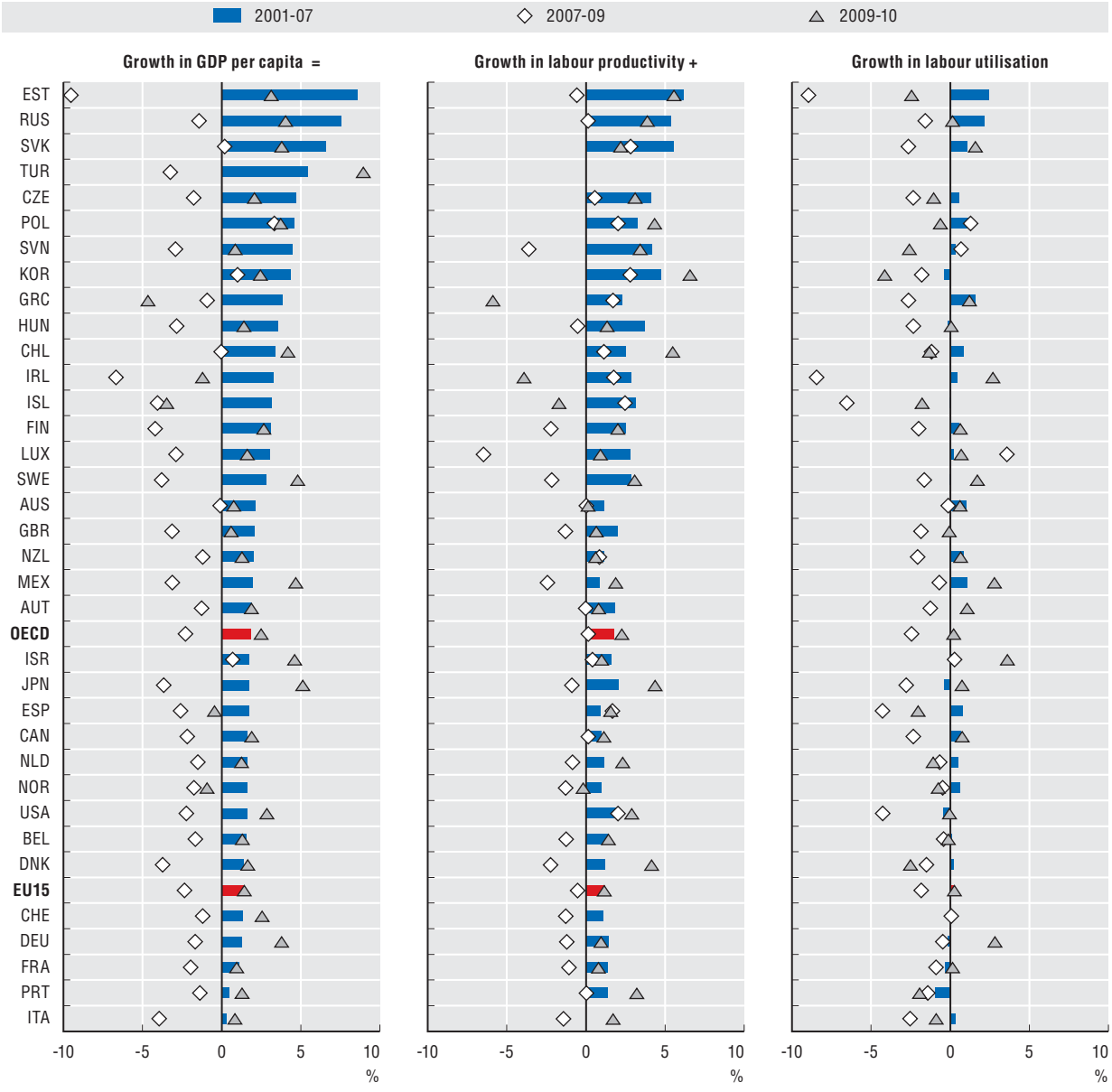
Sources of growth

GDP growth and the crisis

Today's world faces some extraordinary challenges and the effects of the economic downturn will be felt by our societies for years to come. A traditional measure used to gauge nations' welfare is gross domestic product (GDP) per capita. Changes in this measure can result from changes in labour productivity (GDP per hours worked) and labour utilisation (hours worked per person employed and employment per capita). Slowing labour productivity was already eroding growth performance prior to the crisis, and data for 2007-09 show the effect of the downturn on labour and capital. In 2010 widespread growth signalled the start of a global recovery. However, the pace of recovery varies among OECD countries and unemployment remains high in most. This condition creates an imperative for countries to find new and sustainable sources of growth.

