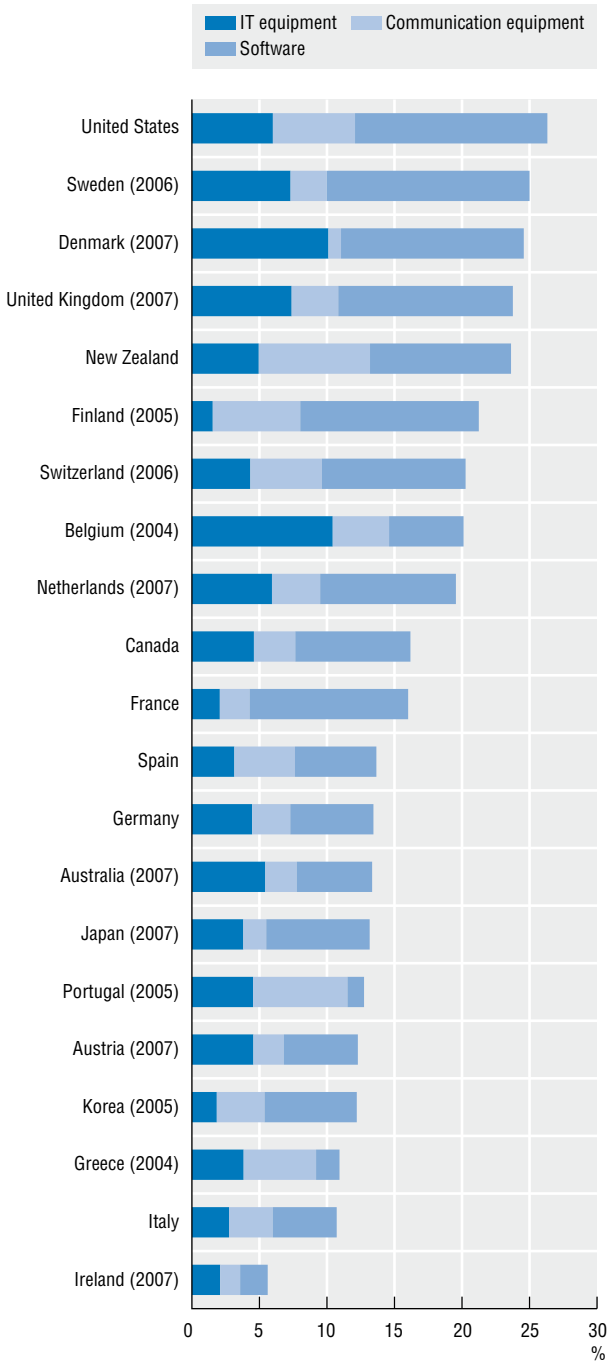
Investment in information and communication technology (ICT) is important for a country's economic growth. At the firm level, it provides an essential platform for changing organisational methods and introducing new products and processes.

ICT investment, by asset in OECD countries, 2008

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



Source: OECD, Productivity Database, April 2010; *www.oecd.org/statistics/productivity*. See chapter notes.

StatLink http://dx.doi.org/10.1787/836006258516

DID YOU KNOW?

Software accounts for 10% of total investment in the OECD area .

(OECD Science, Technology and Industry Scoreboard 2009.)

ICT has the potential to increase innovation by speeding up the diffusion of information, favouring networking among firms, reducing geographic limitations and increasing efficiency in communication.

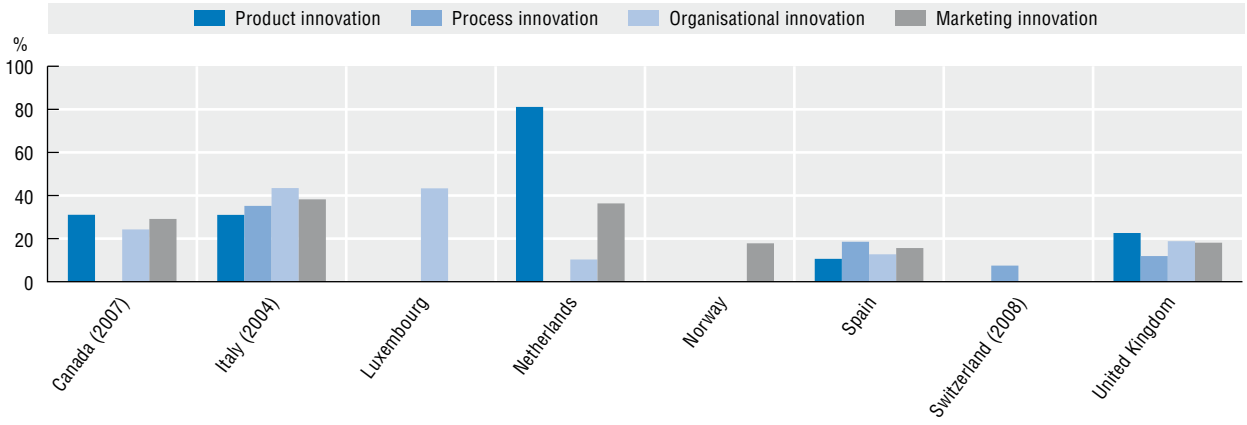
Most national studies show the positive impact of ICT investment on GDP growth, but OECD countries continue to differ markedly in this respect. ICT represents around 25% of total fixed non-residential investment in Denmark, Sweden and the United States but around 10% or less in Ireland, Italy and Greece.

