The Future of the Internet Economy
A Statistical Profile

OECD Ministerial Meeting on the Future of the Internet Economy
Seoul, Korea, 17-18 June 2008

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GLOSSARY

Access: a household has access to the Internet if it has all the required equipment in working order, regardless of whether it actually uses it or not. Access can be via a computer, a mobile phone, a games machine etc.

Blogs: web pages containing user-created entries updated at regular intervals and/or user-submitted content investigated outside of traditional media.

Broadband: a high-speed Internet connection capable of downloading 256 kilobits of data per second or higher. The OECD broadband statistics include Internet connections over DSL, cable modem, fibre, fixed wireless (excluding mobile and Wi-Fi) and other wired connections capable of downloading at speeds of 256 kilobits per second.

Cable modem: a type of modem that provides access to a data signal sent over the cable television infrastructure. Cable modems are primarily used to deliver broadband Internet access, taking advantage of unused bandwidth on a cable television network.

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.

DSL: Digital Subscriber Line indicates a family of technologies that provide 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 loop used for telecommunications. Also denoted as FTTx.

Fixed Wireless: a wireless connection between two fixed locations.

EDI: Electronic Data Interchange defines the transfer of structured data, by agreed message standards, from one computer system to another without human intervention.

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 and has 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.

Subscriber: someone who contracts to receive and pay for a service.

Usage: an individual or a business uses the Internet if he has all the required equipment in working order (access) and has actually used it.

Wireless: the possibility to transfer information over a distance without the use of electrical conductors or “wires”.
The Internet has grown rapidly...

There were around 309 million Internet subscribers in OECD countries in 2006. This number has doubled in 6 years.

The number of Internet subscribers has increased across the OECD, but growth has been faster in Europe than in North America, Asia and Oceania.

In 2006, OECD Europe accounted for 44% of OECD Internet subscribers, North America for 38% and OECD Asia and Oceania for the remaining 18%.

There were about 542 million hosts connected to the Internet worldwide in 2008, 13 times more than in 1999. Over half of all hosts had a generic domain, e.g. com, net. OECD country domains (e.g. fr, kr) accounted for over one third of all hosts worldwide.
...connecting people and businesses in the OECD...

On average, 58% of the households in OECD countries have access to the Internet at home.

In 2007, Korea (94%), Iceland (84%) and the Netherlands (83%) had the highest share of households with home access to the Internet.

Between 2000 and 2007, the most rapid growth for Internet access was in Germany, Korea, the United Kingdom and Switzerland.

In 2007, on average 95% of medium and large businesses in OECD countries were using the Internet.

In Iceland, Finland, Switzerland, Denmark, Japan and Austria over 98% of businesses (with 10 or more employees) used the Internet.
...and worldwide.

In Singapore and Hong Kong (China), the share of households with access to the Internet is just below those of the top-ranking OECD economies.

Home is not always the most important location for accessing the Internet in non-OECD economies.

Internet access is most frequent at place of work or education in the Baltic countries and in Internet cafes in Latin America and China.

In many non-OECD economies, the percentage of businesses using the Internet is nearly as high as in OECD countries.

Over 85% of businesses (with 10 or more employees) had an Internet connection in Slovenia, Malta, Estonia, Singapore, Lithuania, Brazil, Serbia and Latvia.
Broadband has tremendous potential...

Internet diffusion is 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.

Broadband and mobile phones are increasing Internet access and enlarging the scope for its use.

Broadband prices are going down while speeds are increasing.

Over 2006-07, the speed of DSL and cable broadband increased by 29% and 27%, respectively. At the same time, prices went down by 19% and 16%.

New broadband technologies are increasing the potential for Internet use.

In 2007, advertised upload speeds on fibre were almost 40 times faster than on DSL and over 80 times faster than on cable.
...which is feeding Internet diffusion...

Broadband is quickly replacing dial-up Internet. The number of OECD Internet broadband subscribers increased 11 times between 2000 and 2006.

In 2006, 64% of Internet subscribers in OECD countries had a broadband connection.

In 2007, there were over 235 million broadband subscribers in OECD countries.

The United States was the largest broadband market in the OECD with nearly 70 million subscribers.

There were 20 broadband subscribers per 100 inhabitants on average across the OECD.
...and driving convergence among ICTs.

Convergence is blurring the boundaries between different forms of ICTs.

The number of mobile phone subscribers has increased almost 200 times in 16 years.

In 2006, there were over 2.5 billion mobile phone subscribers in the world; 36% of them were in the OECD.

