Highlights from the OECD Science, Technology and Industry Scoreboard 2017 - The digital transformation: Norway

Science, innovation and the digital revolution

- **Norway**'s business sector has a relatively low R&D intensity as a percentage of value added, but this can be accounted for by its industrial structure. Adjusting for that, its R&D intensity would be slightly above the OECD average [Scoreboard fig. 5.1.1. - see below].
- As in other Nordic countries, businesses in **Norway** are characterised by a relatively high level of sophistication of ICT use, in particular the use of cloud computing, customer-relation management and enterprise resource planning [fig. 5.2.1].
- **Norway** has above OECD average spending on tertiary education and vocational training (2.4% of GDP) [fig. 2.1.1]. Researchers make up a relatively high share of the workforce in **Norway**, nearly 1.2% [fig. 2.4.1] and its scientific production is characterised by high levels of collaboration and high impact as measured by citation rates [fig. 3.2.2]. The percentage of workers with medium/high problem solving skills in technology rich environments is the 4th highest in the sample of countries for which data is available [fig. 2.5.2].
- Over 97% of individuals aged 16-74 years old in **Norway** used the Internet in 2016, up from around 81% in 2006, the 4th highest rate in OECD. Over 92% are daily users and 80% access the Internet via a mobile device [fig. 6.3.1]. **Norway** has one of the smallest internet use age gaps in the OECD area. Over 90% of 55-74 year olds in **Norway** reported using the Internet in 2016 [fig. 1.58]. **Norway** is also the country with the third largest share of individuals (nearly 85%) using the Internet to interact with public authorities [fig. 6.6.1].

Growth, jobs and the digital transformation

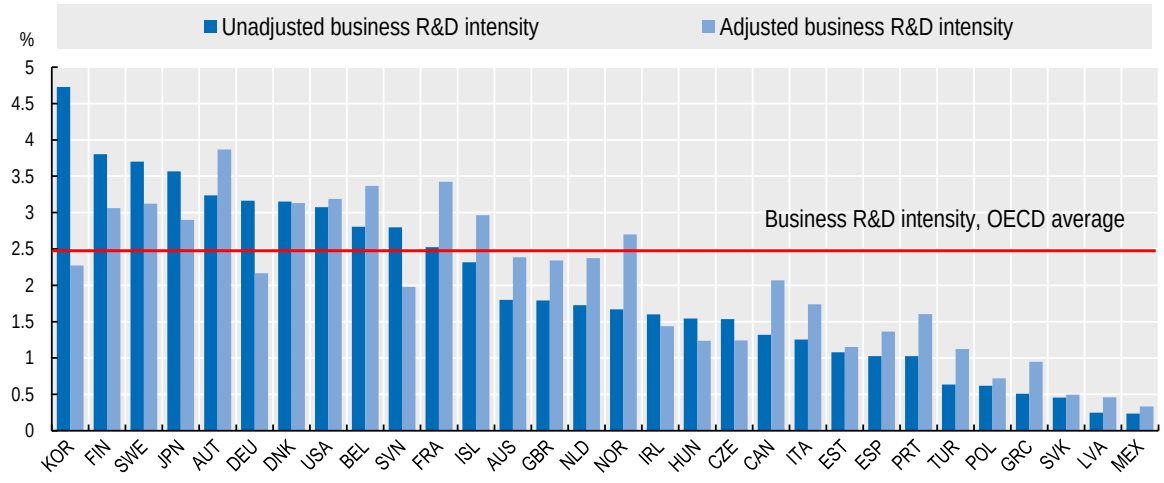
- **Norway** exhibits the highest levels of ICT task intensity and non-routine employment in the market sector, both for manufacturing and market services [fig. 1.39 - see below].
- The financial rewards for roles with higher ICT task intensity are lower in **Norway** than in many other OECD countries [fig. 1.42], and women experience similar labour market returns to ICT to men.
- **Norway** is the country with the fifth largest share of employed persons (nearly 75%) receiving training from their employers in 2015 [fig. 2.7.1].
- In 2014, about 36% of jobs in **Norway's** business sector were sustained by foreign final demand [fig. 1.38], slightly lower than in 2004 (38%). Nearly half of those jobs corresponded to highly skilled workers.
- In 2014 **Norway** registered the largest share of domestic value added embodied in partners' exports ("forward linkages in GVCs") at over 45%, up from 26% in 1995, reflecting growing demand for primary sector products in global value chains [fig. 5.6.2]
- **Norway** experienced stagnant labour productivity growth in the non-agriculture business sector between 2009 and 2015 [fig. 1.44].

