

1. RESPONDING TO THE ECONOMIC CRISIS

1.14. ICT investment over the business cycle

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 from 1985 to 2000 but then started to decrease, following the bursting of the dot com bubble. The OECD average growth rate of ICT investment dropped from 15.3% in 2000 to -7.6% in 2002 and remained below the growth rate of total non-residential investment since then. In 2007, ICT investment is estimated to grow faster than total investment but the current economic cycle raises concerns on whether this trend will be confirmed.

ICT investment accounts for a considerable share of total fixed non-residential investment. In 2005-07, it represented between 20-25% in Sweden, the United Kingdom, the United States, Belgium, Denmark, Finland, the Netherlands and Switzerland. Software has been the fastest-growing component of ICT investment, reaching 52% in Belgium, 43% in Denmark, 41% in Australia and exceeding 30% in Austria, Germany, Greece, Ireland, Japan, Portugal and the Netherlands.

Communications equipment was the major component of ICT investment in Portugal (55%) and Greece (49%). Information technology (IT) equipment was the major component in France (70%), Finland (62%) and Sweden (60%).

Investment in ICT

Correct measurement of investment in ICT 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 been treated as capital expenditure in the national accounts, and methodologies still vary considerably across countries. The difficulties for 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 context of the SNA 93 revision of 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.

Sources

OECD, Database on Capital Services, July 2009.

OECD, Productivity Database, www.oecd.org/statistics/productivity/compendium.

Going further

Lequiller, F. et al. (2003), "Report of the OECD Task Force on Software Measurement in the National Accounts", *OECD Statistics Working Paper 2003/1*, OECD, Paris.

Ahmad, N. (2003), "Measuring Investment in Software", *OECD Science, Technology and Industry Working Papers*, 2003/6, OECD, Paris, www.oecd.org/sti/working-papers.

Schreyer, P., P.E. Bignon and J. Dupont (2003), "OECD Capital Services Estimates: Methodology and a First Set of Results", *OECD Statistics Working Paper 2003/6*, OECD, Paris.

Figure notes

Growth rates of ICT and fixed non-residential investment in 2007 are estimates.

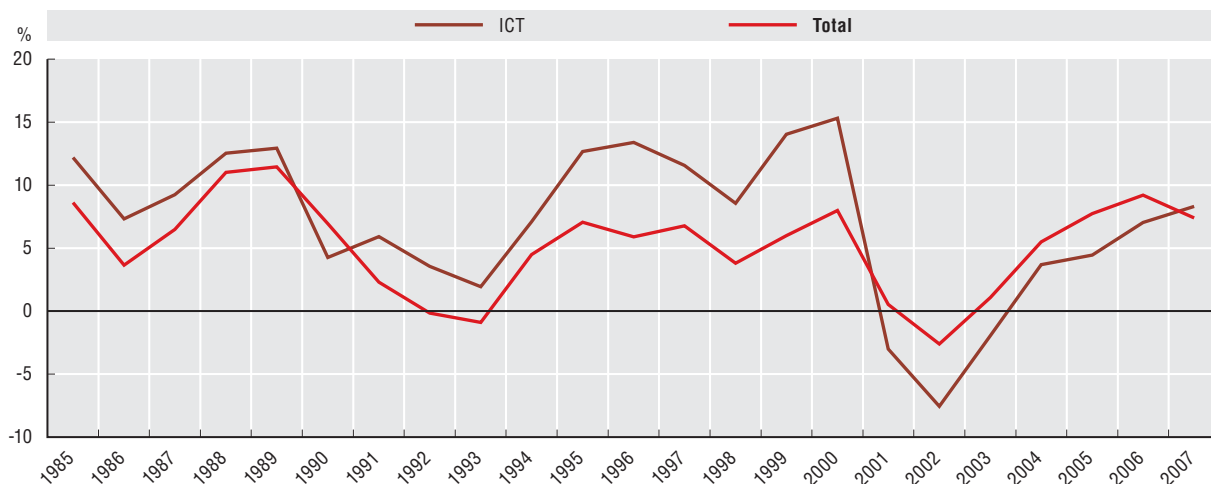
ICT equipment is defined here as computer and office equipment and communication equipment; software includes both purchased and own account software. Software investment in Japan is likely to be underestimated, owing to methodological differences.

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Growth of ICT and total fixed non-residential investment, OECD 1985-2007

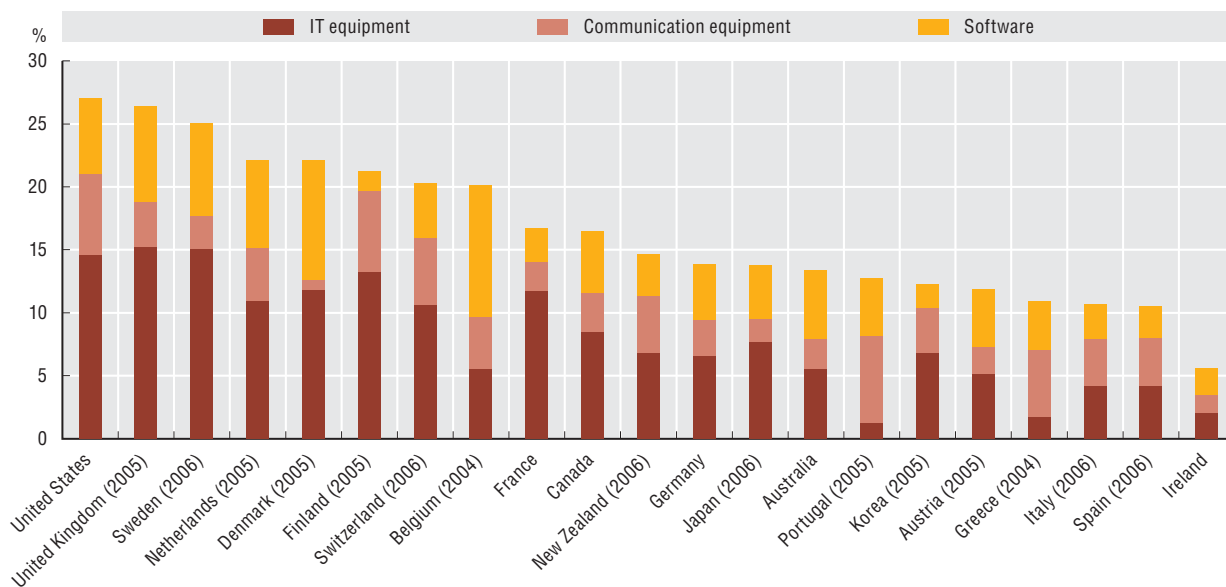
Annual growth rate – current PPP US dollars



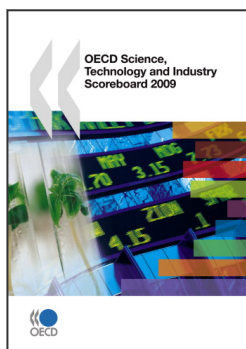
StatLink <http://dx.doi.org/10.1787/742743580653>

ICT investment by asset in OECD countries, 2007

Percentage of non-residential gross fixed capital formation, total economy



StatLink <http://dx.doi.org/10.1787/742752646584>



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