Highlights from the OECD Science, Technology and Industry Scoreboard 2017 - The Digital Transformation: Hungary

Science, innovation and the digital revolution

- In the market sectors in **Hungary**, the intensity in knowledge-based capital (KBC) (measured as KBC investment over total value added) in 2015 was 16.8% higher than in major European countries such as Germany, Italy and the United Kingdom [Scoreboard fig. 1.52].
- Among all OECD, G20 and BRIICs countries, **Hungary** shows the second lowest mobile broadband penetration rate with only 44.8 subscriptions to mobile broadband per 100 inhabitants. This represents less than half of the average subscription rate in the OECD in 2016 (99.2 subscriptions per 100 inhabitants) [fig. 1.2 – see below].
- In **Hungary**, the share of individuals using the internet to interact with public authorities increased from 34.3% in 2010 to 48.2% in 2016 [fig. 6.6.1]. However, of the individuals that decided not to submit official forms online, 32.9% indicated privacy and security concerns as the main reason, which is among the highest shares in OECD countries [fig. 6.6.2].

Growth, jobs and the digital transformation

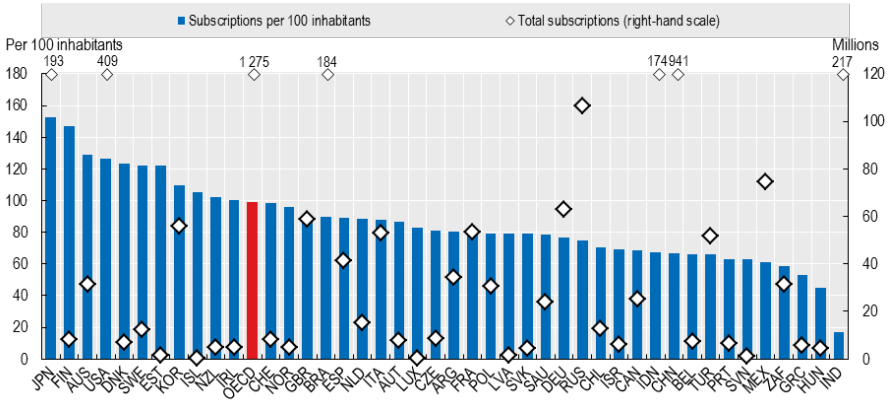
- Profound changes in the core/periphery structure of GVCs have taken place over recent decades, particularly in ICT sectors. Together with China and Korea, **Hungary** has experienced the strongest increase in centrality in the IT manufacturing sector across economies from 1995 to 2011. The increased access to a variety of foreign inputs is expected to lead to significant productivity gains [fig. 1.53 - see below].
- Robot intensity in **Hungary** (measured as the stock of robots divided by manufacturing value added) has increased more than seven times from 2005 to 2015, considerably above the average growth rate for OECD or EU28 countries (+29% and 54%, respectively) [fig. 1.28 - see below].
- From 2009 to 2015, labour productivity in **Hungary** rose by 3.4% per year, with manufacturing contributing the largest share (almost 60% of the total average annual labour productivity growth) [fig. 1.44].
- Total employment in **Hungary** increased strongly (by 10.9%) from 2010 to 2016. This increase in total employment was mainly driven by professional, scientific, technical and other business services (35.6% of the total employment changes) as well as public administration, education, health and other services (34.2% of the total employment changes) [fig. 1.34].
- More than half (59%) of all jobs in the business sector in **Hungary** were sustained by foreign final demand in 2014, the third highest share among the 22 EU countries of the OECD. This share has grown since 2004 by 17%, indicating that the Hungarian economy is increasingly integrating into GVCs. The largest share of jobs sustained by foreign final demand is medium skill intensive (25% of all business sector jobs), although low and high skill intensive jobs also strongly benefit from **Hungary's** integration into GVCs (17% and 16.6% of all business sector jobs, respectively) [fig. 1.38 - see below].

Innovation today - Taking action

- Relative to countries with similar business R&D-to-GDP ratios (around 1% of GDP), **Hungary** shows a high level of total government support to business R&D as a percentage of GDP (0.35%) in 2015 [fig. 1.71].
- However, only 5% of the total R&D tax support in **Hungary** is benefitting SMEs, the smallest SME share in R&D tax support out of 20 OECD countries in 2015 [fig. 1.70].
- Expenditure on basic research performed by higher education institutions as a share of GDP in **Hungary** has decreased, from 0.23% in 2005 to 0.17% in 2015 [fig. 2.2.1]. In 2015, 44% of the expenditure for basic research was directly funded by government institutions and only 36% by higher education institutions [fig. 2.2.2].

Figure 1.2 Mobile broadband penetration, OECD, G20 and BRIICS, 2016

Total subscriptions and per 100 inhabitants



StatLink : http://dx.doi.org/10.1787/888933616883

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.53 Change in the centrality of IT manufacturing across economies, 1995-2011