Decomposition of growth in GDP per capita, 2001-07, 2007-09 and 2009-10

Total economy, percentage change at annual rate



Source: OECD, Productivity Database, June 2011. See chapter notes.

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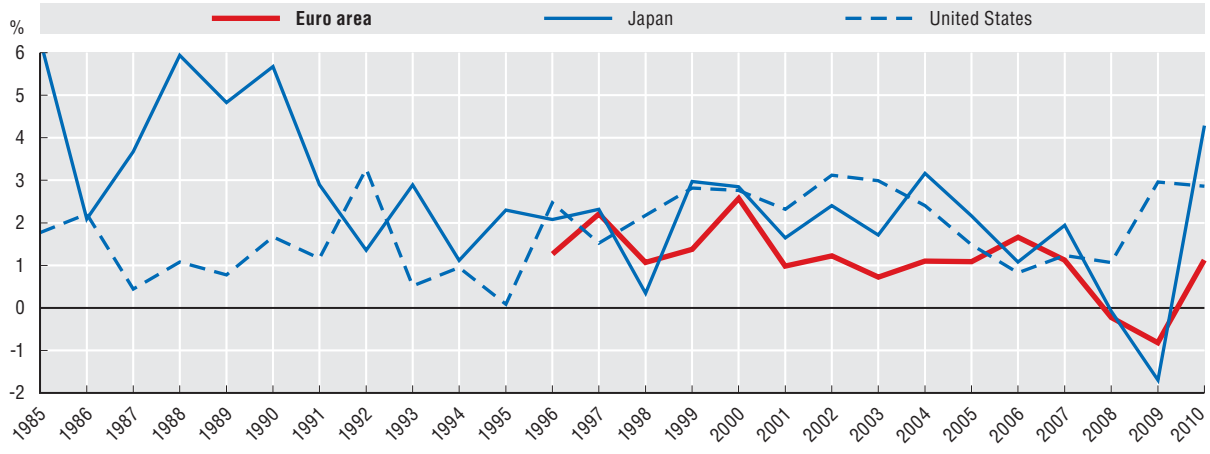
Productivity convergence

Over the 1980s and into the early 1990s, labour productivity grew faster in Japan than in the United States, owing in part to longer working hours per employee. It accelerated in the United States in the second half of the 1990s to 2.5%, and a new gap emerged, notably with the euro area. After 2003 the salient feature was downwards convergence so that, by 2007, all major OECD areas had a similar productivity growth rate of around 1% to 2%. In 2008 a new gap appeared, with productivity growth in the United States of about 1.1%, while productivity slowed significantly in the aftermath of the crisis in Japan and the euro area, to then bounce back in 2010 to 2.9% and 1.1%, respectively. In 2009, after 20 years of a persistent gap in both GDP and labour productivity compared with the upper half of OECD countries, the BRIICS (Brazil, the Russian Federation, India, Indonesia, the People's Republic of China and South Africa), particularly China, were showing a positive trend, albeit with a significant gap remaining.

Labour productivity growth, total economy level, 1985-2010

Annual growth rates



Source: OECD, Productivity Database, June 2011. See chapter notes.

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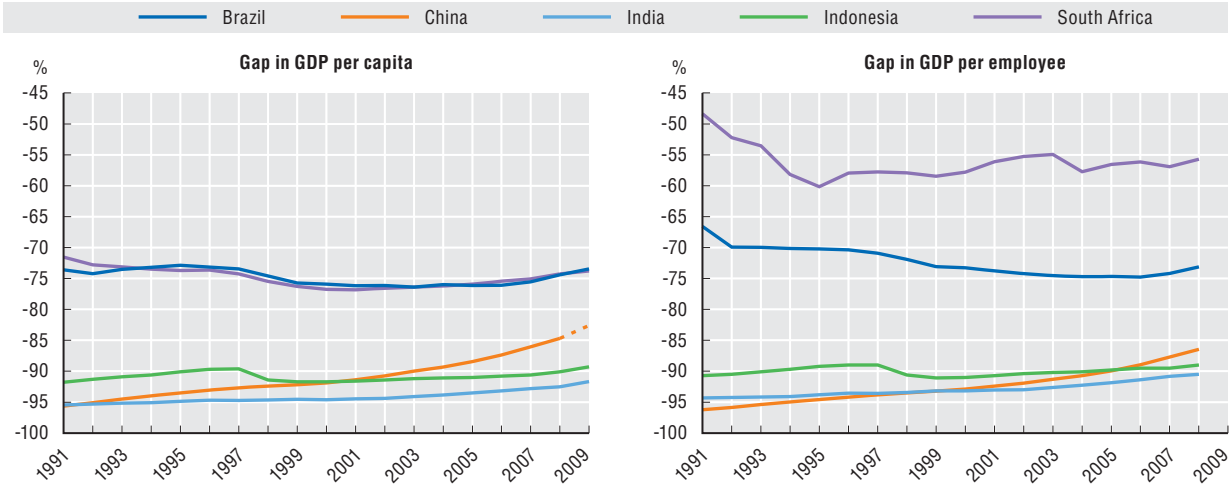
GDP per capita and labour productivity in the BIICS, 1991-2009