New OECD analysis at firm level shows that ICT enables innovation. The probability to innovate increases with the intensity of ICT use. This is true for both manufacturing and service firms and for different types of innovation, although here too countries differ. Further analysis is needed to assess whether these differences are due to national factors or to statistical differences in the measurement of innovation and ICT use.

Definitions

Expenditure on ICT products is considered investment only if the products can be physically isolated. (*e.g.* ICT embodied in equipment is not considered investment). *ICT use* is measured by two variables: number of website facilities for e-commerce (*i.e.* to sell to customers) and number of automatic links for e-business (*i.e.* to buy from and sell to other firms). The figures report the largest effect linked to ICT use (number of website facilities for e-commerce and automatic links for e-business). Missing bars indicate that the effect of ICT is not statistically significant. Other factors that may affect the probability to innovate (firm size, R&D and skills) are controlled for by the econometric technique used.

Increase in the probability to innovate linked to ICT use, manufacturing, 2006



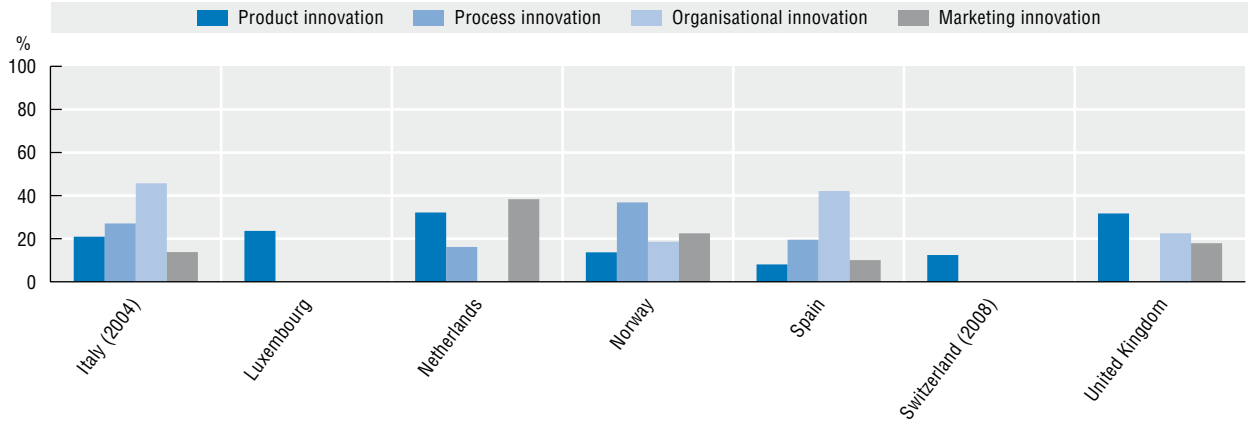
How to read this figure

Canadian manufacturing firms with high ICT use (large number of website facilities for e commerce) are 31% more likely to introduce a product innovation, 24% more likely to introduce an organisational innovation and 29% more likely to introduce a marketing innovation than those not using ICT (website facilities). ICT use does not have any impact on probability of introducing process innovation for Canadian manufacturing firms.

Source: OECD, Microdata project on ICT-enabled innovation, 2010. See chapter notes.

StatLink http://dx.doi.org/10.1787/836006258516

Increase in the probability to innovate linked to ICT use, services, 2006



Source: OECD, Microdata project on ICT-enabled innovation, 2010. See chapter notes.

StatLink http://dx.doi.org/10.1787/836006258516

Measurability

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 for 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 these can be physically isolated (ICT embodied in equipment is considered not investment but intermediate consumption). Thus, ICT investment may be underestimated, depending on how intermediate consumption and investment are treated in a country's accounts.

A new OECD project analyses the effect of ICT use on probability to innovate. It is based on firm-level data from ICT business surveys and innovation surveys in eight OECD countries. Results for a larger set of countries are expected.