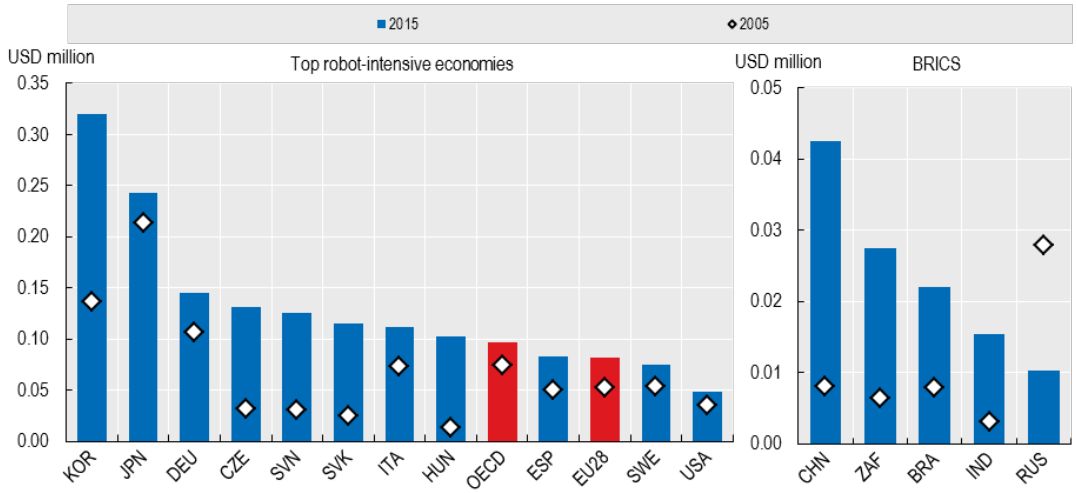
Centrality measured as total foreign centrality

StatLink : http://dx.doi.org/10.1787/888933617852

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.28 Top robot-intensive economies and BRICS, 2005 and 2015

Industrial robot stock over manufacturing value added, millions USD, current values

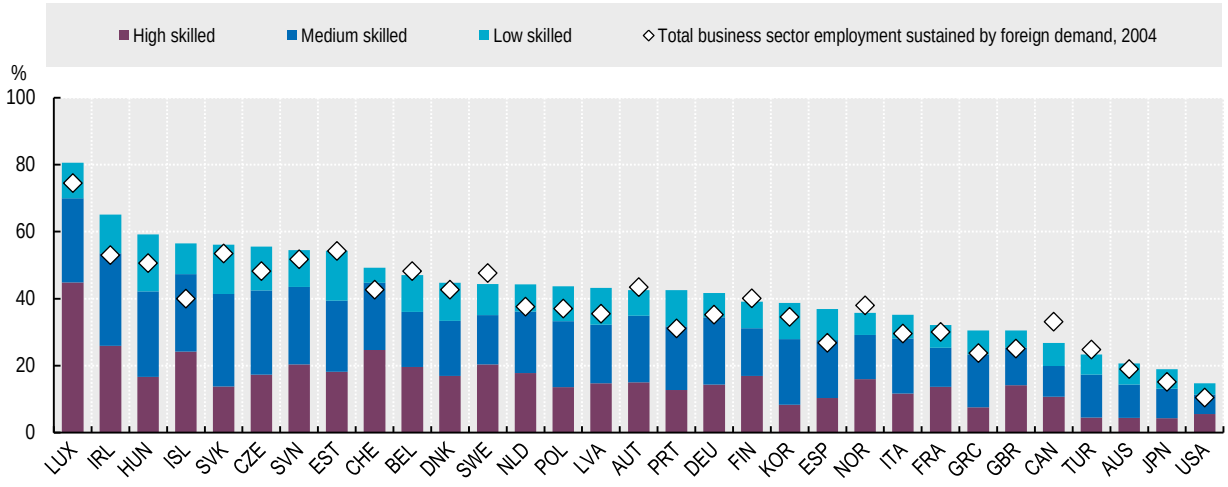


StatLink : http://dx.doi.org/10.1787/888933617377

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.38 Business sector jobs sustained by foreign final demand, by skill intensity, 2014

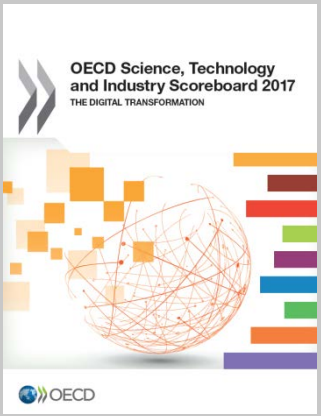
As a percentage of total business sector employment



StatLink : http://dx.doi.org/10.1787/888933617567

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

The OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation



The 2017 edition of the Scoreboard contains over 200 indicators showing how the digital transformation affects science, innovation, the economy, and the way people work and live.

The aim of the STI Scoreboard is not to "rank" countries or develop composite indicators. Instead, its objective is to provide policy makers and analysts with the means to compare economies with others of a similar size or with a similar structure, and monitor progress towards desired national or supranational policy goals.

It draws on OECD efforts to build data infrastructure to link actors, outcomes and impacts, and highlights the potential and limits of certain metrics, as well as indicating directions for further work.

The charts and underlying data in the STI Scoreboard 2017 are available for download and selected indicators contain additional data expanding the time and country coverage of the print edition. For more resources, including online tools to visualise indicators, see the OECD STI Scoreboard webpage (http://www.oecd.org/sti/scoreboard.htm).

The OECD Directorate for Science, Technology and Innovation

It is part of the DNA of the Directorate for Science, Technology and Innovation (DSTI) to constantly look for ways of better understanding where our economies and societies are today, and where they are going tomorrow. We pride ourselves on tackling topics at the boundaries of our scientific and technological understanding, such as using biotechnology and nanotechnology to alter modes of production, and how digital shifts like "big data," earth observation and digital platforms are changing our world.

Discover DSTI at www.oecd.org/sti and the OECD's Going Digital project at www.oecd.org/going-digital.

Further reading

OECD (2017), *OECD Digital Economy Outlook 2017*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264276284-en

OECD (2016), *OECD Science, Technology and Innovation Outlook 2016*, OECD Publishing, Paris. http://dx.doi.org/10.1787/sti_in_outlook-2016-en