RUSSIAN FEDERATION

Since 1990 the Russian Federation has moved rapidly to being a globally integrated economy. Russian industry includes a number of internationally competitive commodity producers and in 2009 it was a major exporter of natural gas, oil, steel and primary aluminium. This reliance on commodity exports makes Russia vulnerable to boom and bust cycles and also affects the focus of R&D and innovation policy. The Russian science and innovation profile demonstrates areas of strong performance, but also areas for future development.

Russia's human resources in science and technology (HRST) indicators show strengths and weaknesses. In 2008 Russia had a high graduation rate of 53% in first university type-A degrees, well above the OECD average of 38%. It also had 451 000 researchers and the world's largest number of R&D personnel. However, numbers of researchers and R&D personnel have declined at an average annual rate of 1% in the decade to 2008, as has the number of researchers per thousand employment (6.4 in 2008). Russia has a high level of academic attainment, with 54% of the population aged 25-64 qualified at the tertiary level in 2002. The 25% of science and engineering degrees as a percentage of all new degrees and doctorates per capita were both higher than the OECD average.

Gross expenditure on R&D (GERD) fell from 2% of GDP in 1990 to 1% in 2008, when industry financed 29% and the government 65%. The government's share has fluctuated, falling from 62% in 1994 to 51% in 1999, before rising again. Industry's share has fallen from 35% in 1994. Business expenditure on R&D (BERD) declined to 0.7% of GDP in 2008, below the OECD average of 1.6%. In the decade to 2008, the share of government funding of R&D in the business sector increased from 43% to 56% of total BERD. Industry-financed GERD was 0.3% of GDP, below the average of 1.5%.

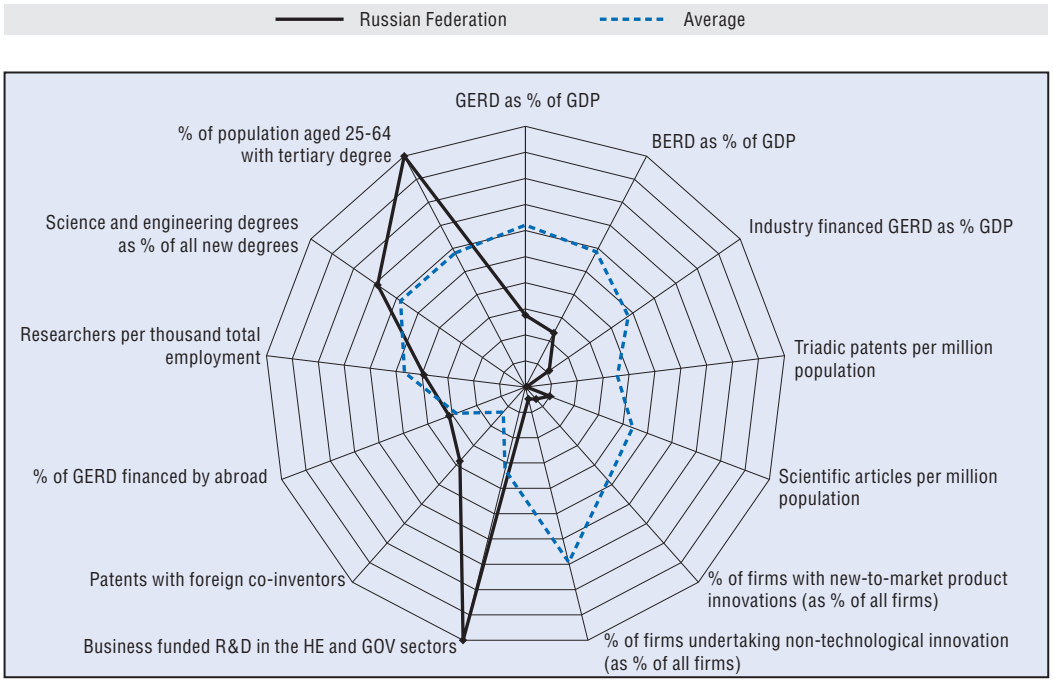
In 2008, Russia accounted for 0.13% of the world's triadic patent families, but both its 0.5 triadic patents per million population and 176 scientific articles per million population were relatively low. Russia's output of scientific publications has decreased, and its share of all scientific articles fell from 2.4% in 1998 to 1.5% in 2008. Only 1.8% of firms introduced new-to-market product innovations, while 3.3% of firms undertook non-technological innovation.

Indicators for international linkages are above average. In 2005-07, a high 23% of Patent Cooperation Treaty (PCT) patent applications were with foreign co-inventors and in 2008 6% of GERD was financed from abroad.

GDP growth has averaged 7% since 1998. The Russian economy has, however, been severely affected by the global recession and GDP growth slowed from 8.1% in 2007 to 5.6% in 2008. In 2009 the economy contracted by 7.9%. Unemployment increased from 6.5% in 2008 to 8.9% in 2009. In 2009 GDP per capita decreased slightly to 32% relative to the United States.

The government has adopted the Concept of Long-Term Socio-Economic Development of the Russian Federation CLTD 2020. It identifies several key targets and aims to implement initiatives to ensure science and technology breakthroughs and reduce the country's dependence on natural resources.

Science and innovation profile of the Russian Federation



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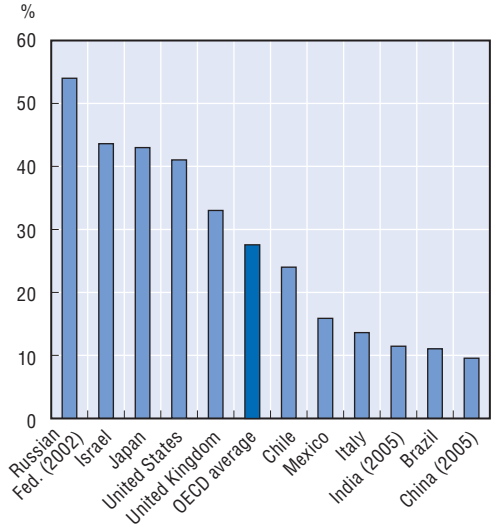
Educational attainment

Percentage of population aged 25-64 with a tertiary degree, 2008



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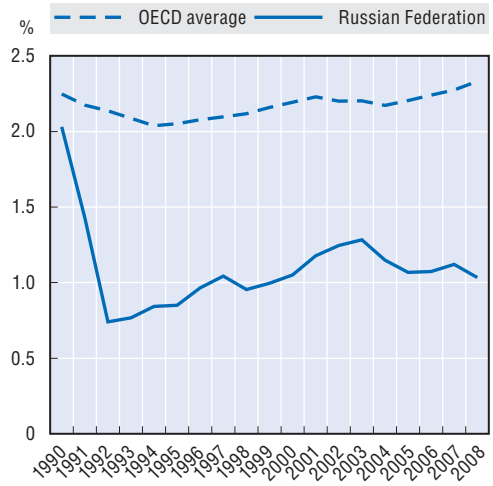
Gross expenditure on R&D

As a percentage of GDP, 1990-2008



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