

To understand how diffusion of new technologies takes place, and to produce a more complete picture of how innovative a firm is, innovation surveys collect data on whether the innovation was developed within or outside the firm, and to what extent the firm interacted with other parties during the process.

Data on innovations mainly developed within a firm (so-called “in-house innovators”) confirm that small and medium-sized enterprises (SMEs) tend to be “adopters” more frequently than large firms. In more than half of the countries surveyed, 40% or more of all large firms had developed during 2004-06 an in-house product innovation, and around 20% of all SMEs.

The pattern is similar for in-house process innovations. The highest rates (over 40%) were for large firms in Australia, Belgium, Estonia, France, Germany, Ireland and Luxembourg. For these countries the rates for SMEs were around 20% to 25%.

In terms of sectors, manufacturing firms tend to undertake more in-house innovation than services firms, for both products and processes. However, in Luxembourg in-house process innovators were more prevalent among service firms.

In most countries, there is less sectoral difference in terms of firms’ propensity to innovate in house for processes than for products. This confirms that in most countries, product innovation is still more prevalent among manufacturing firms than process innovation (Australia is an exception).

#### Defining innovation

The latest (3rd) edition of the *Oslo Manual* defines innovation as the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. This implicitly identifies the following four types:

- **Product innovation:** the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.
- **Process innovation:** the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
- **Marketing innovation:** the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.
- **Organisational innovation:** the implementation of a new organisational method in the firm’s business practices, workplace organisation or external relations.

The first two types are traditionally more closely related to technological innovation (also referred to as TPP innovation). Firms are considered innovative if they have implemented an innovation during the period under review (the observation period is usually two to three years).

#### Sources

Eurostat, Community Innovation Survey (CIS) 2006 (NewCronos), June 2009.

National data sources.

#### Going further

OECD and Eurostat (2005), *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd edition, OECD, Paris, [www.oecd.org/sti/oslomanual](http://www.oecd.org/sti/oslomanual).

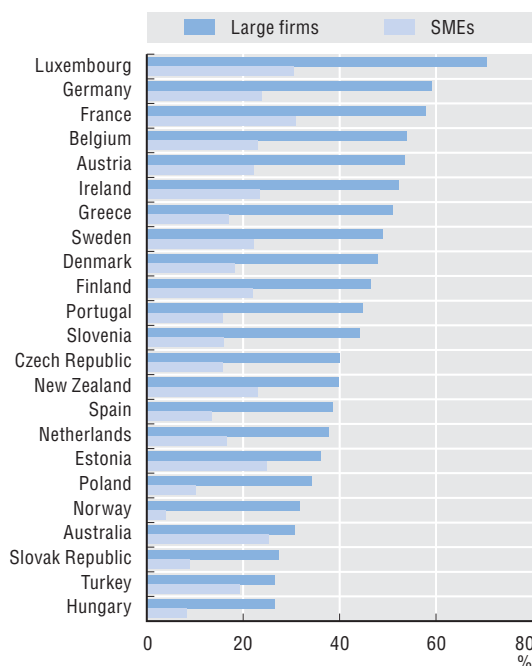
#### Figure notes

France: manufacturing only.

New Zealand: SMEs are firms with 10-99 employees.

