

INVESTMENT IN ICT

Investment in information and communication technology (ICT) has been the most dynamic component of investment in late 1990s and early 2000s. This investment has enabled new technologies to enter the production process, to expand and renew the capital stock, and to sustain economic growth.

Definition

Investment is defined in accordance with the 1993 *System of National Accounts*. ICT investment covers the acquisition of equipment and computer software that is used in production for more than one year. ICT has three components: information technology equipment (computers and related hardware); communications equipment; and software. Software includes acquisition of pre-packaged software, customised software and software developed in-house.

The investment shares shown in the table and graph are percentages of each country's gross fixed capital formation, excluding residential construction.

Comparability

Data availability and measurement of ICT investment vary considerably across OECD countries, especially in terms of measurement of investment in software, deflators applied, breakdown by institutional sector and temporal coverage.

In the national accounts, expenditure on ICT is considered investment only if the products can be physically isolated (i.e. ICT embodied in equipment is considered not as investment but as intermediate consumption). This means that ICT investment may be underestimated, with the size

of the underestimation differing depending on how intermediate consumption and investment are treated in each country's accounts. In particular, it is only recently that expenditure on software has started being treated as investment in the national accounts, and methodologies still vary across countries. The difficulties of measuring software investment are also linked to the ways in which software can be acquired, e.g. via rental and licences or embedded in hardware. Moreover, software is often developed on own account. To tackle the specific problems relating to software in the national accounts, a joint OECD-EU task force on the measurement of software has developed recommendations concerning the capitalisation of software. These are now being implemented by OECD member countries.

Note that ICT components that are incorporated in other products, such as motor vehicles or machine tools, are included in the value of those other products and excluded from ICT investment as defined here.

Sources

- OECD *Productivity Database*.

Further information

Analytical publications

- OECD (2003), *ICT and Economic Growth: Evidence from OECD countries, industries and firms*, OECD, Paris.
- OECD (2007), *OECD Communications Outlook 2007*, OECD, Paris.
- OECD (2007), *OECD Science, Technology and Industry Scoreboard 2007*, OECD, Paris.
- OECD (2008), *Broadband Growth and Policies in OECD Countries*, OECD, Paris.
- OECD (2008), *OECD Information Technology Outlook 2008*, OECD, Paris.

Statistical publications

- OECD (2010), *National Accounts of OECD Countries*, OECD, Paris.
- OECD (2008), *STAN Industry Structural Analysis Database on CD-Rom*, OECD, Paris.

Methodological publications

- OECD (2010), *Handbook on Deriving Capital Measures of Intellectual Property Products*, OECD, Paris.
- Ahmad, N. (2003), *Measuring Investment in Software*, OECD Science, Technology and Industry Working Papers, No. 2003/6, OECD, Paris.
- Lequillier, F. et al. (2003), *Report of the OECD Task Force on Software Measurement in the National Accounts*, OECD Statistics Working Papers, No. 2003/1, OECD, Paris.

Online databases

- STAN: OECD Structural Analysis Statistics – online database.

Web sites

- OECD Compendium of Patents Statistics 2007, www.oecd.org/sti/ipr-statistics.
- OECD Productivity Database, www.oecd.org/statistics/productivity.

Overview

ICT shares in total non-residential investment doubled, and in some cases, even quadrupled between 1980 and 2000. These shares then started to decrease, following the bursting of the dot-com bubble. In 2008, ICT shares were particularly high (at 24% or more of the total) in the United States, Sweden and Denmark, while they were below 6% in Ireland.

Software has been the fastest growing component of ICT investment. In many countries, its share in non-residential investment multiplied several times between 1980 and 2008. In 2008, software's share in total investment was highest in Sweden, the United States, Denmark, Finland and the United Kingdom.

In the recent years, software accounted for 50% or more of total ICT investment in France, Finland, Sweden, Japan, Korea, Denmark, the United Kingdom, the United States, Canada, Switzerland and Netherlands.

Communication equipment was the major component of ICT investment in Portugal and Greece. IT equipment was the major component in Belgium and Ireland.