Innovation today - Taking action

- Experimental indicators on the international mobility of scientific authors for 2002 to 2016, based on bibliometric data, show that **Norway** attracted more authors than it lost. Over the past 15 years, nearly 3 000 more scientific authors moved to **Norway** than left. This trend has become more marked in recent years [fig. 1.69 - see below].
- **Norway's** government R&D budget in 2016 was significantly larger in real terms than in 2008 [fig. 1.62]. It has been steadily increasing, up nearly 34% since 2008.
- **Norway's** R&D tax incentive scheme is the most geared-up to support small companies due to a combination of design features such as refundability and caps [fig. 1.70 - see below].

Figure 5.1.1 Business R&D intensity adjusted for industrial structure, 2015

As a percentage of value added in industry

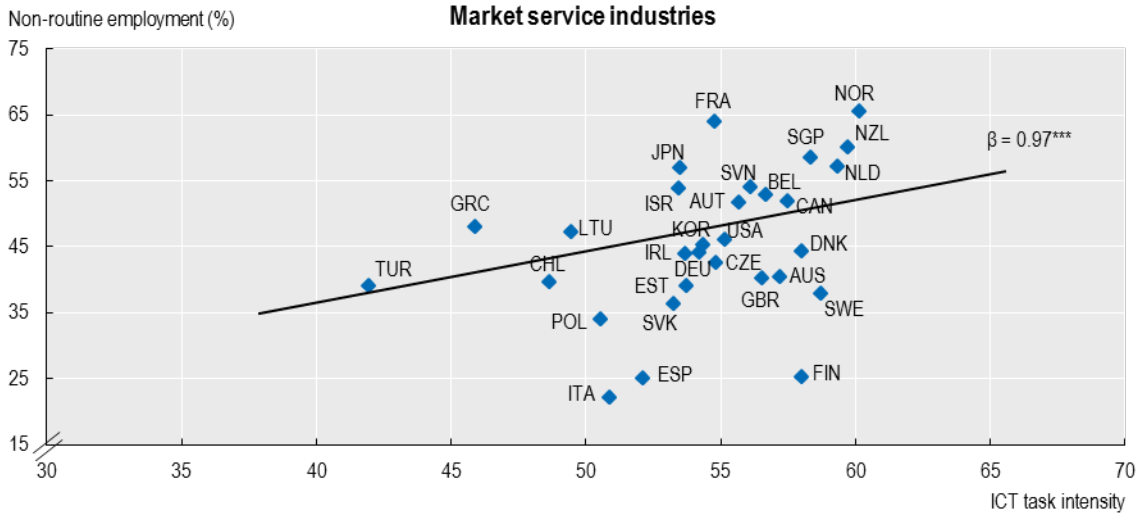


StatLink : http://dx.doi.org/10.1787/888933619524

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 1.39 Share of non-routine employment and ICT task intensity, 2012 or 2015