Gap with respect to the average of the upper half of OECD countries, percentage points



Source: OECD (2011), *Economic Policy Reforms 2011: Going for Growth*, OECD Publishing, Paris; based on World Bank, World Development Indicators (WDI) and ILO, Key Indicators of the Labour Market (KILM) Databases, 2010.

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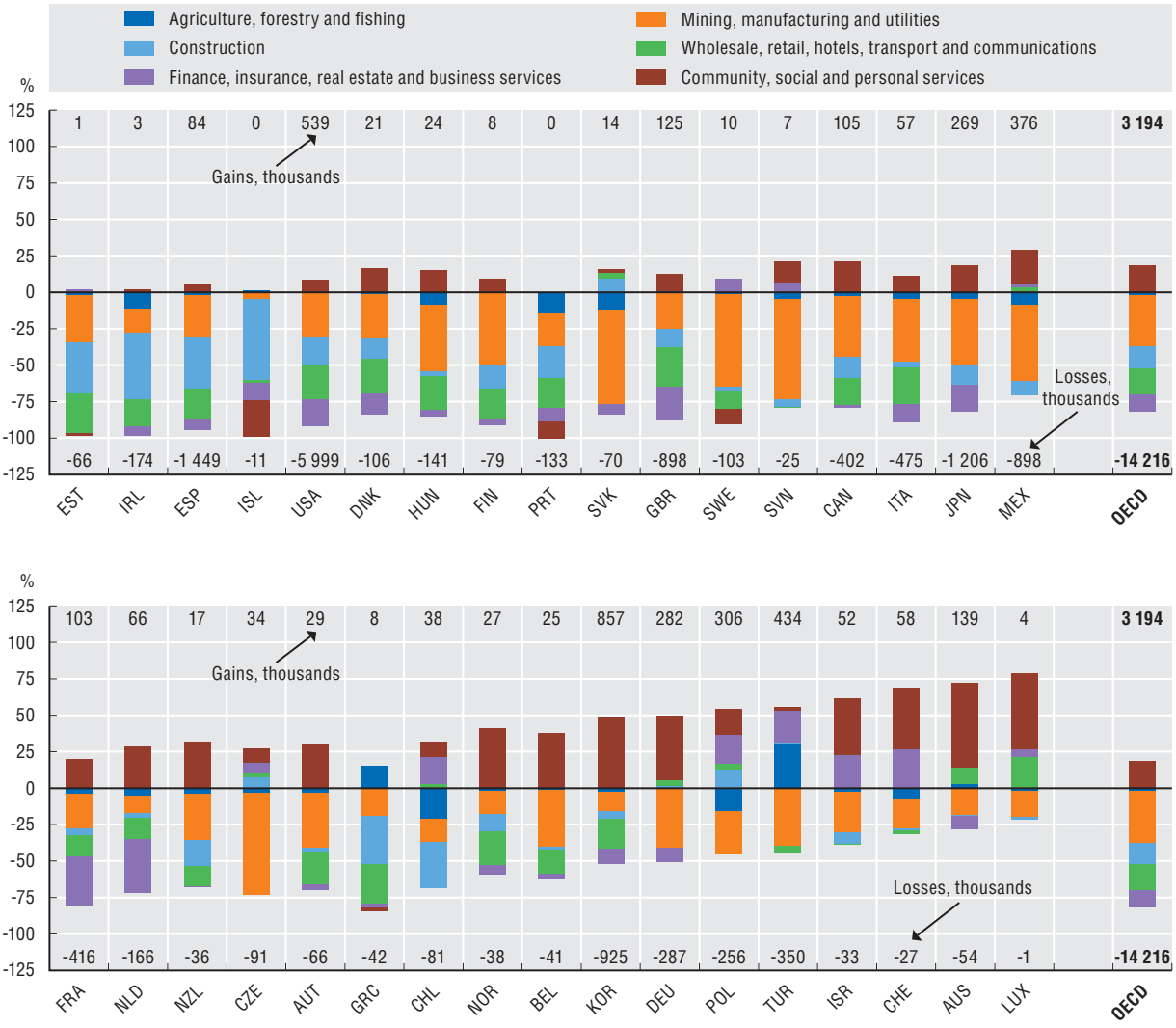
Employment in the crisis

