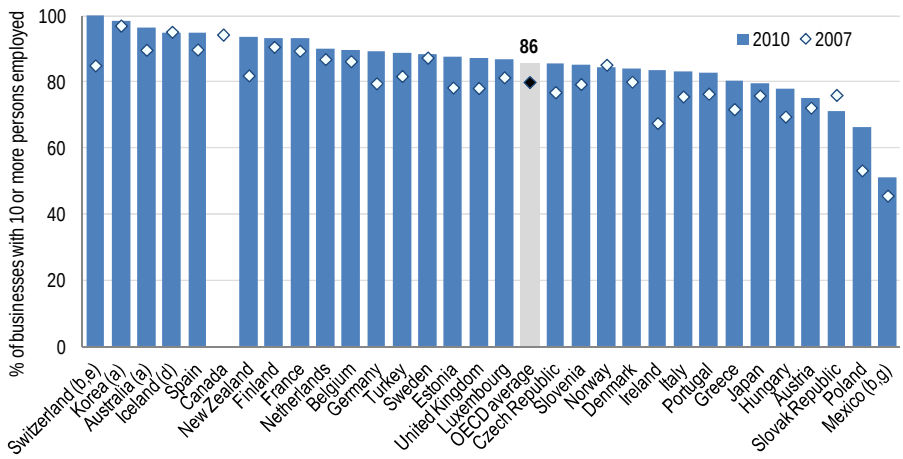
2. Broadband penetration by size class, 2010 or latest



More and more firms are connected…

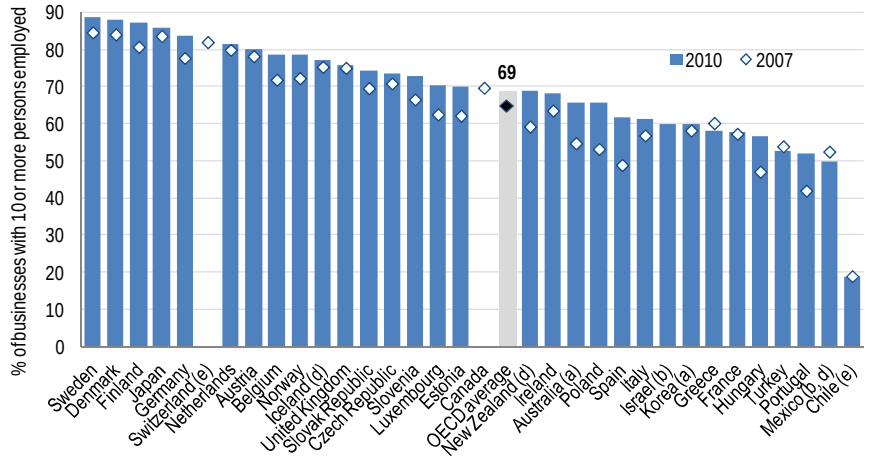
On average, about 86% of businesses with 10 or more persons employed in OECD countries had a broadband connection in 2010.

1. Businesses with a broadband connection, 2010 or latest



In Switzerland, Korea, Australia and Iceland, at least 95% of businesses have a broadband connection. This rate is over 90% in Spain, Canada, New Zealand Finland and France.

2. Businesses with their own website, 2010 or latest



85% and more of businesses with 10 or more persons employed in Sweden, Denmark, Finland and Japan have their own web site.

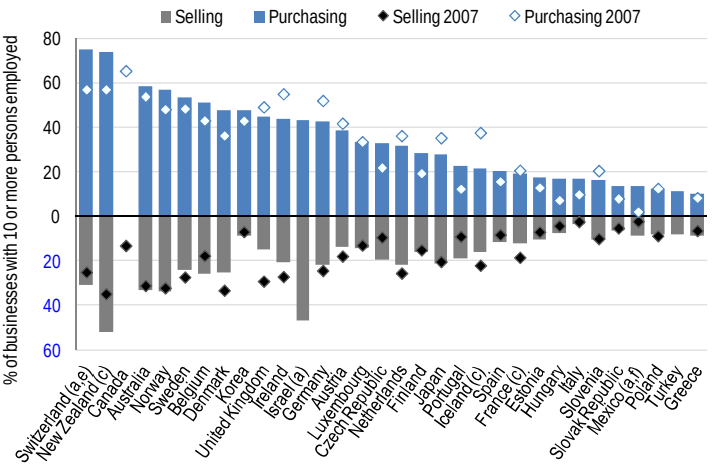
On average, 69% of businesses in OECD countries have their own web site.

…and run their business over the Internet.

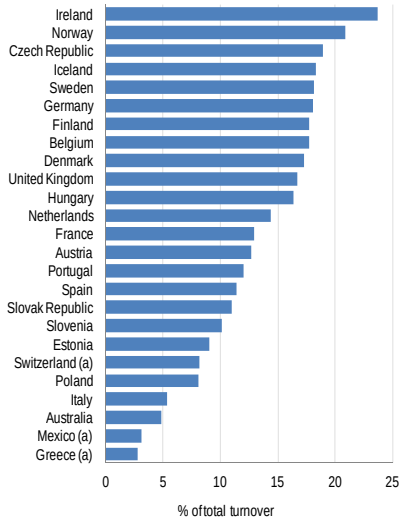
A growing number of businesses in OECD countries purchase and sell goods and services via the Internet.

In 2010, on average, 35% of all businesses with 10 or more persons employed used the Internet for purchasing and 18% for selling goods or services.

1. Businesses selling/purchasing over the Internet, 2010 or latest



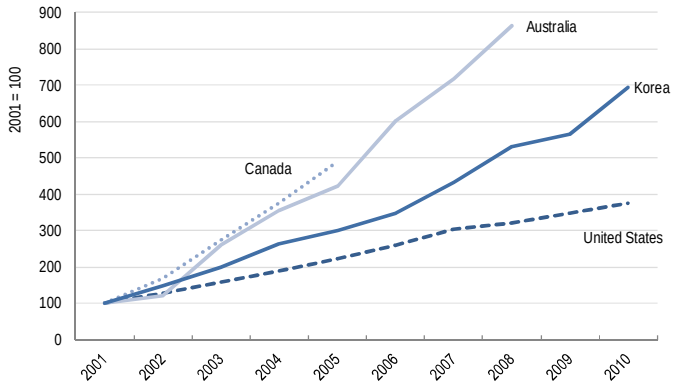
2. Enterprises' turnover from e-commerce, 2010 or latest



In most OECD countries, e-commerce still represents a small share of total sales.

In 2010, e-commerce was above 20% of total turnover in Ireland and Norway.

3. Growth of e-commerce



Despite its small size, e-commerce has shown a significant increase in many OECD countries.

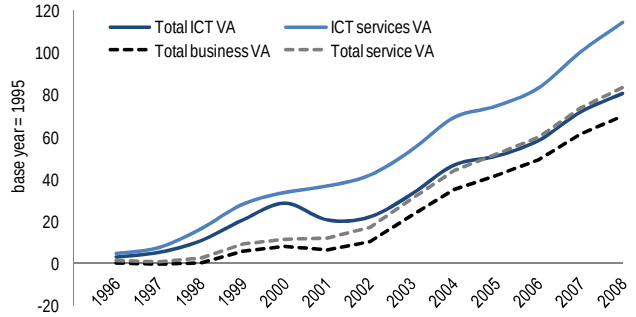
In Korea, e-commerce grew seven-fold between 2001 and 2010. The growth was even more pronounced in Australia where e-commerce rates in 2008 were over eight times the level in 2001.

ICTs are a major driver of growth…

Over the long term, the OECD ICT sector has seen consistent growth, representing more than 8% of OECD business sector gross value added (GVA).