### In-house product innovators by size, 2004-06

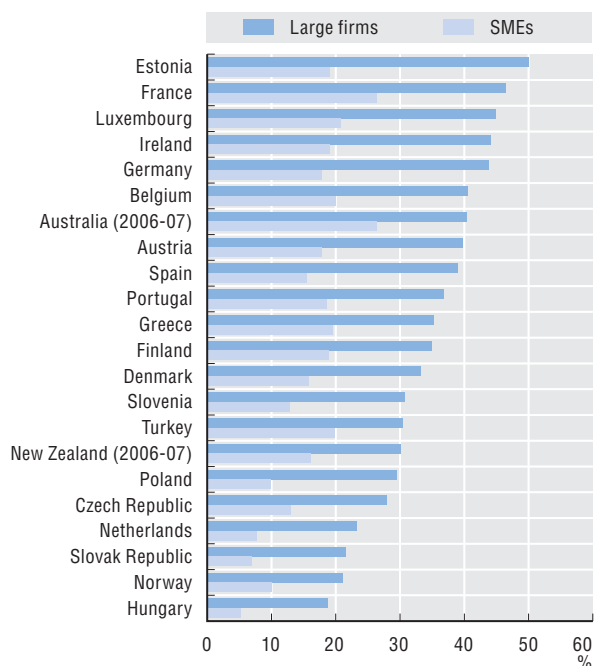
As a percentage of all firms



StatLink <http://dx.doi.org/10.1787/745147353337>

### In-house process innovators by size, 2004-06

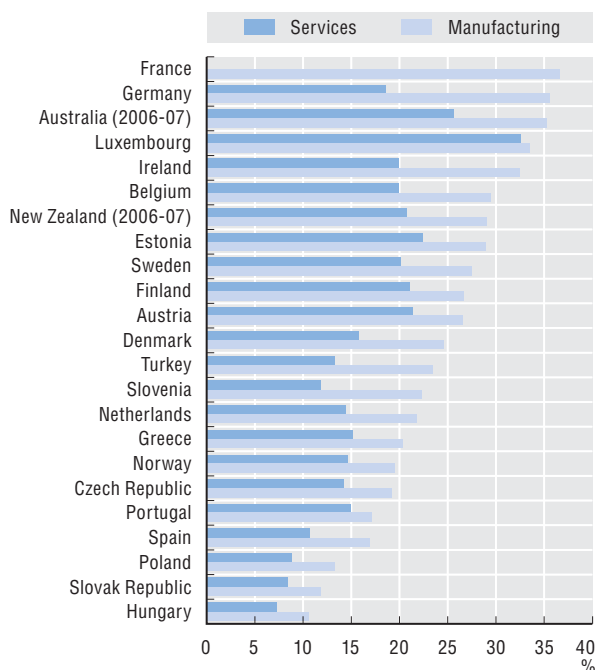
As a percentage of all firms



StatLink <http://dx.doi.org/10.1787/745187300120>

### In-house product innovators by sector, 2004-06

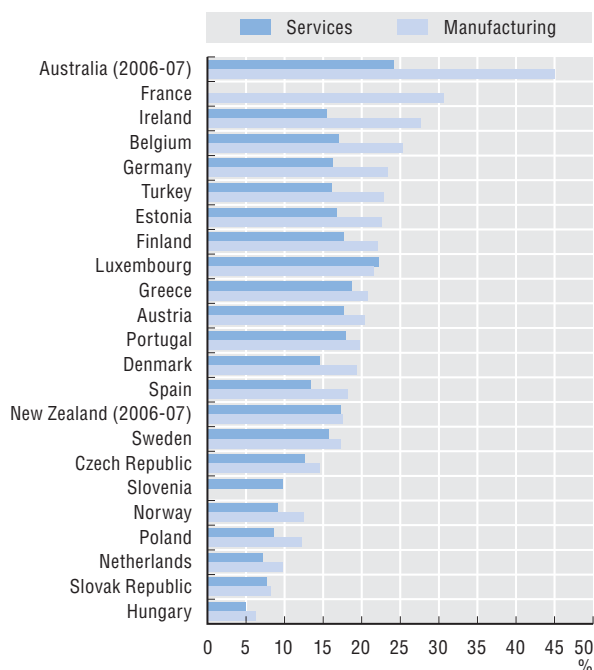
As a percentage of all firms



StatLink <http://dx.doi.org/10.1787/745227131530>

### In-house process innovators by sector, 2004-06

As a percentage of all firms



StatLink <http://dx.doi.org/10.1787/745256621152>



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