Over 50% of mobile users in OECD countries had an Internet-enabled phone in 2005.

The share of those sending e-mails or browsing the Internet has steadily increased to about 30% of all mobile users.

Digital television is taking off. In 2005, over 30% of household had access to digital television in Germany, Norway, Sweden and Canada.

The United Kingdom and the United States had the largest shares of households with access to digital television (62% and 42%, respectively).
The Internet is changing traditional behaviour...

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

On average, 57% of adult users in OECD countries used the Internet to send e-mail or telephone in 2007. This figure was over 75% in Iceland, the Netherlands, Norway and Korea.

Telephoning over the Internet is still relatively low but growing quickly associated with the uptake of broadband.

Between 2004 and 2007, the number of registered Skype users increased by over 50 times, up to 276 million worldwide.

On average, over 25% of people in OECD buy or order goods or services over the Internet in 2007. In Japan, it was over half of all adults.
On average, over 30% of people in OECD countries use banking services on the Internet.

E-banking is very popular in the Nordic countries, where over 50% of adults use the Internet for banking.

One adult out of 4 downloads music or plays games on the Internet.

Playing or downloading games and music is most popular in the Netherlands (45%) and Korea (44%).

Over 20% of adults in Finland, Denmark, Norway, New Zealand and Switzerland use the Internet for job-search.
...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, 18% of all Internet users in OECD have created Web pages in 2007.*

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

*On average, 17% of European (EU15) Internet users use peer-to-peer file sharing. Spain has the highest percentage at 35%, over double the European average.*

*In Japan, the number of blog readers has more than doubled in two years, up to 35 million in March 2007.*
Broadband is increasing Internet use.

Broadband users are more active on the Internet than narrowband users.
In 2007, the difference in use between broadband and narrowband Internet users were:

### up to 27% for playing or downloading games and music

1. playing / downloading games, films or music, 2007

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### up to 26% for Internet banking

2. Internet banking, 2007

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### up to 29% for sending and receiving e-mail


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### up to 24% for using travel and accommodation services

4. Using services related to travel and accommodation, 2007

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### up to 20% for seeking health information

5. Seeking health information, 2007

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New opportunities are emerging for education...

The Internet is emerging as a means of distant learning.

In 2006, over 20% of Internet users used the Internet for formalised education activities in the United Kingdom, Turkey, Greece, Hungary and the Netherlands. In Finland, the share is over 30%.

In most OECD countries, over 25% of enterprises use e-learning applications for training and education of their employees. This percentage was over 40% in the Slovak Republic and Greece in 2007.

Access to ICTs in education has steadily improved in OECD countries, with more and more schools and universities having broadband.

Over 95% of primary and secondary schools had a broadband Internet access in the United States, Korea, the Netherlands and Denmark in 2006.
..government and citizen relations...

E-government has the potential to improve the relationship between citizens and governments.

On average, over 30% of citizens in OECD countries used the Internet for interacting with public authorities in 2007. While the type of interactions range from simply obtaining information from Web sites to the more complex filling in forms on-line, the latter is increasing fast.

In a few years, on-line tax declarations have shown a dramatic increase in France and Norway.

In 2007, 43% of EU15 enterprises used the Internet for returning completed forms to public authorities. This figure was over 70% in Greece, Finland and Iceland.
...and health.

Seeking information on health is also becoming one of the most frequent uses of the Internet. In 2007, 45% or more of adults in Luxembourg, Finland, the Netherlands, Iceland and Germany sought health information on the Web - as did over 35% in Denmark, Canada and Norway.

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

**In the Czech Republic, over 50% of all general practitioners accessed health information on the Internet** in 2006.

**In Canada, use of Intranets and electronic data interchange (EDI) on the Internet increased significantly among public health care and social assistance organizations** from 2001 to 2006.
The Internet is having an important impact on people’s lives.

45% of US Internet users in 2005 say that the Internet helped them make significant decisions in the previous two years.

People relied on the Internet mainly for career training (21 million), choosing a school (17 million) and helping someone else with a major illness (17 millions).

Overall, the number of US people relying on the Internet for major decisions increased by one-third, from 45 in 2002 to 60 million in 2005.

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

About 80% of Internet users in Korea respond that ‘convenience in life’ is the most positive impact on their daily lives, followed by ‘promotion of civic rights’ (67%), ‘increase in leisure time’ (50%) and ‘more contacts with others’ (38%).
Still, usage could be increased among the elderly and women...