Fast GVA growth in the ICT sector was driven by ICT services (115%).

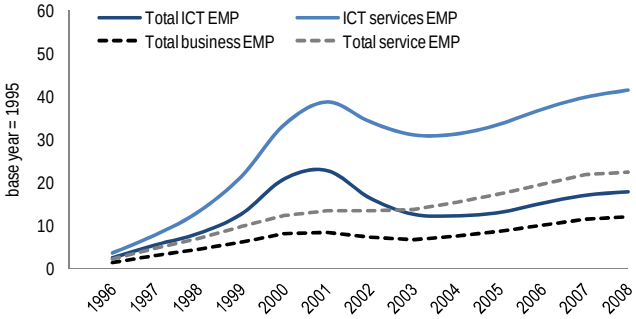
1. OECD gross value added (GVA) growth by sector



ICT services were also the leading component of employment growth in the whole business sector.

ICT services employment grew by 18% while employment growth in business services was 12%.

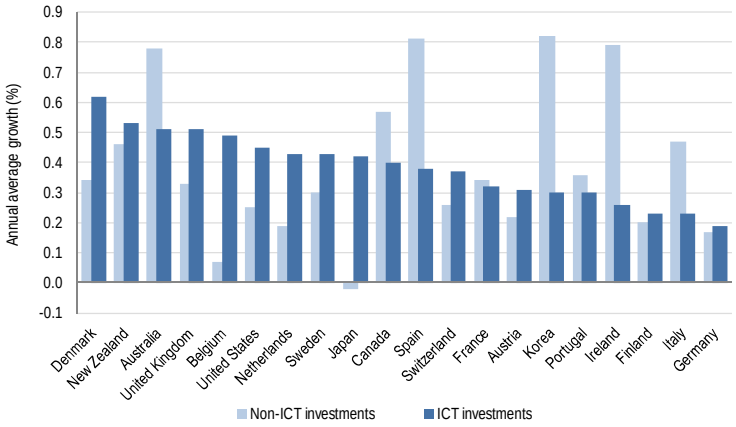
2. OECD employment growth by sector



Investment in physical capital is important for growth. It is a way to expand and renew capital stock and enable new technologies to enter the production process.

During 2000-2009, ICT investments were more important for growth than non-ICT investments in a majority of OECD countries.

3. Contribution to GDP growth

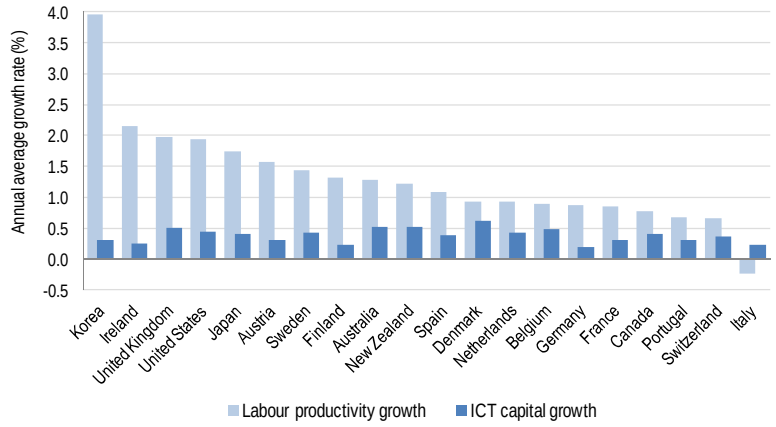


…and productivity.

A series of studies in OECD countries suggested that market services are the main source of overall productivity growth and ICT investments are fuelling productivity growth in total economy.

In Belgium and Denmark labour productivity in the total economy increased by over 0.5% a year over 2000-09 due to ICT investments.

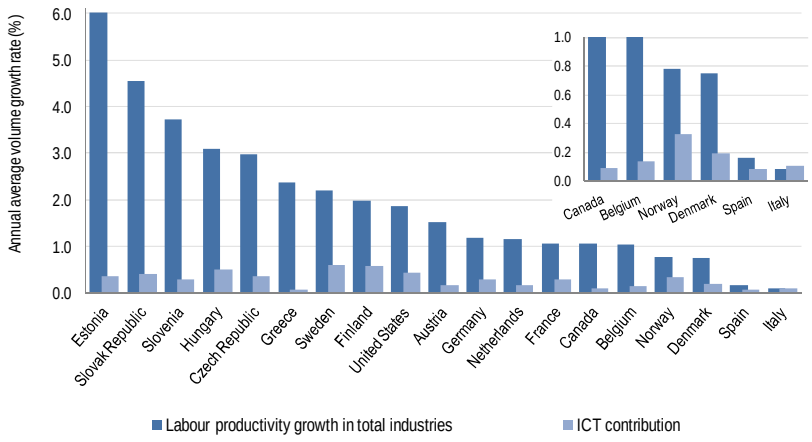
1. Contribution of ICT capital growth to labour productivity growth in total economy, 2000-09



In Denmark, Belgium and Switzerland, ICT investments accounted for over 50% of labour productivity growth in the total economy.

Broadband Internet can deliver major productivity gains by enabling flexible working and better use of time.

2. ICT contribution to labour productivity growth in total industries, 1995-2008



A comparison among selected EU countries shows that labour productivity is higher in industries where more employees are linked by broadband.

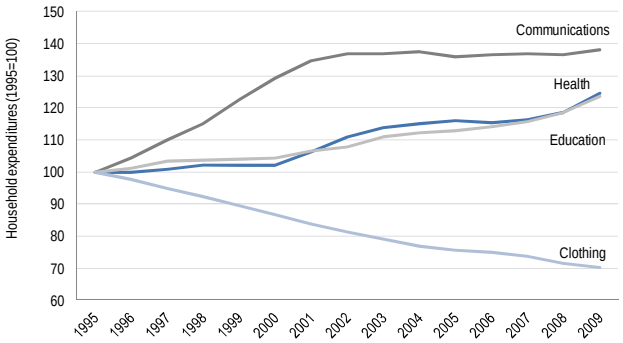
This is true even after taking into account skills, investment and industry effects.

The Internet is opening new market opportunities…

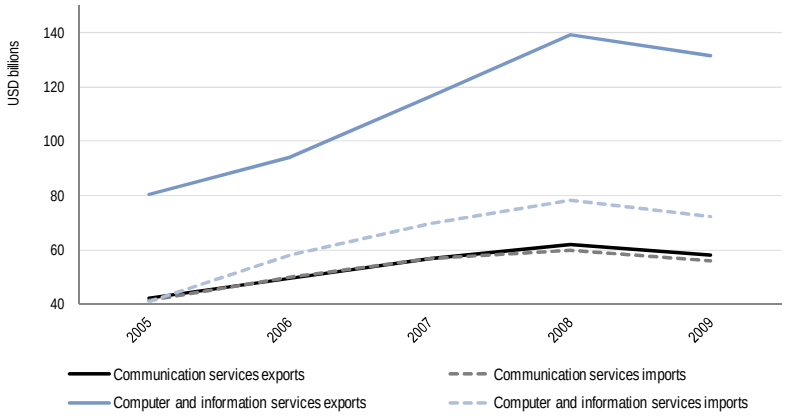
The penetration of broadband Internet, together with the expansion of the mobile sector, has fuelled rapid growth in communications across the OECD area.

Communications has been the fastest-growing household expenditure item since 1995.