Shares of ICT investment in non-residential gross fixed capital formation

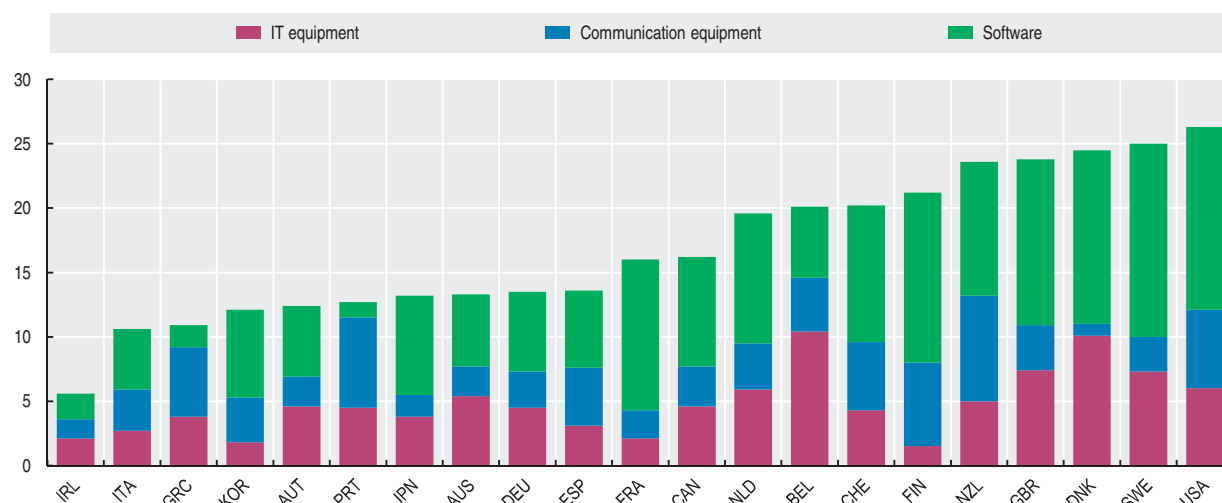
As a percentage of total non-residential gross fixed capital formation, total economy

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	19.1	19.9	21.1	21.0	22.6	24.8	23.7	21.2	21.0	16.8	14.9	14.3	13.3	..
Austria	11.3	10.8	11.2	12.6	13.5	13.4	14.0	14.5	13.1	12.4	11.9	12.1	12.3	..
Belgium	18.0	18.4	19.4	21.5	21.7	24.2	23.3	20.3	19.9	20.1	..	..	..	..
Canada	16.8	18.0	17.5	18.8	19.9	20.6	20.2	19.2	18.8	18.5	17.6	17.0	16.5	16.2
Denmark	19.7	18.5	19.8	19.5	21.6	19.9	19.2	22.0	22.1	23.7	24.8	24.5	24.6	..
Finland	19.9	17.5	17.5	18.7	19.4	19.5	17.9	18.5	20.1	19.2	21.2	..	..	..
France	13.9	15.5	17.5	18.7	19.9	19.2	20.5	19.2	18.6	17.6	17.4	17.0	16.1	16.0
Germany	13.3	14.1	14.5	15.3	16.6	17.5	17.8	17.0	15.3	14.8	14.4	14.0	14.1	13.4
Greece	10.0	10.9	11.0	12.4	11.7	12.8	14.3	11.5	10.8	10.9	..	..	..	..
Ireland	10.4	11.4	9.6	11.0	10.1	10.1	9.9	8.2	7.9	7.9	6.2	6.8	5.6	..
Italy	13.0	13.6	14.8	14.1	13.8	14.6	13.6	12.3	11.6	11.4	11.6	10.9	10.6	10.7
Japan	10.8	12.6	12.1	12.0	13.0	15.0	15.1	14.8	14.8	14.6	14.3	13.4	13.2	..
Korea	9.0	10.6	11.8	13.3	14.9	17.0	15.1	13.9	11.8	11.8	12.2	..	..	..
Netherlands	15.7	16.4	17.9	18.9	19.1	19.9	19.9	19.1	20.0	21.3	22.0	22.3	19.5	..
New Zealand	18.9	18.9	20.6	24.4	23.3	26.2	22.4	21.1	21.8	21.6	21.6	22.3	22.3	23.6
Portugal	12.2	12.2	12.0	13.0	13.4	12.4	13.1	11.9	13.6	12.9	12.7	..	..	..
Spain	12.5	14.6	14.5	14.7	14.9	14.7	14.3	13.8	13.6	13.3	12.7	13.0	13.6	13.7
Sweden	24.1	23.3	24.8	27.1	28.7	31.3	28.7	26.3	24.7	24.3	25.6	25.0	..	..
Switzerland	15.7	16.2	17.9	18.0	19.1	18.9	19.3	20.7	20.7	21.9	21.0	20.3	..	..
United Kingdom	23.0	25.1	23.8	25.6	27.2	30.0	28.0	26.5	24.5	25.0	24.6	24.7	23.8	..
United States	27.2	27.8	28.9	29.1	30.6	32.0	30.3	29.1	28.9	28.1	26.5	25.6	26.0	26.3

StatLink <http://dx.doi.org/10.1787/825718115232>

Shares of ICT investment in non-residential gross fixed capital formation

As a percentage of total non-residential gross fixed capital formation, total economy, 2008 or latest available year



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