In all OECD countries, elderly people are less likely to use the Internet than young people. The Slovak Republic, Spain, Hungary and the Czech Republic had the largest “age divide” in 2007.

Men are more likely than women to use the Internet in most OECD countries. In 2007, the gap was largest in Luxembourg, Austria and Italy. In the United States, Canada and New Zealand, however, women were slightly more likely than men to use the Internet.
...people with low education and low incomes...

Internet usage is lower for less educated individuals, both men and women. In 2007, the gap between high education (university degree and over) and low education (primary school or less) was particularly large in Portugal, Korea and Greece. Mexico, Iceland and Norway were the countries where the gap is smallest.

![Graph showing Internet usage by educational level, 2007](https://doi.org/10.1177/0162330208315860)

Internet penetration is the highest among high-income households. In 2007, the difference in Internet access between high and low-income households was the largest in Poland, the Slovak Republic and Hungary.

![Graph showing household Internet access by income, 2007](https://doi.org/10.1177/0162330208315860)

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

Households with children are more likely to use the Internet than those without. In 2007, the gap was the largest in Finland, France, Germany and Belgium. Korea, the United Kingdom and United States had the smallest.

Broadband penetration tends to increase with firm size. In Poland, Greece, Austria and Ireland, differences in Internet penetration rates between large (250 or more employees) and small firms (10 to 49 employees) exceeded 25 percentage points in 2007.
More and more firms are connected...

On average, about four out of five businesses with 10 or more employees in OECD countries had a broadband connection in 2007.

In Korea, Iceland, Canada and Finland, over 90% of businesses with 10 employees or more had a broadband connection. This rate was over 85% in Spain, Australia, Sweden, Belgium, France and Norway.

90% and more of businesses with 10 or more employees in Japan, Sweden, Denmark, Switzerland and Finland have their own Web site.

On average, three out of four businesses with 10 or more employees in OECD countries had their own Web site in 2007.
... 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 2007, on average, one third of all businesses with 10 or more employees used the Internet for purchasing and 17% for selling goods or services.

![Diagram of businesses selling/purchasing over the Internet, 2007](http://dx.doi.org/10.1787/341878427934)

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

In 2006, e-commerce was above 15% of total turnover in Korea, Denmark, the United Kingdom, France and Ireland.

![Diagram of enterprises' turnover from e-commerce, 2006](http://dx.doi.org/10.1787/342031213716)

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

In Australia, Canada, Japan, and the US, e-commerce has increased by five to seven times from the late 1990's to the mid 2000's.
ICTs are a major driver of growth...

Over 1995 to 2006, growth in gross value added (GVA) was higher in the ICT sector (76%) than in the whole business sector (66%).

Fast GVA growth in the ICT sector was driven by ICT services (97%), particularly computer and related services (176%).

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

ICT services employment grew by 28% while employment growth in business services was 20%.

Employment growth in computer and related services was over 55%.

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.

Over 1985-2006, ICT investments were more important for growth than non-ICT investments in a majority of OECD countries.
...and productivity.

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

In the United States, the United Kingdom and Denmark labour productivity in market services increased by over 1.2 % a year over 1995-2004 because of ICT investments.

In Germany and Belgium, ICT investments accounted for over 80% of labour productivity growth in market services.

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

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 have been the fastest-growing household expenditure item since 1995.

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

In 2005, OECD member countries’ exports of computer and information services totalled USD 120 billion and accounted for 3.3% of total service exports.

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

In 2007, Internet advertising accounted for 7% of global advertising expenditure. The Internet already attracts more than 10% of advertising expenditures in Norway, Sweden and the United Kingdom.
...and stimulating innovation.

The highly innovative ICT sector invests heavily in R&D. In 2004, **ICT manufacturing industries accounted for more than a quarter of total manufacturing business R&D expenditure in most OECD countries.**

![Business R&D by selected ICT manufacturing industries](https://doi.org/10.1787/442250463345)

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

The share of ICT in total patents applications rose in almost all countries from the mid 1990s to the beginning of the 2000s. ICT-related patents represented, on average, 35% of total PCT filings in 2005 in OECD countries. **Over 50% of patents were related to ICT in Singapore, Finland and the Netherlands.**

![ICT-related patents](https://doi.org/10.1787/44226709277)

In China, the share of ICT in total patent applications more than doubled over 1996-2005.
But it is important to remove barriers...

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

In the EU, over 30% of Internet users do not buy online because of security concerns. In Australia, Japan and Brazil, this figure is about 20%.

