

INVESTMENT IN ICT

Investment in physical capital is important for growth. It is a way to expand and renew the capital stock and enable new technologies to enter the production process. Information and communication technology (ICT) has been the most dynamic component of investment in recent years.

Definition

Investment is defined in accordance with the 1993 *System of National Accounts*. It 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

Correct measurement of ICT investment in both nominal and volume terms is crucial for estimating the contribution of ICT to economic growth and performance. Data availability and measurement of ICT investment based on national accounts (SNA 93) vary considerably across OECD countries, especially as regards measurement of investment in software, deflators applied, breakdown by institutional sector and temporal coverage.

In the national accounts, expenditure on ICT products 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 and the order of magnitude of the underestimation may differ depending on how

intermediate consumption and investment are treated in each country's accounts. In particular, it is only very 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 in the national accounts 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 are excluded from ICT investment as defined here.

Source

- OECD Productivity Database.

Further information

Analytical publications

- OECD (2003), *ICT and Economic Growth: Evidence from OECD countries, industries and firms*, OECD, Paris.
- OECD (2006), *OECD Information Technology Outlook 2006*, OECD, Paris.
- OECD (2007), *OECD Communications Outlook 2007*, OECD, Paris.
- OECD (2007), *OECD Science, Technology and Industry: Scoreboard 2007*, OECD, Paris.

Statistical publications

- OECD (2007), *National Accounts of OECD Countries*, OECD, Paris.
- OECD (2007), *STAN Industry Structural Analysis Database on CD-Rom*, OECD, Paris.

Methodological publications

- 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.
- Schreyer, P., P.-E. Bignon and J. Dupont (2003), *OECD Capital Services Estimates*, OECD Statistics Working Papers, No. 2003/6, OECD, Paris.

Online databases

- STAN: OECD Structural Analysis Statistics – online database.

Websites

- OECD Productivity Database, www.oecd.org/statistics/productivity.
- OECD Compendium of Productivity Indicators, www.oecd.org/statistics/productivity/compendium.

Long-term trends

ICT shares in total non-residential investment doubled, and in some cases, even quadrupled between 1980 and 2000 but then started to decrease, following the bursting of the dot-com bubble. In 2006, ICT shares remain particularly high in the United States, the United Kingdom, Korea and Netherlands.

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 2006.

In 2006, software's share in total investment is highest in Denmark, Finland, France, Sweden, the United Kingdom and the United States.



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

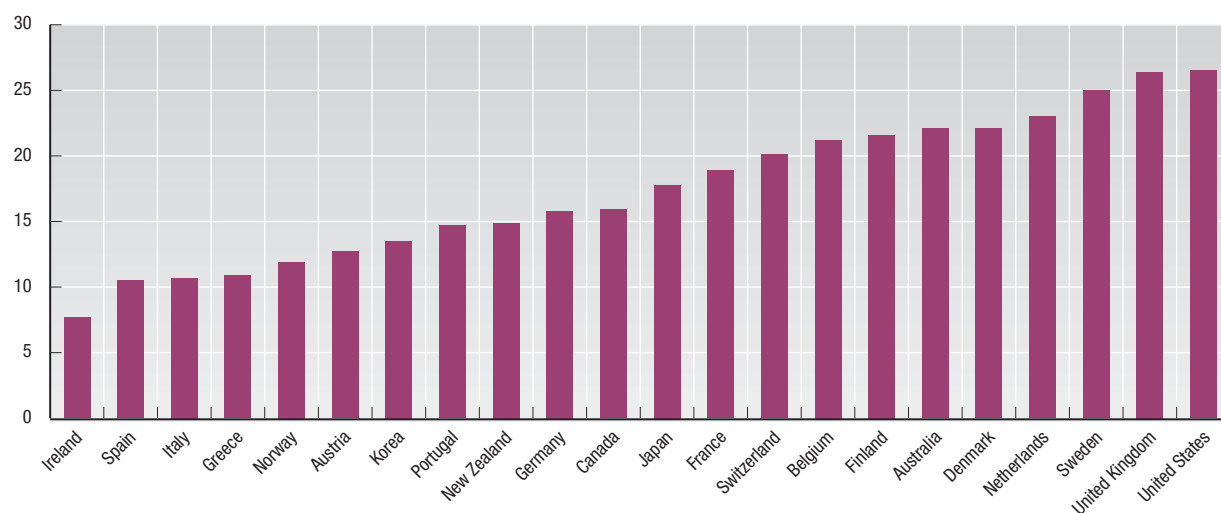
As a percentage of total non-residential gross fixed capital formation, total economy