Between 2008 and 2009, in the immediate aftermath of the crisis, the OECD as a whole suffered a net loss in employed persons of about 11 million, a 2% drop. Half of these losses occurred in the United States. An increase in employment of 3.2 million in OECD "Community, social and personal services" only partly offset a fall of 14.2 million in other sectors. Manufacturing was the hardest hit, with significant declines in all OECD countries. The construction sector was most affected in Chile, Estonia, Iceland, Ireland, Greece and Spain. For finance and business services, losses were particularly significant in France, Japan, the Netherlands, the United Kingdom and the United States. The wholesale, retail, hotel and transport sectors remained unscathed in very few OECD countries.

Where people lost their jobs, 2008-09

Relative contribution to change in total employment by major sectors of economic activity



Source: OECD, Structural Analysis (STAN) Database, OECD National Accounts (SNA) Database and national statistical institutes, June 2011. See chapter notes.

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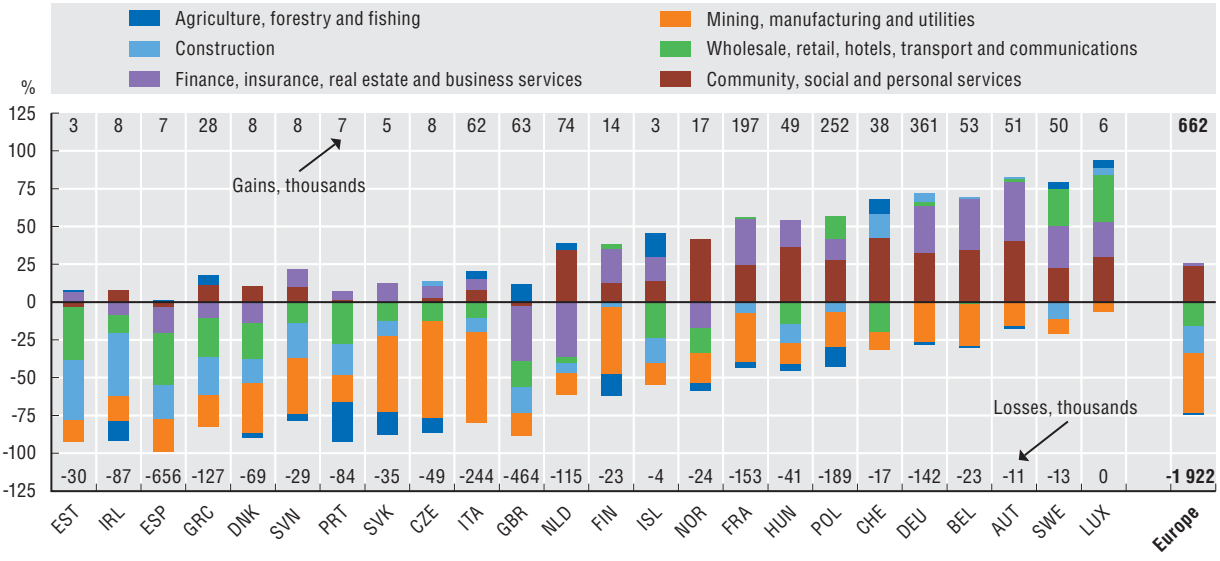
For many OECD countries, significant losses in employment continued well into 2010. Available data for Europe show that countries such as Denmark, Estonia, Greece, Ireland and Spain endured further falls of more than 2% compared to 2009.

Where people lost their jobs in Europe, 2009-10

Relative contribution to change in total employment by major sectors of economic activity



Source: OECD, National Accounts (SNA) Database and national statistical institutes, June 2011. See chapter notes.