1. Changes in the proportion of OECD households' expenditure by category



2. ICT services trade of OECD countries



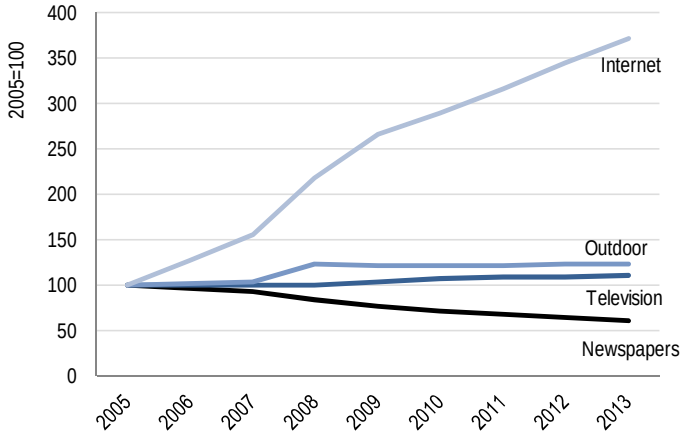
Computer and information services is the top-ranking category in terms of growth in trade in services.

In 2009, OECD member countries' exports of computer and information services were above USD 130 billion and accounted for 5% of total service exports.

Advertising expenditures on the Internet have been growing faster than on any other medium.

In 2010, Internet advertising accounted for 14% of global advertising expenditure and this figure is expected to reach 18% by 2013.

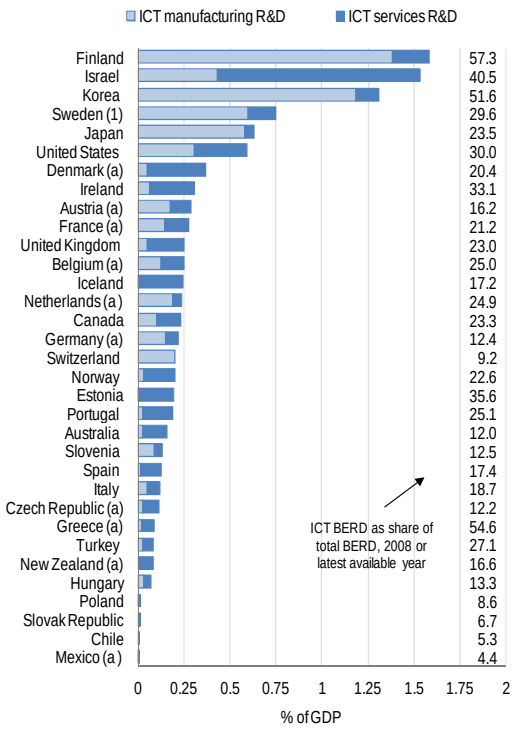
3. Advertising expenditure by medium



…and stimulating innovation.

The highly innovative ICT sector invests heavily in R&D. In 2008, ICT industries accounted for more than 20% of total business R&D expenditure in most OECD countries.

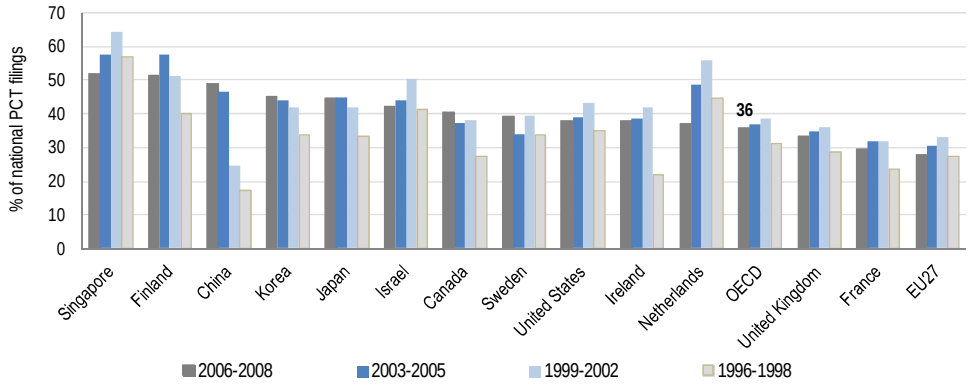
1. ICT business R&D expenditure by selected ICT industries, 2008 or latest



Over half of total business R&D expenditure in Finland, Greece and Korea was in ICT sector.

As a share of GDP, Israel, Denmark and the United States had the greatest specialisation in ICT services R&D.

2. ICT-related patents



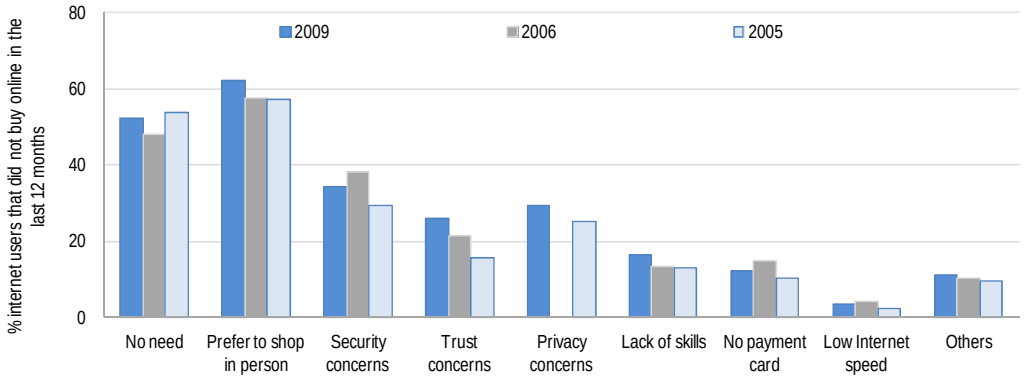
The share of ICT in total patents applications was at its peak during the dot-com bubble. Since then, ICT-related patents have been gradually decreasing in most countries with the exception of China, Korea, Japan and Canada. Over 50% of patents were related to ICT in Singapore and Finland.

In China, the share of ICT in total patent applications almost tripled over 1996-2008.

But it is important to remove barriers,…

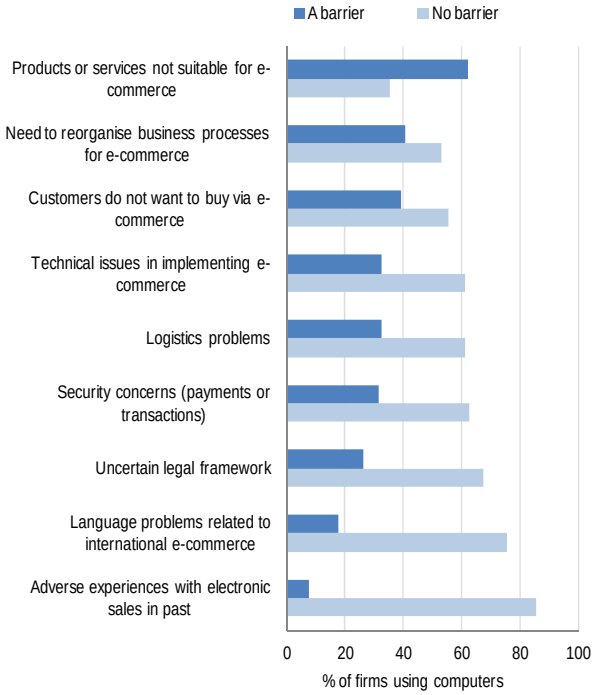
Concerns about security, trust and privacy are still preventing a large number of Internet users in the EU from buying on-line.

1. Reasons for Internet users not buying online in the EU countries, 2009



In the EU, 35% of Internet users do not buy online because of security concerns. More than 60% still prefer to go to physical shops out of loyalty or to see the products in person.

2. Firms in selected EU countries reporting barriers to sales online as currently important, 2009



In 2009, selected EU businesses reported that the most important barriers were products or services not suitable for e-commerce followed by the need to reorganise business processes. However, adverse experiences and language problems do not represent an impediment for electronic sales.