Correlation of average industry values in the market sector



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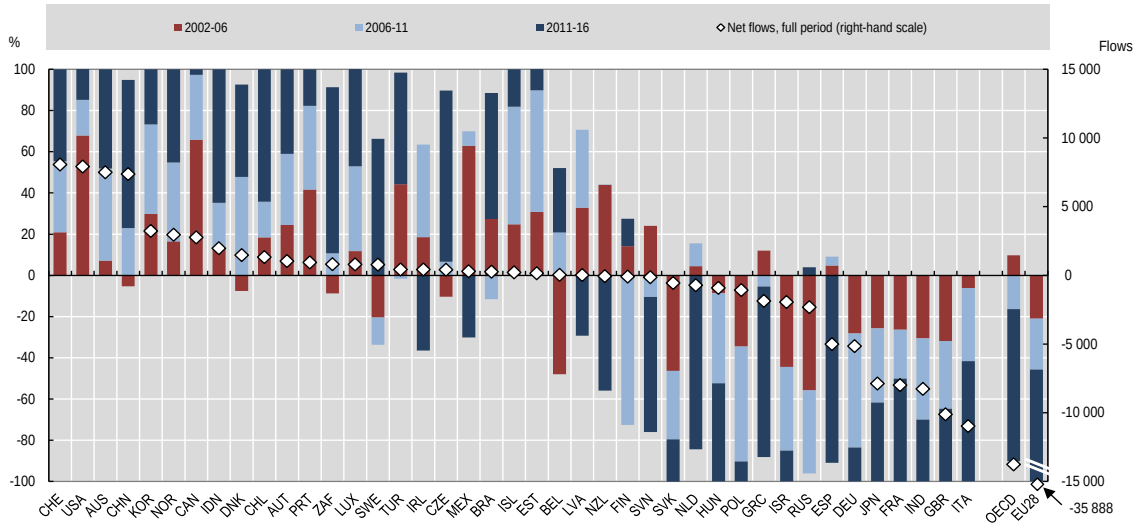
Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.69 International net flows of scientific authors, selected economies, 2002-16

Difference between annual fractional inflows and outflows, as a percentage of total flows



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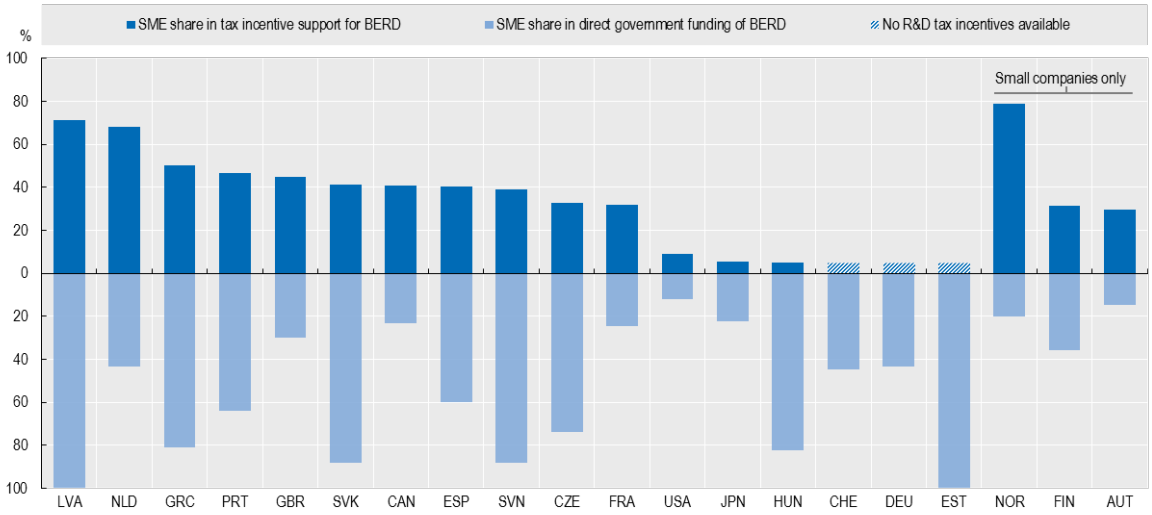
Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.70 Direct funding and tax incentive support for business R&D by SMEs, 2015

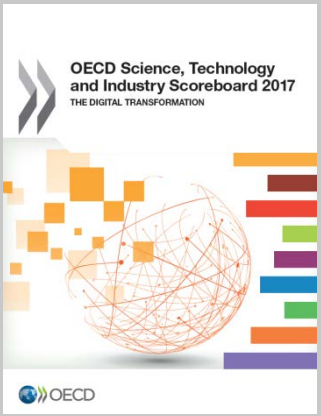
As a percentage of government support for BERD in each category



StatLink http://dx.doi.org/10.1787/888933618175

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