About half of the Internet users in China do not buy online because of trust concerns.

In 2005, over 40% of EU enterprises reported that “security problems with payments” and “uncertain legal framework” were extremely or very important barriers to selling on the Internet.

These figures do not differ between firms that have received orders via the Internet and those that have not.
... 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.

In 2007, over 70% of Internet users in Australia and Japan received spam. In China about 70% of users experienced a virus attack.

Although smaller, abuse of personal information and fraudulent payment existed in some countries.

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).

**China had the highest number of bot-infected computers during the second half of 2007, accounting for 29% of the worldwide total.**

The United States had the second highest number of bot-infected computers, accounting for 13% of the worldwide total.
... and improve security.

In 2005, both individual users and businesses report that computer viruses are the type of malicious software – or “malware” - with which they most come into contact.

In 2005, the largest proportions of Internet users encountering viruses were reported in Spain, Luxembourg and Italy.

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 problem with viruses were Japan, Finland and Italy.
SOURCES AND NOTES
Figure 1: Growth of Internet subscribers in the OECD area
Source: OECD Communications Outlook 2007, OECD Telecommunication Database.

Figure 2: OECD Internet subscribers growth by geographic area
Figure notes: Europe includes Turkey.

Figure 3: Number of Internet hosts by domain

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Figure 1: Households with access to the Internet at home, 2007. Percentage of all households
Source: OECD, ICT database and Eurostat; Community Survey on ICT usage in households and by individuals, January 2008.
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Internet access is via any device (desktop computer, portable computer, TV, mobile phone etc.). Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Country notes:
(1) The information is based on households in private occupied dwellings with access to the Internet. Visitor-only dwellings, such as hotels, are excluded.
(2) Statistics for 2001 and every other year thereafter include the territories (Northwest Territories, Yukon Territory and Nunavut). For the even years, statistics include the ten provinces only.

Figure 2: Business use of the Internet, 2007. As a percentage of businesses with 10 or more employees.
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
For most European countries, the following industries are included: Manufacturing, Construction, Wholesale and retail, Hotels and restaurants, Transport, storage & communication, Real estate, renting and business activities and Other community, social and personal service activities. For Australia, Agriculture, forestry and fishing, Education and Religious organisations are excluded. For Canada, Agriculture, fishing, hunting and trapping, and Construction - specialist contractors are excluded. For Japan, data refer to enterprises with 100 or more employees and exclude: Agriculture, forestry, fisheries and Mining. Korea excludes: Wholesale and retail on motor vehicle parts. For Mexico, data refer to enterprises with 50 or more employees and include: Manufacturing, Services and Construction.
For New Zealand, data exclude Government administration and defence, and Personal and other services; the NZ survey also excludes businesses with fewer than 6 employees (calculated by Rolling Mean Employment) and those with turnover of less than NZD 30 000. For Switzerland, data refer to enterprises with 5 or more employees, and include Manufacturing, Construction, Electricity, gas, water, and Services industries.
Country notes:
(1) Includes all of NACE 92.
(2) Includes all of NACE 55.
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Figure 1: Households accessing and individuals using the Internet in non-OECD economies, 2007. Percentage of all households or all adults.
Source: Eurostat, NewCronos database, January 2008; ITU, World Telecommunication Indicators database; OSILAC (Observatory for the Information Society in Latin America and the Caribbean); and OECD, based on national sources.
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Individuals aged 16-74 years, except for Costa Rica (5+); Cuba (6-65); Uruguay (6+); Brazil, Paraguay and El Salvador (10+); the Dominican Republic and Ecuador (12+); Singapore (15-59); Honduras, Hong Kong (China), Panama and Thailand (15+); and China (18+). Data generally refer to Internet use in the last 12 months.
Country notes:
(1) Individuals who accessed the Internet at least once during the lifetime.
(2) People who accessed the Internet on average at least one hour a week.

Figure 2: Businesses in non-OECD economies using the Internet, 2007. Percentage of businesses with 10 or more employees.
Source: Eurostat, NewCronos database, January 2008; UNCTAD, e-business database; and OECD, based on national sources.
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Country notes:
(1) Enterprises with 0+ employees.
(2) Size cut-off unknown.

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Figure 1: Historical diffusion of selected goods, Canada
Source: OECD, based on data from Statistics Canada.

Figure 2: Broadband price and speed changes, similar offers, Oct 2006-2007
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 October 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, October 2007
Source: 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 subscribers in the OECD.
Figure notes: Dial-up data for 2006 are estimates.