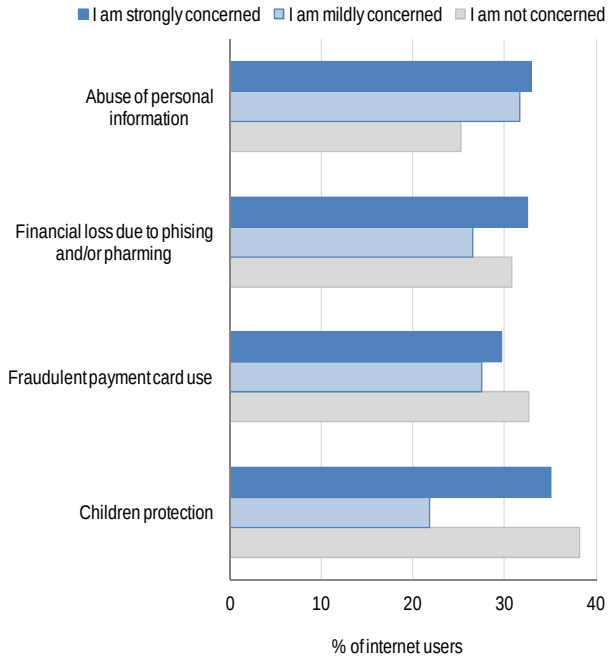
…protect privacy…

The "always-on" connectivity enabled by broadband access makes it particularly important for users to actively protect their security and privacy in the online environment.

1. Internet users in selected European OECD countries reporting concern for security and privacy issues, 2010

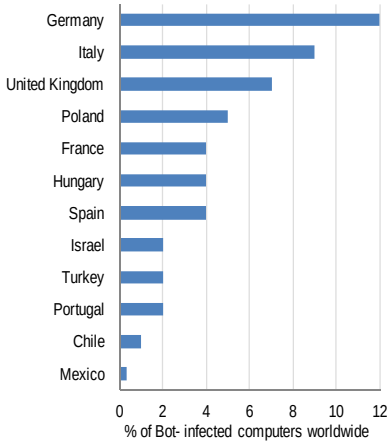
Six out of ten Internet users in European OECD countries are strongly or mildly concerned about security and privacy over the Internet.

In Czech Republic, Portugal and the United Kingdom over 75% of Internet users are concerned that children could access inappropriate web sites or connect with potentially dangerous people.



A threat which has been growing with the diffusion of broadband is the creation of networks of compromised computers acting together without their owners' knowledge or control (bot-infected computers).

2. OECD bot-infected computers, 2010



A majority of the world's bot-infected computers are within the OECD. Germany and Italy have the highest rates.

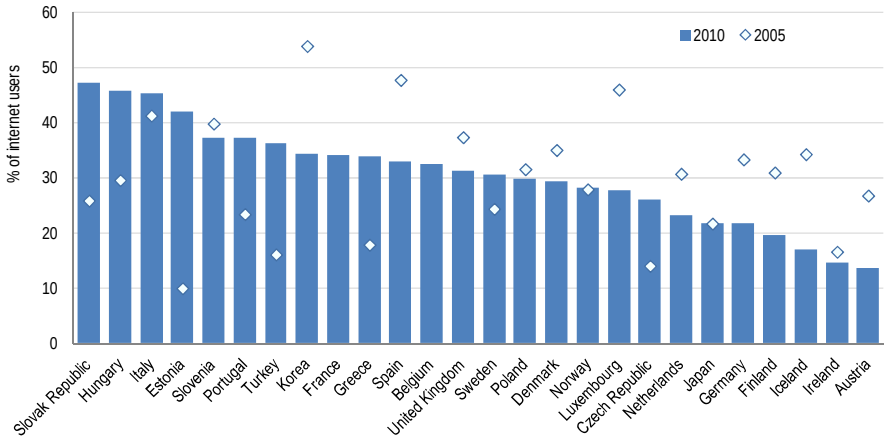
The top originating sources of computer attacks worldwide are the United States, China, the United Kingdom and Germany.

… and improve security.

In 2010, both individual users and businesses report that computer viruses are the type of malicious software – or "malware" – with which they come into contact with the most frequently.

In 2010, the Slovak Republic, Hungary, Italy and Estonia had more than 40% of Internet users encountering viruses.

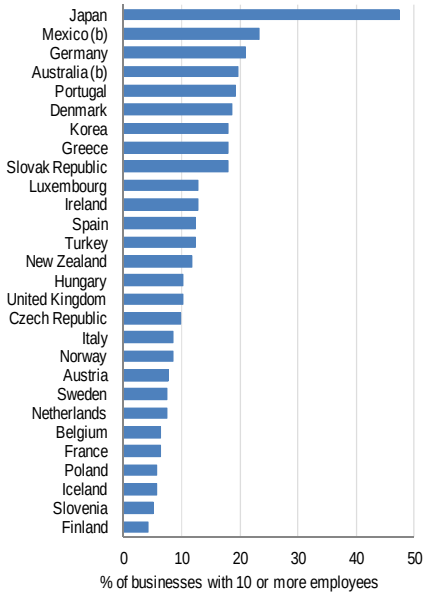
1. Individuals who have encountered a computer virus in the last year by using the Internet, 2010 or latest



Few businesses reported incidents of "unauthorized access", "blackmail" or "threats", but respondents may be unwilling to answer questions on the subject.

The three countries reporting the highest proportions of business having problems with viruses were Japan, Mexico and Germany with over 20%.

2. Businesses that have encountered IT security problems, 2010



SOURCES AND NOTES

General notes

Cyprus

The following note is included at the request of Turkey:

"The information in this document with reference to 'Cyprus' relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the 'Cyprus issue'".

The following note is included at the request of all the European Union Member States of the OECD and the European Commission:

"The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus".

Israel

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

It should be noted that statistical data on Israeli patents and trademarks are supplied by the patent and trademark offices of the relevant countries.

Infrastructure

Broadband data in this document prior to 2010 go by the previous methodology used by the OECD in which broadband statistics include fixed broadband subscriptions as well as fixed wireless and satellite. Broadband data for 2010 follow the current methodology, which excludes terrestrial fixed wireless and satellite subscriptions. In this context, broadband refers to fixed broadband. Data refer to December of each year and include all 34 OECD members. Broadband statistics are based on data from the OECD Broadband Portal [www.oecd.org/sti/ict/broadband].

ICT usage

Data presented in this publication are based on the results of the 2010 OECD ICT questionnaire (biannual) and the 2010 Eurostat Community survey on "ICT usage in households/by individuals" and the 2010 Eurostat Community survey on "ICT usage and e-commerce in enterprises" (both annual). EU countries plus Iceland, Norway and Turkey are covered by Eurostat and Australia, Canada, Chile, Israel, Japan, Korea, Mexico, New Zealand, Switzerland and the United States are covered by OECD.

In general, these surveys cover:

Households with at least one person aged 16-74, and individuals aged 16-74.

For Australia: only includes private dwelling households. Households in remote and sparsely settled parts of Australia are excluded from the survey.

For Canada: statistics for 2001 and every second year thereafter, include the territories. For other years, statistics include the 10 provinces only.

For Israel: the Household expenditure survey does not distinguish between broadband and other bandwidth Internet channels. Individuals aged 20-74.

For Japan: Individuals aged 6+.

For New Zealand: Geographic selection of households. This is the Civilian usually resident, non-institutionalised population aged 15+.

For Switzerland: Individuals aged 14+.