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How to read these figures

To assess the impact of the recent economic crisis on employment in different sectors of activity, sectoral changes in levels of employment can be "normalised" in order to highlight their relative contributions, within each country, to the total change in employment between 2008 and 2009. This is achieved, for each country, by expressing the sectoral changes as a percentage of the sum of the absolute changes. The aggregate activity groups are defined according to ISIC Rev. 3 Classes 01-05, 10-41, 45, 50-64, 65-74 and 75-95 respectively. The source data provided to the OECD are defined according to ISIC Rev. 3. However, for France, Iceland and Switzerland the recent national data published with NACE Rev. 2 (ISIC Rev. 4) breakdowns have been used.

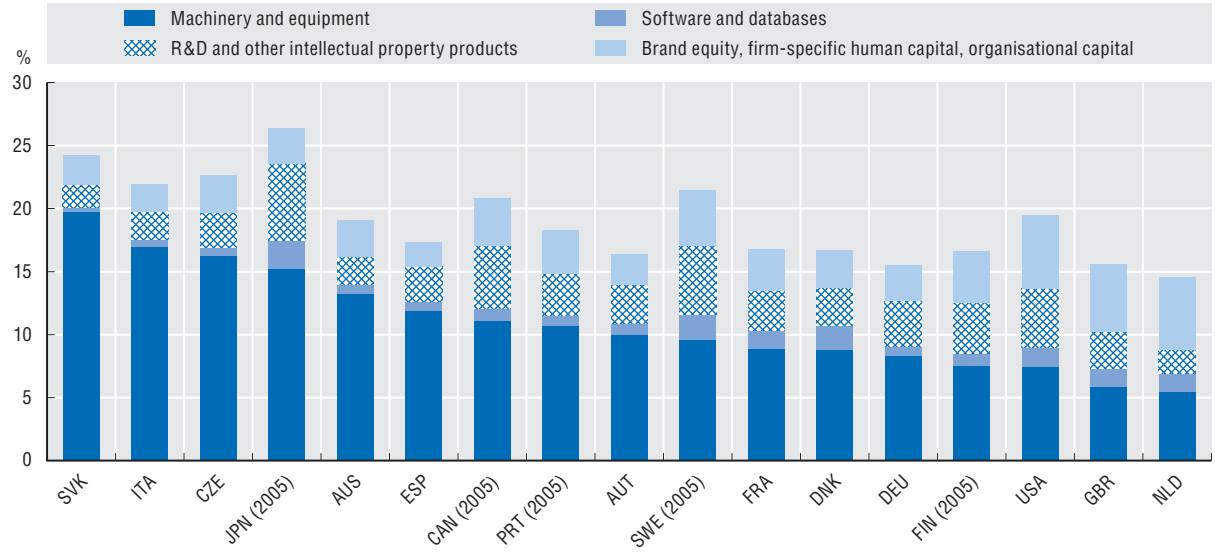
The gains and losses, in thousands, represent respectively the sum of the aggregate sectors with positive changes and the sum of the aggregate sectors with negative changes. With a finer activity breakdown (for example, 2-digit ISIC Rev. 3) the estimates for total gains and losses would be different. For example, within the losses noted for Finance, insurance, real estate and business services (65-74), certain (2-digit) business services may have experienced modest gains in employment. However, given the widespread falls across activities between 2008 and 2009, using 2-digit data (if available) would not make a notable difference to the analysis.

The employment data are mostly drawn from National Accounts (SNA) sources and are measured in terms of persons except for Canada, Japan and New Zealand where figures for jobs are provided. Care should be taken when comparing the changes in structural employment in these three countries with the others. In general, for countries that provide employment measured in both persons and jobs, loss of jobs outnumbered loss of employed persons, as people switched to part-time work, job sharing, etc. For example, while the United States lost about 6.5 million jobs between 2008 and 2009, in terms of persons the drop is closer to 5.5 million.

New sources of growth: intangible assets

Innovation results from more than investment in research and development (R&D). It requires complementary assets such as software, human capital and appropriate organisational structures. Investment in such intangible assets is rising and even exceeds investment in physical capital (machinery and equipment) in Finland, the Netherlands, Sweden, the United Kingdom and the United States.

Investment in fixed and intangible assets as a share of GDP, 2006



Note: Estimates are based on national studies. They do not reflect standardised methods and definitions.

Source: OECD, data on intangible investment are based on COINVEST, *www.coinvest.org.uk* and national estimates by researchers. Data for fixed investment are OECD calculations based on OECD, Annual National Accounts and EU KLEMS Databases, March 2010. See chapter notes.