Figure 2: OECD Broadband subscribers, December 2007
Source: OECD, Broadband statistics [oecd.org/sti/ict/broadband]
Figure notes: See the OECD broadband portal for information on data sources and notes.
Country notes:
(1) OECD estimate based on government-supplied figures
(2) Government estimates
(3) OECD estimates based on company reporting

Figure 3: OECD Broadband subscribers per 100 inhabitants, December 2007
Source and notes: see Figure 2.
Figure 1: Mobile cellular telephone subscribers
Source: ITU WTI database, OECD Telecommunication Database.
Figure notes: Data for non-OECD countries are for the world’s countries available in the ITU WTI database minus OECD countries.

Figure 2: Mobile phone capabilities and uses
Source: OECD Communications Outlook 2007, based on MobiNet Index
Figure notes:
The 2005 survey covered 4,000 mobile phone users in 21 countries, including the United States and Canada, the United Kingdom, France, Germany, Italy, Spain and Portugal, Sweden, Denmark and Finland, Japan, China and Korea, Australia and New Zealand, as well as Brazil and Mexico, the Czech Republic, Poland and Russia.

Figure 3: Households with access to digital television, 2005. As a percentage of all households.
Source: OECD Communications Outlook 2007
Figure notes: a. 2003
Country notes: (1) Wallonia only

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Figure 1: Individuals who used Internet for communicating, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year. Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.
Country notes:
(1) Private data from Arbeitsgruppe für Werbemedienforschung (WEMF AG). Data refer to Internet users aged 14-74 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, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year. Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.
Country notes:
(1) Private data from Arbeitsgruppe für Werbemedienforschung (WEMF AG). Data refer to Internet users aged 14-74 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, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.
Country notes:
(1) Private data from Arbeitsgruppe für Werbemedienforschung (WEMF AG). Data refer to Internet users aged 14-74 who used the Internet at least once within the last six months.

Figure 2: Individuals who used Internet for playing/downloading games or music, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.
Country notes:
(1) Playing/downloading music only.
(2) Playing/downloading games only.
(3) Private data from Arbeitsgruppe für Werbemedienforschung (WEMF AG). Data refer to Internet users aged 14-74 who used the Internet at least once within the last six months.

Figure 3: Individuals who used Internet for job search, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.
Country notes:
(1) Private data from Arbeitsgruppe für Werbemedienforschung (WEMF AG). Data refer to Internet users aged 14-74 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, 2007. As a percentage of Internet users
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Age bracket 16-74.
Country notes: (1) Minihomepages ('minihompys') and web pages.
Figure 2: Internet users who used peer-to-peer file sharing for exchanging movies, music, etc. in 2007. As a percentage of Internet users
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.

Figure 3: Bloggers and blog readers in Japan
Source: MIC, Analysis on Current Status of and Forecast on Blogs/SNSs

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Figure 1: Difference in the shares of broadband and narrowband users for: playing/downloading games, films or music (2007)
Figure notes: a. 2006; b. 2005.
Internet access is via any device (desktop computer, portable computer, TV, mobile phone etc.). Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Country notes:
1. Only internet using via a computer.
2. OECD estimates based on PEW Research Center data.

Figure 2: Difference in the shares of broadband and narrowband users for: Internet banking
Source and Notes: see Figure 1

Figure 3: Difference in the shares of broadband and narrowband users for: sending/receiving e-mails
Source and Notes: see Figure 1

Figure 4: Difference in the shares of broadband and narrowband users for: using services related to travel and accommodation
Source and Notes: see Figure 1

Figure 5: Difference in the shares of broadband and narrowband users for: seeking health information on injury, disease or nutrition
Source and Notes: see Figure 1

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Figure 1: Individuals who used Internet, in the last 3 months, for formalised educational activities (school, university, etc), 2006. As a percentage of Internet users
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.

Figure 2: Enterprises using e-learning applications for training and education of employees. As a percentage of businesses with 10 or more employees
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.

Figure 3: Primary and secondary schools with broadband Internet access, 2006. As a percentage of all primary and secondary schools
Source: OECD "Broadband growth and policies in OECD countries - Monitoring the OECD Council Recommendation on Broadband Development" (C(2008)51/Final)
Figure notes: a. 2007; b. 2005.
Country notes: 1. Public schools only; 2. Only schools connected by Swisscom.
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Figure 1: Individuals who used the Internet for interactions with public authorities, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.

Country notes: (1) Obtaining information from public authorities' websites.