Eurostat data generally refer to the use of Internet in the last three months at home or at any other location for private purposes. For the other OECD countries, data refer to the use of Internet in the last 12 months with the exception of Israel (three last months) and Switzerland where data refer to Internet users that access in the last six months.

Age group breakdown for Eurostat countries and Canada is as follows: 16-24; 25-54; 55-64 and 65-74. For the rest of the countries the age group breakdown is: 25-44 and 45-64 instead of 25-54 and 54-64.

Enterprises with at least 10 persons employed.

For countries covered by Eurostat: The reference period was January 2010, or for some questions the year 2009. Economic activities for 2010 correspond to the classification NACE Revision 2. The sectors covered are manufacturing, electricity, gas and steam, water supply, construction, wholesale and retail trades, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities, information and communication, real estate, professional, scientific and technical activities, administrative and support activities and repair of computers and communication equipment. Financial intermediation and insurance are excluded for the figures referring to the total economic activities. For previous years the economic activities correspond to NACE .Revision 1.1. Data for 2010 and previous years are not directly comparable due to the change of the classification from NACE Rev.1.1 to NACE Rev.2.

For countries covered by the OECD ICT questionnaire: The reference period is that of the year surveyed. Economic activities for 2010 data correspond to the classification ISIC revision 3.1 with the exception of New Zealand which used ISIC Rev.4. All sectors are covered, including Agriculture and forestry, Fishing, Mining and quarrying and Finance and Insurance.

In general, enterprises are broken down by size; small (10-49), medium (50-249) and large enterprises (250 and more persons employed).

For Australia: Data are based on ANSZIC06, the following industries are excluded: General government; Rest of the world; Agriculture, forestry and fishing; Public administration and safety; Education and training; Financial asset investing and Superannuation funds; Religious services and Civic, professional and other interest group services; Private households employing staff.

For Canada: Enterprises are broken down by size; small (10-49), medium (50-299) and large enterprises (300 and more persons employed). Data are based on NAICS 2007. Agriculture, fishing, hunting and trapping, and Public administration and defence; Compulsory social security, Education, Health and social work, Other community, repair and personal service activities are excluded.

For Israel: Agriculture, fishing, hunting and trapping, and Public administration and defence; Compulsory social security, Education, Health and social work, Other community, repair and personal service activities are excluded.

For Japan: Enterprises with more than 100 regular employees and broken down by size (100-299) and (300+ persons employed). Public administration and defence; Compulsory social security, Education, Health and social work, Other community, repair and personal service activities are excluded.

For Mexico: Enterprises with at least 20 persons employed.

For Switzerland: Enterprises with at least five persons employed. Agriculture, fishing, hunting and trapping is excluded.

Page notes

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Figure 1: Number of OECD fixed Internet subscriptions

Source: OECD based on OECD Broadband Portal [www.oecd.org/sti/ict/broadband], June 2011.

Figure notes: In this chart, broadband data prior to 2010 go by the previous methodology used by the OECD, in which broadband statistics include fixed broadband subscriptions (DSL, cable modem, fibre and other fixed broadband technologies) as well as terrestrial fixed wireless and satellite subscriptions. Broadband data for 2010 follow the current methodology (*i.e.* excluding terrestrial fixed wireless and satellite subscriptions).

Dial-up subscriptions data for 2010 is an estimate.

Figure 2: OECD broadband subscriptions by geographic area

Source: OECD based on Broadband Portal [www.oecd.org/sti/ict/broadband], June 2011.

Figure notes: In this chart, broadband data for 2007 go by the previous methodology used by the OECD, in which broadband statistics include fixed broadband subscriptions (DSL, cable modem, fibre and other fixed broadband technologies) as well as terrestrial fixed wireless and satellite subscriptions. Broadband data for 2010 follow the current methodology (*i.e.* excluding terrestrial fixed wireless and satellite subscriptions).

OECD Europe includes Turkey.

Figure 3: Number of Internet hosts by domain

Source: OECD Communications Outlook 2011, Internet Software Consortium [www.isc.org].

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Figure 1: Households with access to the Internet at home, 2010 or latest available year, percentage of all households

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008.

Internet access is via any device (desktop computer, portable computer, TV, mobile phone etc.) with the exception of Japan which covers only access to PC's.

Figure 2: Businesses use of the Internet, 2010 or latest available year, as a percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008; c. 2007: d. 2006: e. 2005; f. 2004; g. 2003.

This indicator corresponds to the access to the Internet for countries covered by Eurostat. Data for 2010 and previous years are not directly comparable due to the change of the classification from NACE Rev.1.1 to NACE Rev.2.

This indicator corresponds to the access to the Internet.

Country notes:

For Japan: Businesses with more than 100 regular employees.

For Mexico: Businesses with 50 or more employees for 2003 and with 20 or more personnel for 2008 data.

For Switzerland: Businesses with five or more employees and connections equal to or faster than 144 Kilobits per second (mobile and fix).

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Figure 1: Households accessing and individuals using the Internet in non-OECD economies, 2009 or latest available year, percentage of all households or all adults

Source: Eurostat, Community Survey on ICT usage in households and by individuals, April 2011; ITU, World Telecommunication Indicators database March 2011; Ministry of Communications and mass media of the Russian Federation, Rosstat, HSE data book "Information Society Indicators" (2010, 2011); and HSE Survey on the usage of ICT by individuals (2006, 2010).

Figure notes: a. 2008.

Households with at least one person aged under 15. Individuals aged 15-74 years, except for Eurostat countries (16-74). Data generally refer to Internet use in the last 12 months, for EU countries data refer to Internet use in the last three months.

Country notes:

For Costa Rica: Data refer to dwellings, not households. For Macao, China: Internet access includes desktops, laptops, handheld computers and other ICT devices. For Peru: Internet access refers to the last month. For Lebanon: individuals aged 25-69.

Figure 2: Businesses in non-OECD economies using the Internet, 2009 or latest available year, percentage of businesses with 10 or more persons employed

Source: Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011; UNCTAD e-business database March 2011; Ministry of Communications and mass media of the Russian Federation, Rosstat, HSE data book “Information Society Indicators" (2010, 2011); and HSE Survey on the usage of ICT by individuals (2006, 2010).

Figure notes: a. 2008; b. 2007; c. 2006; d. 2005.

Country notes:

For Brazil data refer to businesses with nine or more employees. For China: Data refer to "establishments" instead of "enterprises". For Romania: Internet access via modem (dial-up access over normal telephone line) or ISDN

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Figure 1: Historical diffusion of selected goods, Canada

Source: OECD, based on data from Statistics Canada.

Country notes:

The drop in cable penetration results from the entry of satellite television providers in this market late in 1997. At the beginning of next decade, satellite dish started to progressively replace cable.

Figure 2: OECD broadband price and speed changes, similar offers, September 2008-2010

Source: OECD Communications Outlook 2011, OECD Broadband Portal [www.oecd.org/sti/ict/broadband].

Figure notes:

The average price and speed changes were calculated by examining one representative offer from one operator in each country and tracking the price and speed changes for that offer over time. Data were collected each September and local prices were used to calculate percentage changes. If the same speed offer was no longer available then the most similar offer from the same operator was used.

Figure 3: OECD average advertised broadband speeds, by technology, September 2010 (Mbit/s)

Source: OECD Communications Outlook 2011, OECD Broadband Portal [www.oecd.org/sti/ict/broadband].

Figure notes: See the OECD broadband portal for information on data sources and notes.

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Figure 1: Dial-up and broadband Internet subscriptions in the OECD

Source: OECD based on Broadband Portal [www.oecd.org/sti/ict/broadband], June 2011.