	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Australia	18.4	18.7	19.1	19.8	21.0	20.9	22.5	26.0	24.7	23.9	22.9	21.6	..	..
Austria	10.2	10.8	11.3	10.8	11.2	12.6	13.5	13.4	14.0	14.5	13.1	12.4	11.9	..
Belgium	15.9	16.9	18.0	18.4	19.4	21.5	21.7	24.2	23.3	20.3	19.9	20.1	..	..
Canada	16.9	16.4	16.8	18.0	17.5	18.8	19.9	20.6	20.2	19.2	18.8	18.1	16.5	15.8
Denmark	21.3	21.3	19.7	18.5	19.8	19.5	21.6	19.9	19.2	22.0	22.0	22.0	22.1	..
Finland	17.1	18.2	19.9	17.5	17.5	18.7	19.4	19.5	17.9	18.5	20.1	19.2	21.2	..
France	12.5	13.1	13.9	15.5	17.5	18.7	19.9	19.2	20.5	19.2	18.6	17.6	17.6	17.8
Germany	13.2	13.0	13.3	14.1	14.5	15.3	16.6	17.5	17.8	17.0	15.3	14.9	15.2	14.9
Greece	13.2	11.7	10.0	10.9	11.0	12.4	11.7	12.8	14.3	11.5	10.8	10.9	..	..
Ireland	6.9	7.6	10.3	11.1	9.4	10.8	9.9	10.0	9.8	8.5	7.7	8.1	7.5	7.7
Italy	12.1	12.7	12.2	12.8	13.9	13.3	13.0	13.8	12.9	11.6	10.8	10.6	10.5	10.7
Japan	9.3	9.3	10.5	12.7	12.9	13.8	15.1	15.9	15.8	14.5	15.6	15.9	..	..
Korea	..	..	9.8	10.3	11.0	12.2	15.0	17.9	16.8	15.6	13.4	12.5	..	..
Netherlands	15.8	16.3	15.6	16.1	17.7	18.7	18.9	19.7	19.9	19.1	20.0	21.4	22.1	..
New Zealand	14.4	14.4	13.9	13.6	14.6	17.8	16.8	19.7	17.1	15.2	15.0	14.3	14.2	14.7
Norway	8.1	8.8	9.2	9.3	9.4	9.2	10.5	11.0	11.5	11.6	11.0	..	..	..
Portugal	10.7	11.4	12.2	12.2	12.0	13.0	13.4	12.4	13.1	11.9	13.6	12.9	12.7	..
Spain	12.6	12.9	12.5	14.6	14.5	14.7	14.9	14.7	13.7	12.3	11.1	11.2	10.9	10.5
Sweden	25.7	24.7	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	14.6	15.7	14.6	15.0	16.6	16.9	17.9	17.3	17.5	18.5	18.6	18.9	..	..
United Kingdom	18.5	20.2	22.3	24.3	23.3	24.9	26.7	29.3	28.5	27.0	24.9	25.8	26.4	..
United States	23.8	23.8	24.7	25.6	27.1	27.6	29.8	31.7	30.4	29.4	29.1	28.5	27.4	26.5

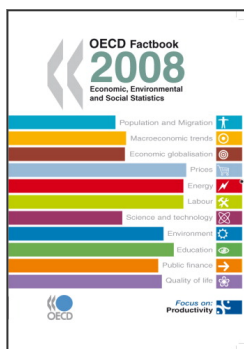
StatLink  <http://dx.doi.org/10.1787/274652847771>

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

As a percentage of total non-residential gross fixed capital formation, total economy, 2006 or latest available year



StatLink  <http://dx.doi.org/10.1787/268886140144>



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