

# »» The performance of the German innovation system is falling behind other countries



No. 158, 20 March 2016

Author: Dr Volker Zimmermann, phone +49 69 7431-3725, volker.zimmermann@kfw.de

In a bid to measure and assess the performance of its member states' innovation systems as comprehensively as possible, the EU Commission has developed an (aggregate) indicator based on 27 individual indicators.<sup>1</sup> The intention of the aggregate indicator is to broadly map the individual countries' innovation systems (box). Data collected for this aggregate indicator on a uniform basis are now available for the period from 2010 to 2016.

## German innovation system is highly effective

As one of six European countries with the highest-performing innovation systems, Germany is an innovation leader. This label applies to countries whose indicator score exceeds the EU average of the relevant year by 20 %.

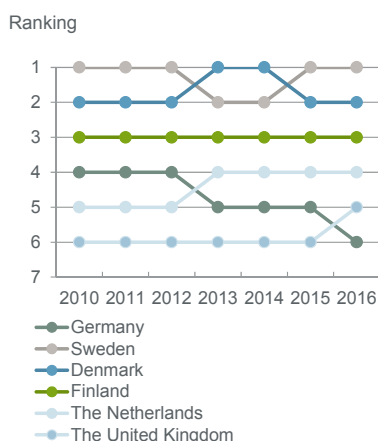
The ranking of leading innovators has changed only little since 2010 (see figure). Sweden, Denmark and Finland occupy the top three positions. Only Sweden and Denmark swapped positions in the years 2013 and 2014. Otherwise there were no changes in the top ranks.

## But has fallen in ranking in the European comparison

Germany exhibits the greatest variation on the scoreboard. In 2010 it ranked fourth and slipped to sixth by 2016. This lower ranking is primarily attributable to the decline in innovation activity in small and medium-sized enterprises (SMEs),<sup>2</sup>

which negatively affects various sub-indicators. The negative development in the numbers of employees in fast-growing enterprises was another strong contributor.

**Figure: Performance of innovation systems**



Source: European Innovation Scoreboard

The significant increases in R&D expenditure in Germany<sup>3</sup> which were achieved under the high-tech strategy did not succeed in offsetting the declines in the aggregate indicator. What causes concern here is not just the loss in ranking but mainly that Germany achieved a lower score in 2016 than in 2010.

## Rising stars: the Netherlands and the UK

The Netherlands and the United Kingdom each moved up a rank. Both countries cleared the 20 % hurdle and

joined the group of innovation leaders. The Netherlands were able to score points particularly in SME innovation activities and in the education system. The United Kingdom for its part scored across a broad range of areas with an improved education and research system, higher innovation expenditure and greater market success of innovations. ■

## The European Innovation Scoreboard

The EU measures the performance of its member states and various other countries against 27 individual indicators that capture a country's innovation system in ten dimensions. These are education, research system, innovation-friendly environment, (public) finance and support, corporate investment (in innovation), collaboration between actors, intellectual assets, employment impacts and sales effects. The data for the individual indicators are adjusted for outliers and rescaled on a scale between 0 and 1 based on the minimum and maximum scores. The aggregate indicator is composed of the unweighted average of the scores thus obtained for the individual indicators.

<sup>1</sup> Cf. European Commission (ed.) (2017): European Innovation Scoreboard 2017.

<sup>2</sup> Cf. Zimmermann, V. (2017): KfW SME Innovation Report 2016. Innovation is concentrated in increasingly fewer enterprises, KfW Research.

<sup>3</sup> Cf. Zimmermann, V. (2017): R&D expenditure in Germany: positive trend since 1995, but levels need to increase further, Economics in Brief No. 128, KfW Research.