Figure notes: In this chart, broadband data prior to 2010 go by the previous methodology used by the OECD, in which broadband statistics include fixed broadband subscriptions (DSL, cable modem, fibre and other fixed broadband technologies) as well as terrestrial fixed wireless and satellite subscriptions. Broadband data for 2010 follow the current methodology (*i.e.* excluding terrestrial fixed wireless and satellite subscriptions).

Dial-up subscriptions data for 2010 is an estimate.

Figure 2: OECD broadband subscriptions, December 2010

Source: OECD based on Broadband Portal [www.oecd.org/sti/ict/broadband], June 2011.

Figure notes: In this chart, broadband data for 2007 go by the previous methodology used by the OECD, in which broadband statistics include fixed broadband subscriptions (DSL, cable modem, fibre and other fixed broadband technologies) as well as terrestrial fixed wireless and satellite subscriptions. Broadband data for 2010 follow the current methodology (*i.e.* excluding terrestrial fixed wireless and satellite subscriptions).

Figure 3: OECD Broadband subscriptions per 100 inhabitants, December 2010

Source and notes: see Figure 2.

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Figure 1: OECD wireless broadband subscriptions per 100 inhabitants, December 2010

Source: OECD Broadband Portal [www.oecd.org/sti/ict/broadband], June 2011.

Figure notes: The wireless broadband subscriptions per 100 inhabitants data include: satellite subscriptions, terrestrial fixed wireless subscriptions and terrestrial mobile wireless (standard mobile subscriptions and dedicated data subscriptions).

Figure 2: Individuals using a mobile phone with broadband connection to access the Internet, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months. Broadband connection via UMTS (3G).

Country notes: For Korea, percentage of individuals aged 16-74 (surveyed with only internet users).

Figure 3: Households with access to digital television, 2009 or latest available year, as a percentage of all TV households.

Source: OECD Communications Outlook 2011, Screen Digest, European Audiovisual Observatory, 2010.

Figure notes: a. 2008.

Country notes:

For Austria, according to KommAustria, the percentage of TV households was only 60%.

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Figure 1: Individuals who used Internet for communicating, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months. Data generally refer to communicating for Eurostat countries. For Israel, Japan, Mexico, New Zealand, Switzerland and the United States data refer to sending and/or receiving e-mails only. For Korea, data refer to sending/receiving e-mails and making voice calls (VoIP).

Country notes: For Japan: Internet users accessing from personal computers and mobile phones. For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

Figure 2: Skype registered users, worldwide

Source: OECD, based on eBay reports.

Figure 3: Individuals who ordered or purchased goods or services on the Internet, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

For countries covered by Eurostat, data refer to individuals who have bought or ordered goods or services over the Internet for non-work use in the last three months. For the other countries it refers to individuals placing orders over the Internet in the last 12 months.

Country notes:

For Israel: Data refer to the use of Internet in the last three months.

For Korea: Percentage of individuals aged 16-74 (surveyed only Internet users).

For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

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Figure 1: Individuals who used Internet for banking services, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months.

Country notes:

For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

Figure 2: Individuals who used Internet for playing/downloading games or music, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months.

Country notes:

1. Playing/downloading music only (excluding web radio and peer-to-peer).

2. Playing/downloading games only.

For Israel: Data refer to the use of Internet in the last three months. For Korea: Web-radio and peer-to-peer are included in playing/downloading music. For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

Figure 3: Individuals who used Internet for job search, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months.

Data refer for Eurostat countries to individuals who used the Internet in the last three months for job research or for sending job applications.

Country notes: For Switzerland, data refer to Internet users who used the Internet at least once within the last six months.

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Figure 1: Internet users who created a web page, 2010, as a percentage of Internet users

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: Internet users are considered for this figure as individuals who have ever used the Internet for countries covered by Eurostat. For countries covered by the OECD ICT questionnaire, data are presented as a percentage of individuals with the exceptions of Japan and Korea.

Country notes: For Japan, Internet users accessing from personal computers and mobile phone.

For Korea: Minihomepages ('minihompys') and web pages. Data refer to Internet users.

Figure 2: Internet users who used peer-to-peer file sharing for exchanging movies, music, etc., in 2010, as a percentage of Internet users

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

Figure notes: Internet users are considered for this figure as individuals who have ever used the Internet for countries covered by Eurostat. For countries covered by the OECD ICT questionnaire, data are presented as a percentage of individuals with the exception of Japan and Korea.

Country notes: For Japan, Internet users accessing from personal computers and mobile phone. For Korea, data refer to Internet users.

Figure 3: Internet users with a social networking activity, 2010, as a percentage of Internet users

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: Social networking is considered as posting messages to chat sites, blogs, newsgroups or on-line discussion forums or instant messaging for European countries.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months. Internet users are considered for this figure as individuals who have used the Internet in the last three months for countries covered by Eurostat. For countries covered by the OECD ICT questionnaire, data are presented as a percentage of individuals with the exception of Korea.

Country notes: For Korea: only online community data was taken into account. Data refer to Internet users.

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Figure 1: Percentage of broadband and narrowband users who report playing/downloading games, films or music, 2010 or latest available year, as a difference in the shares (%) of broadband and narrowband users

Source: OECD, based on data from ICT database; US FCC Communication Survey; Statistics Canada; Switzerland Federal Statistical Office, and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months.

Country notes: For the United States, OECD estimates based on PEW Research Center data.

1. Only music.

2. Only games.

Figure 2: Percentage of broadband and narrowband users who report Internet banking, 2010 or latest available year, as a difference in the shares (%) of broadband and narrowband users

Source and notes: see Figure 1.

Figure 3: Percentage of broadband and narrowband users who report sending / receiving e-mails, 2010 or latest available year, as a difference in the shares (%) of broadband and narrowband users

Source and notes: see Figure 1.

Figure 4: Percentage of broadband and narrowband users who report using services related to travel and accommodation, 2010 or latest available year, as a difference in the shares (%) of broadband and narrowband users

Source and notes: see Figure 1.

Figure 5: Percentage of broadband and narrowband users who report seeking health information on injury, disease or nutrition, 2010 or latest available year, as a difference in the shares (%) of broadband and narrowband users

Source and notes: see Figure 1.

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Figure 1: Internet users who consulted with the purpose of learning, 2010 or latest available year, as a percentage of Internet users

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009.

Internet users are considered for this figure as individuals who have used the Internet in the last three months for countries covered by Eurostat. For countries covered by the OECD ICT questionnaire, data are presented as a percentage of individuals. For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months.

Figure 2: Businesses using e-learning applications for training and education of employees, 2010 or latest available year, as a percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community survey on ICT usage and e-commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008; c. 2007: d. 2006: e.2005; f.2004; g.2003.

Figure 3: Schools with Internet connection and access, 2009, as a percentage of all schools

Source: OECD Program for International Students Assessment, PISA 2009 ICT questionnaire, Question ID: IC02Q03, Question Label: At school – Internet connection, Question Text: Is any of these devices available for you to use at school? – Internet connection

Figure notes: Data refer to whether an Internet connection is available on school premises for students to use. Based on student self-reports as to whether Internet connection is available for the student him/herself to use at school and whether the student reports that Internet is available and that he/she uses it.

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Figure 1: Individuals who used the Internet for interactions with public authorities, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

Data in this chart refer to Internet use in the **last 12 months** for all countries.

Country notes:

1. Obtaining information from public authorities' websites.

2. Downloading official forms.

For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

Figure 2: Number of on-line tax declarations in selected countries

Source: OECD based on data from: Direction Générale des Impôts (DGI), France; Agencia Estatal de Administración Tributaria (AEAT), Spain; the Norwegian Directorate of Taxes; Germany Statistische Zahlen [https://www.elster.de/elster_stat_nw.php].