Figure 2: Number of on-line tax declarations in France and Norway
Source: OECD, based on data from Direction Générale des Impôts (DGI), France and the Norwegian Directorate of Taxes

Figure 3: Businesses using the Internet for returning filled forms to public authorities, 2007. As a percentage of businesses with 10 or more employees
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.

Country notes: (1) Dealing with public authorities.

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Figure 1: Individuals who used Internet to seek health information, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months for non-Eurostat countries and last 3 months for Eurostat countries.

Figure 2: General practitioners using the Internet for selected activities - Czech Republic, 2006. As a percentage of all independent general practitioners.
Source: Czech Statistical Office, 2008
Figure notes: It includes the use of the Internet both in surgeries and at home.

Figure 3: Internet use in the public health sector in Canada
Source: Canadian Survey of Electronic Commerce and Technology, 2007

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Figure 1: US people who said that the Internet was crucial or important at least in one of these decisions
Source: OECD, based on Pew Internet & American Life Project, 2006

Figure 2: Internet users who say that the Internet has a positive impact - Korea, 2007
Source: Korean National Internet Development Agency (NIDA)
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Figure 1: Individuals using the Internet from any location, by age group, 2007. As a percentage of adults.
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year. Individuals aged 16-74 years, except for Canada (18-74), the Czech Republic (15+), Mexico (16+), Switzerland (14-74). Data generally refer to Internet use in the last 12 months.
Country notes:
(1) 25-44 and 45-64 instead of 25-54 and 55-64
(2) Private data from Arbeitsgruppe für Werbemediaforschung (WEMF AG). Data refer to Internet users aged 14-74 who used the Internet at least once within the last six months.
(3) Data refer to Internet users aged 18-24 instead of 16-24.

Figure 2: Individuals using the Internet from any location by gender, 2007. As a percentage of adults
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year. Individuals aged 16-74 years, except for the Czech Republic (15+), Japan (6+), Mexico (18+), Switzerland (14-74) and the United States (3+). Data generally refer to Internet use in the last 12 months.
Country notes:
(1) Private data from Arbeitsgruppe für Werbemediaforschung (WEMF AG). Data refer to Internet users aged 14-74 who used the Internet at least once within the last six months.
(2) Aged 6 years or over. The percentages may be relatively high compared to other countries as younger people tend to be greater users of the Internet than older age groups.

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Figure 1: Individuals using the Internet from any location, by educational level, 2007. As a percentage of adults
Figure notes:
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’.
Low = ISCED 0 to 2; medium = ISCED 3 to 4; high = ISCED 5 to 6.
Other: includes no formal education.
Country notes:
(1) Private data from Arbeitsgruppe für Werbemediaforschung (WEMF AG). Data refer to Internet users aged 14-74 who used the Internet at least once within the last six months.
(2) Underestimated as tertiary level certificate courses are not included.
Figure 2: Household Internet access by income quartiles, 2007. Percentage of households by quartile.
Figure notes: a. 2006
Country notes:
(1) The survey is not organized by quartile. Top income quartile corresponds to income of more than 3 million won, and bottom income quartile corresponds to income of less than 100 million won.

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Figure 1: Household Internet access by household type, 2007. Percentage of households.
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.
Country notes:
(1) Households with dependent children are defined as households with children under the age of 18
(2) Data provided relate to households with or without children under 15 years.
(3) The information is based on households in private occupied dwellings. Visitor-only dwellings, such as hotels, are excluded. Household child dependency status does not include households where there is a child with an unknown dependency status.
(4) Dependent children refers in the survey to single, never married children of the household reference person, of any age. Statistics for 2001 and every other year thereafter include the territories (Northwest Territories, Yukon Territory and Nunavut). For the even years, statistics include the ten provinces only.