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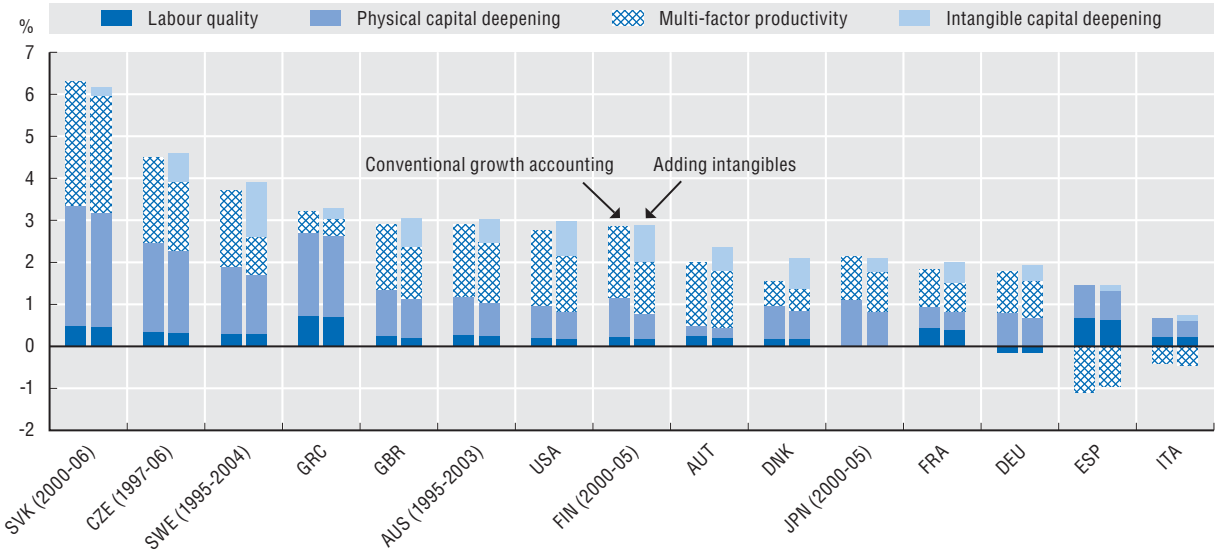
What do we mean by "intangible assets"?

Sometimes referred to as "knowledge assets" or "intellectual capital", intangible assets have been defined as "claims on future benefits that do not have a physical or financial embodiment" (Lev, 2001). Much of the focus has been on R&D, key personnel and software, but the range of intangible assets is considerably broader. One classification, offered by Corrado, Hulten and Sichel (2006), groups intangible investments into three main types: computerised information (such as software and databases); innovative property (such as scientific and non-scientific R&D, copyrights, designs, trademarks); and economic competencies (including brand equity, firm-specific human capital, networks of people and institutions, the organisational know-how that increases enterprise efficiency, and aspects of advertising and marketing). Using this paper as their basis, researchers in several countries have computed aggregates for intangible investment. Some intangibles – software and, more recently, R&D – are now recognised by the international statistical community as capital assets and will be accounted for in the System of National Accounts (see the *OECD Handbook on Deriving Capital Measures of Intellectual Property Products*, 2010). More work is needed to harmonise the definition of intangible assets and collect data on an internationally comparable basis so as to better identify and measure new sources of growth.

Intangible assets and productivity

A new stream of research argues that firms' investment in intangible assets contributes to their output growth not only in the present but also in future years. Estimates of the contribution of intangible assets to growth of labour productivity show that, in some countries, these explain a significant portion of multi-factor productivity growth (a measure of technological change and of our inability to properly measure economic performance).

Labour productivity growth: adding the contribution of intangible assets, 1995-2006



Note: Estimates based on national studies. They do not reflect standardised methods and definitions.

Source: OECD, based on research papers, 2009. See chapter notes.

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How to read this figure

What happens when investment in intangible assets other than software is included in estimates of GDP and added to the breakdown of labour productivity growth? In this case GDP is roughly expected to increase by the equivalent of investment in those intangibles, adjusted for trade in intangibles. The contribution of physical capital (machines and information and communication technologies, ICT) to labour productivity growth declines because investment in software becomes part of the investment in intangible assets. Multi-factor productivity (MFP) reflects efficiency in the use of labour and capital inputs, for example through improvements in the management of production processes, organisational change or more generally, R&D and innovation. MFP declines as investment in R&D and in other intangible assets related to innovation is accounted for as a distinct source of growth: "intangible capital deepening". Although the comparability of these estimates is still poor, owing to differences in data sources, methodologies and assumptions for deflators and depreciation rates, they are a first step in recognising the importance for growth of investment in intangible assets.