Figure 3: Businesses using the Internet for returning filled forms to public authorities, 2010 or latest available year, as a percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

Country notes:

For Israel and Switzerland data refer to dealing with public authorities in general. For Mexico data refer to businesses using the Internet for government procedures.

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Figure 1: Individuals who used Internet to seek health information, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d.2006; e. 2005; f. 2004; g. 2003.

For countries covered by Eurostat, individuals were asked about activities they had carried out on the internet in the last three months. For the other OECD countries, it generally refers to the last 12 months.

Figure 2: Physicians using the Internet or their website for selected activities, Czech Republic, as a percentage of all independent general practitioners and specialists

Source: Czech Statistical Office and Institute of Health Information and Statistics of the Czech Republic, 2011.

Figure 3: Electronic prescriptions in primary care Health Centres, Spain, 2009

Source: Red.es and Ministry of Health and Social Policy, January 2010.

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Figure 1: Impact of not having home broadband access on selected activities in the United States, 2010, as percentage of all American adults

Source: Pew Research Center's Internet & American Life Project, Home Broadband 2010, August 2010.

Figure 2: Korean Internet users who said that the Internet is important for their daily life, study or work, as percentage of all Internet users

Source: KISA (Korea Internet & Security Agency), "Survey on the Internet Usage", 2006-2010 issues.

Figure notes: Percentage of Internet users who agree or somewhat agree with the fact that the Internet is important for selected activities. Internet users aged +6 for years 2006, 2007 and 2008. Internet users aged +12 for 2009 and 2010. Data refer to Internet use in the last 12 months.

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Figure 1: Individuals using the Internet from any location, by age group, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last three months for countries covered by Eurostat. Individuals aged 16-74 years, except for Israel (20-74) and Japan (6+).
Age group breakdown for Eurostat countries and Canada: 16-24; 25-54; 55-64 and 65-74. For non-Eurostat countries: 25-44 and 45-64 instead of 25-54 and 54-64.

Country notes:

For Israel: Data refer to the use of Internet in the last three months. For Japan: Age group breakdown: 15-19, 20-39, 40-59 and 60-69. For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

Figure 2: Individuals using the Internet from any location by gender, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last three months for countries covered by Eurostat. Individuals aged 16-74 years, except for Israel (20-74) and Japan (6+).

Country notes:

For Israel: Data refer to the use of the Internet in the last 3 months.

For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

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Figure 1: Individuals using the Internet from any location, by educational level, 2010 or latest available year, as a percentage of adults

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

ISCED: The International Standard Classification of Education was designed by UNESCO in the early 1970s to serve “as an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally”.

Low = ISCED 0 to 2; medium = ISCED 3 to 4; high = ISCED 5 to 6.

Other: includes no formal education.

Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last three months for countries covered by Eurostat.

Country notes:

For Australia: Underestimated as tertiary level certificate courses are not included.

For Israel: Data refer to the use of the Internet in the last three months.

For Mexico: The tertiary level of education includes studies of degree and post degree.

For Switzerland: Data refer to Internet users who used the Internet at least once within the last six months.

For the United States: Tertiary is at least a bachelor's degree.

Figure 2: Household Internet access by income quartiles, 2010 or latest available year, percentage of households by quartile

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011. Data for Canada in 2010 provided by Canadian Internet Use Survey (CIUS) and data for United Kingdom provided by Ofcom.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

Country notes: For Korea: The survey is not organized by quartile. Top income quartile corresponds to income of more than 300 million won, and bottom income quartile corresponds to income of less than KRW 100 million.

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Figure 1: Household Internet access by household type, 2010 or latest available year, percentage of households

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

1. Data for the United States refer to broadband access.

Households with at least one person aged 16-74, with the exception of New Zealand (15+).

Country notes:

For Australia: Households with or without children under 15 years.

For Canada: Dependent children refer to single, never-married children of the household reference person, of any age.

For Chile, Israel, Switzerland and the United States: Households with dependent children are defined as households with children under the age of 18.

For Korea: Households with dependent children includes all households with children regardless of their age.

For Mexico: Dependent children refers to children under 12.

For New Zealand: Household child dependency status does not include households where there is a child with an unknown dependency status.

Figure 2: Broadband penetration by size class, 2010 or latest available year, as a percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

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Figure 1: Business with a broadband connection, 2010 or latest available year, as a percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006.

Most countries define broadband in terms of technology (*e.g.* ADSL, cable, etc) rather than speed.

Figure 2: Business with their own website, 2010 or latest available year, as a percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008; c. 2007; d. 2006; e. 2005; f. 2004; g. 2003.

Country notes:

For Australia: Website includes a presence on another entity's website.

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Figure 1: Businesses selling and purchasing over the Internet, 2009 or latest available year, percentage of businesses with 10 or more persons employed

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2008; b. 2007; c. 2006; d. 2005, e. 2004, f. 2003.

The definition of Internet selling and purchasing varies between countries, with some explicitly including orders placed by conventional e-mail (*e.g.* Australia and Canada) and others explicitly excluding such orders (*e.g.* Ireland, the United Kingdom and some other European countries). Most countries explicitly use the OECD concept of Internet commerce, that is, goods or services are ordered over the Internet but payment and/or delivery may be off line.

Selling/purchasing data refer to "over any networks" of at least 1% excluding manually typed e-mails (except UK where for 2007 manually typed mails were included). Data on e-commerce refer to the calendar year prior to the survey year.

Figure 2: Enterprises' total turnover from e-commerce, 2009 or latest available year, as a percentage of total enterprise turnover

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2008.

Total sales via the Internet or other networks during reference year, excluding VAT.

EU enterprises doing e-commerce is only for those whose turnover via e-commerce is >1% of the total turnover.

Country notes:

For Canada: Data refer to all businesses, not just those that have 10+ employees.

Figure 3: Growth of e-commerce, 2001 = 100

Source: See country notes.

Country notes:

Australia

Australian business income from orders received via the Internet, 1999-2000 to 2007-08.

Internet income is defined as income resulting from goods and services ordered over the Internet where the commitment to purchase is via the Internet or web. Excluded from these measures are orders, payments or transactions for which the commitment has been made using other arrangements, such as face to face. The ABS collects these data by asking businesses to estimate what percentage of their income from sales of goods and/or services can be attributed to orders received via the Internet or web. The estimated value of Internet income is derived by applying the percentage to business income from sales of goods and/or services. This method of collecting Internet income has been put in place to address reporting errors previously observed when the actual dollar figure was requested. Includes all employing businesses, except those in the following industries: Agriculture, forestry and fishing; Education and training; Financial asset investing and Superannuation funds; Religious services and Civic, professional and other interest group services; Private households employing staff.

Source: Australian Bureau of Statistics, Business Use of Information Technology, 1999-2000 to 2007-08, cat. no. 8129.0. http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8129.0Main+Features12007-08?OpenDocument

Canada

Canadian business sales conducted over the Internet, 2001-05. Percentage of total business operating revenue.

Includes all but the smallest employing businesses (whose omission is considered to have a negligible impact on the value of electronic

Sales conducted over the Internet with or without online payment. Includes orders received by e-mail, on the business's website, by EDI over the Internet and any other methods of receiving orders via the Internet. Excludes Internet sales made on the business's behalf by other organisations and Internet sales made by the business on behalf of other organisations.

Source: Statistics Canada, CANSIM tables 187-0001 and 358-0010;

Korea

Yearly Korean e-commerce. Amount of transaction. Business e-commerce covers B2B (which includes the B2B transaction from cyber shopping mall), B2G, B2C and others. Source: Statistics Korea, May 2011.

www.kosis.kr/eng/database/database_001000.jsp?listid=M&subtitle=Transport,%20Information%20&%20telecommunication

United States

Quarterly US e-commerce retail sales 4th quarter 1999 to 4th quarter 2010. Percentage of total retail sales.