Figure 2: Broadband penetration by size class, 2007. As a percentage of businesses with 10 or more employees
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
For most European countries, the following industries are included: Manufacturing, Construction, Wholesale and retail, Hotels and restaurants, Transport, storage & communication, Real estate, renting and business activities and Other community, social and personal service activities. For Australia, Agriculture, forestry and fishing, Education and Religious organisations are excluded. For Canada, Agriculture, forestry, mining and hunting, and Construction - specialist contractors are excluded. For Japan, data refer to enterprises with 100 or more employees and exclude: Agriculture, forestry, fisheries and Mining. Korea excludes: Wholesale and retail on motor vehicle parts. For Mexico, data refer to enterprises with 50 or more employees and include: Manufacturing, Services and Construction.
For New Zealand, data exclude Government administration and defence, and Personal and other services; the NZ survey also excludes businesses with fewer than 6 employees (calculated by Rolling Mean Employment) and those with turnover of less than NZD 30 000. For Switzerland, data refer to enterprises with 5 or more employees, and include Manufacturing, Construction, Electricity, gas, water, and Services industries.
For Canada, 50-299 employees instead of 50-249 and 300 and more instead of 250 and more. For Switzerland, 5-49 instead of 10-49 employees.
Country notes:
(1) Includes all of NACE 55.
(2) Includes all of NACE 92.
Figure 1: Business with a broadband connection, 2007. As a percentage of businesses with 10 or more employees
Figure notes:
Most countries define broadband in terms of technology (e.g. ADSL, cable, etc) rather than speed. For most European countries, the following industries are included: Manufacturing, Construction, Wholesale and retail, Hotels and restaurants, Transport, storage & communication, Real estate, renting and business activities and Other community, social and personal service activities. For Australia, Agriculture, forestry and fishing, Education and Religious organisations are excluded. For Canada, Agriculture, fishing, hunting and trapping, and Construction - specialist contractors are excluded. For Japan, data refer to enterprises with 100 or more employees and exclude: Agriculture, forestry, fisheries and Mining. For Korea, Wholesale and retail on motor vehicle parts are excluded. For Mexico, data refer to enterprises with 50 or more employees and include: Manufacturing, Services and Construction.
For New Zealand, data exclude Government administration and defence, and Personal and other services; the NZ survey also excludes businesses with fewer than 6 employees (calculated by Rolling Mean Employment) and those with turnover of less than NZD 30 000. For Switzerland, data refer to enterprises with 5 or more employees, and include Manufacturing, Construction, Electricity, gas, water, and Services industries.
Country notes:
(1) Includes all of NACE 55.
(2) Includes all of NACE 92.
(3) Website includes a presence on another entity’s website.

Figure 2: Business with their own website, 2007. As a percentage of businesses with 10 or more employees
Figure and country notes: see Figure 1

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Figure 1: Internet selling and purchasing by industry, 2007. Percentage of businesses with 10 or more employees in each industry group
Figure notes: a. 2006; b. 2005; c. 2004; d. 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.
All industries includes: for most European countries: Manufacturing, Construction, Wholesale and retail, Hotels and restaurants, Transport, storage & communication, Real estate, renting and business activities and Other community, social and personal service activities. For Australia, Agriculture, forestry and fishing, Education and Religious organisations are excluded. For Canada, Agriculture, fishing, hunting and trapping, and Construction - specialist contractors are excluded. For Japan, data refer to enterprises with 100 or more employees and exclude: Agriculture, forestry, fisheries and Mining. For Korea, Wholesale and retail on motor vehicle parts are excluded. For Mexico, data refer to enterprises with 50 or more employees and include: Manufacturing, Services and Construction.
For New Zealand, data excludes Government administration and defence, and Personal and other services; the NZ survey also excludes businesses with fewer than 6 employees (calculated by Rolling Mean Employment) and those with turnover of less than NZD 30,000. For Switzerland, data refer to enterprises with 5 or more employees, and include the Manufacturing, Construction, Electricity/gas/water and Services industries.

Country notes:
(1) Internet income results from orders received via the Internet or the web for goods or services, where an order is a commitment to purchase.

Figure 2: Enterprises’ total turnover from e-commerce, 2006. As a percentage of total enterprise turnover
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Total sales via the Internet or other networks during reference year, excluding VAT.
Enterprises in the following industries are included: Manufacturing, Construction, Wholesale and retail, Hotels and restaurants, Transport, storage & communication, Real estate, renting and business activities, and Other community, social and personal service activities.
Country notes:
(1) For 2006, networks other than Internet: only EDI.

Figure 3: Growth of e-commerce. First year = 100
Source: See country notes.
Country notes:
Australia. Australian business income from orders received via the Internet, 1999-2000 to 2004-05. Internet income is income resulting from orders received via the Internet or the web for goods or services, whether or not payment. Includes all employing businesses, except those in the following industries: Agriculture, forestry and fishing; Education; and Religious organisations.
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' 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;
E-commerce sales are sales of goods and services for which an order is placed by the buyer or price and terms of sale are over an Internet, extranet, EDI network, electronic mail, or other online system. Payment may or may not be made on line. Estimates are adjusted for seasonal variation and holiday and trading-day differences, but not for price changes.
Figure 1: GVA growth by sector - OECD 23
Source: OECD Information Technology Outlook 2008, based on STAN database.
Countries include: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Mexico, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom, United States.