E-commerce sales are sales of goods and services where an order is placed by the buyer or price and terms of sale are negotiated over an Internet, extranet, Electronic Data Interchange (EDI) network, electronic mail, or other online system. Payment may or may not be made on line. Estimates are adjusted for seasonal variation, but not for price changes. Total sales estimates are also adjusted for trading-day differences and moving holidays.

Source: United States Department of Commerce, Census Bureau, Quarterly Retail E-commerce sales, www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf.

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Figure 1: OECD GVA growth by sector

Source: OECD Information Technology Outlook 2010, based on STAN database.

Figure notes: OECD 30 - Data for Chile, Israel, New Zealand and Turkey are not included in the OECD aggregate.

Figure 2: OECD Employment growth by sector.

Source: OECD Information Technology Outlook 2010, based on STAN database.

Figure notes: OECD 27 - Data for Chile, Iceland, Israel, New Zealand, Mexico, Poland and Turkey are not included in the OECD aggregate.

Figure 3: Contributions to GDP growth 2000-09. Annual average growth (%)

Source: OECD, Productivity Database, June 2011 [www.oecd.org/statistics/productivity/]

Figure notes: Estimates are based on cost shares and hedonic prices.

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Figure 1: Contribution of ICT capital growth to labour productivity growth, 2000-09, annual average growth rates, in %

Source: OECD, Productivity Database, June 2011.

Figure 2: ICT contribution to labour productivity growth in total industries, 1995-2008

Source: OECD, STAN database, April 2011.

Figure notes: The Annual average growth rate (AAGR) is calculated based on geometric average.

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Figure 1: Changes in the proportion of OECD households' expenditure by category

Source: OECD, SNA database March 2011.

Figure notes: Chile, Greece, New Zealand, Portugal and Turkey are not included in the calculations.

Communications includes Telecommunication equipment and services and Postal services.

Figure 2: ICT Services trade of OECD countries

Source: OECD Information Technology Outlook 2010 based on International Monetary Fund BOPS (Balance of Payments Statistics) data.

Figure 3: Advertising expenditures by medium, percentage of total expenditure

Source: Zenith Optimedia, 2010.

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Figure 1: ICT business R&D expenditures by selected ICT industries, 2008 or latest available year, as a percentage of GDP

Source: OECD, ANBERD database, May 2011 and Statistics Sweden, June 2011..

Figure notes: a. 2007.

ICT sector is defined here as the sum of the following categories in ISIC 3 Rev.1: 30, 32, 642 and 72. Israel, Slovak Republic, Slovenia and Switzerland only covers category ISIC 32 for ICT manufacturing. Germany, Israel, Slovak Republic and Japan only covers category ISIC 72 for ICT services.

Country notes:

For Australia: Data are distributed according to the main activity of the enterprise carrying out the R&D (or, in the case of larger enterprises, the divisions carrying out the R&D), with the R&D of independent R&D firms (or their divisions) serving mainly one industry allocated to the industry served.

For Austria: Data are distributed according to the main activity of the enterprise carrying out the R&D.

For Belgium: Data are distributed according to the product field of the R&D.

For Czech Republic: Data are distributed according to the main activity of the enterprise carrying out the R&D. Since 2004, the R&D of enterprises in the Research and development industry (ISIC, R-3: 73) has been redistributed to the industries for which the R&D was carried out.

For France: Data are distributed according to the product field of the R&D.

For Greece: Data are distributed according to the main activity of the enterprise carrying out the R&D.

For Hungary: Data are distributed according to the main activity of the enterprise carrying out the R&D, with the R&D of independent R&D firms serving mainly one industry allocated to the industry served.

For Israel: Data are distributed according to the main activity of the enterprise carrying out the R&D. Defence R&D is excluded. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

For Italy: Data are distributed according to the main activity of the enterprise carrying out the R&D.

For Korea: Data are distributed according to the main activity of the enterprise carrying out the R&D.

For Portugal: Data are distributed according to the main activity of the enterprise carrying out the R&D.

For Spain: Data are distributed according to the main activity of the enterprise carrying out the R&D. Since 2000, data for the Research and development industry (ISIC, R-3: 73) have been allocated to the industries served.

For Sweden: Data refer to 2009 and were provided by Statistics Sweden.

For Turkey: Data are distributed according to the main activity of the enterprise carrying out the R&D.

For United Kingdom: Data are distributed according to the product field of the R&D for large firms, while for small firms the R&D is allocated to their main activity. R&D firms are redistributed to the industry served. Telecommunications (ISIC, R-3: 642) includes Post (ISIC, R-3: 641).

For United States: Data are distributed according to the main activity of the enterprise carrying out the R&D. For 2008, the estimates are preliminary.

Figure 2: ICT-related patents as a percentage of national total (PCT filings)

Source: OECD, Patent Database, January 2011.

Figure notes: ICT-related patents as a percentage of national total (PCT filings), by priority date and inventors country. Threshold - ratios calculated for countries with more than 100 PCT over the periods.

Country notes: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law. It should be noted that statistical data on Israeli patents and trademarks are supplied by the patent and trademark offices of the relevant countries.

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Figure 1: Reasons for Internet users not buying on-line in the EU countries, 2009, percentage of individuals with Internet access that did not buy online in the last 12 months

Source: Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure 2: Firms in selected EU countries reporting barriers to sales online as currently important, 2009, percentage of firms with 10 or more persons employed that use a computer

Source: Eurostat, Community survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes:

Percentages are calculated as a weighted average for countries where data were available: Austria, Germany, Greece, Hungary, Italy, Luxembourg, Portugal, Slovak Republic and Slovenia. Businesses with 10 or more employees that use a computer.

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Figure 1: Internet users in European OECD countries reporting concern for security and privacy issues, as a percentage of Internet users

Source: Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: Percentages are calculated as a weighted average for 24 European OECD countries. Data refer to individuals who used Internet within the last 12 months.

Figure 2: OECD bot-infected computers, percentage of bot-infected computers worldwide.

Source: Symantec Corporation: Internet Security Threat Reports, April 2011.

Figure notes: This figure measures the top originating sources of attacks that targeted computers in 2010. A network attack is generally considered any malicious activity carried out over a network that has been detected by an intrusion detection system (IDS), intrusion prevention system (IPS), or firewall.

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Figure 1: Individuals who have encountered a computer virus by using the Internet, 2010 or latest available year, as a percentage of Internet users

Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, April 2011.

Figure notes: Resulting in loss of information or time. Internet users are defined for this figure as individuals who used the Internet within the last year.

Country notes:

For Japan: Internet users aged 6+ accessing from personal computers.

For Korea: Data based on the survey conducted among Internet users (online survey via e-mail). Percentage of Internet users aged 12-59.

Figure 2: Businesses that have encountered IT security problems, 2010 or latest. Percentage of businesses with 10 or more persons employed.

Source: OECD, ICT database and Eurostat, Community survey on ICT usage and e-Commerce in enterprises, March 2011.

Figure notes: a. 2009; b. 2008.

IT security problems are defined in general as security incidents that result in destruction or corruption of data due to infection or malicious software or unauthorised access. For Japan, Korea and Mexico data refer to viruses, trojans or worms only.

Country notes:

For Australia: Data refer to any IT security problems.

For Japan: Object enterprises that use information and communication networks (intra-company or inter-company communication network or the Internet) more than a 100 regular employees.

For New Zealand: Includes threats such as virus, trojans or worms, attacks resulting in denial of service, or unauthorised access to business computer systems or data.