Figure 2: Employment growth by sector - OECD 23
Source and Notes: see Figure 1. The employment series for Australia starts in 1998

Figure 3: Contributions to GDP growth, 1985-2006. All OECD countries. Annual average growth in percentage points, based on cost shares and hedonics
Source: OECD, Productivity Database, February 2008 [www.oecd.org/statistics/productivity/]
Estimates are based on cost shares and hedonic prices.

Figure 1: Contribution of ICT capital growth to labour productivity growth in market services. 1995-2004. Annual average volume growth rates, in %.
Source: OECD, based on The EU KLEMS Productivity Report, March 2007

Figure 2: Labour productivity and broadband in selected EU countries (2001-04)
Figure notes: Data are based on 22 sectors in 10 countries for which firm-level data were available.
Sectors include: Food, Beverages and Tobacco; Clothing; Agriculture, Hunting, Forestry and Fishing; Wood and Cork; Paper and Publishing; Coke, refined petroleum and nuclear fuel; Chemicals; Rubber and Plastics; Other non-metallic minerals; Metals and Machinery; Machinery NEC; Electrical and Electronic Equipment; Motor Vehicles and Transport Equipment; Misc Manufacturing; Sale, maintenance and repair of motor vehicles; retail sale of fuel; Wholesale trade and commission trade, except of motor vehicles; Retail trade; Hotels and Restaurants; Transport; Post and Telecommunications; Financial Services; Business Services.
Countries include: Austria, the Czech Republic, Denmark, Finland, France, Italy, the Netherlands, Slovenia, Sweden and the United Kingdom.

Figure 1: Evolution of the final consumption expenditure of households in the OECD area
Source: OECD, SNA database.
Figure notes:
1. New Zealand and Turkey are not included.
2. Communications includes Telecommunication equipment and services and Postal services.

Figure 2: Service exports of the OECD countries.
Source: OECD Communications Outlook 2007

Figure 3: Advertising expenditures by medium. Percentage of total expenditure

Figure 1: Business R&D expenditure by selected ICT manufacturing industries, as a percentage of GDP, 1995-2004
Figure notes: a. 2003.

Figure 2: ICT-related patents as a percentage of national total (PCT filings). Top 13 countries
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.
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Figure 1: Reasons for Internet users not buying on-line, 2007. Percentage of individuals with Internet access that did not buy online in the last 12 months
Figure notes: a. 2006; b. 2005
Country notes:
(1) Security concerns, privacy concerns and too expensive.
(2) Privacy and trust concerns are combined in trust concerns.

Figure 2: Firms in selected EU countries reporting barriers to sales online as extremely or very important, 2005. Percentage of firms using computers
Figure notes:
Percentages are calculated as an unweighted average for the latest year available for 22 EU countries.

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Figure 1: Internet users encountering security problems through the use of Internet, 2007. As a percentage of Internet users.
Figure notes: a. 2006; b. 2005
Resulting in loss of information on time.

Figure 2: Bot-infected computer by country, 2007
Source: Symantec Corporation: Internet Security Threat Reports, Volume XII, September 2007

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Figure 1: Individuals who have encountered a computer virus by using the Internet, 2005. As a percentage of individuals using the Internet
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Resulting in loss of information or time.
Generally, data from the EU Community Survey on household use of ICT, which covers EU countries plus Iceland, Norway and Turkey, relate to the first quarter of the reference year. For the Czech Republic, data relate to the fourth quarter of the reference year.

Figure 2: Businesses that have encountered IT security problems, 2005. Percentage of businesses with 10 or more employees using the Internet
Figure notes: a. 2006; b. 2005; c. 2004; d. 2003.
Resulting in loss of information or time. It is likely that some countries also include other threats such as trojans and worms in this category.
For European countrics, enterprises in the following industries are included: Manufacturing, Construction, Wholesale and retail, Hotels and restaurants, Transport, storage & communication, Real estate, renting and business activities and Other community, social and personal service activities. For Australia, the following industries are excluded: Agriculture, forestry and fishing, Education and Religious organisations. For Japan, data refer to enterprises with 100 or more employees and exclude: Agriculture, forestry, fisheries and Mining. Korea excludes: Wholesale and retail on motor vehicle parts. For Mexico, data refer to enterprises with 50 or more employees and include: Manufacturing, Services and Construction.
Country notes:
(1) IT security problems in general.