

## ARGENTINA

### Hot STI issues

- Focusing innovation policy on developing capabilities in high-impact priority areas and sectors: the agri-sector, software, bio-and nano-technology, health and alternative energies.
- Increasing efforts to involve the private sector and other stakeholders in innovation policy design.
- Orienting R&D and innovation towards societal challenges, including inclusive development.

**General features of the STI system:** Argentina recovered strongly from the global financial crisis, which only marginally affected its economy. Its innovation system, like many in Latin America, suffers from weak R&D capabilities. Public and business R&D expenditures were low, at 0.46% and 0.14% of GDP, respectively, in 2010 (Panel 1<sup>(a)(d)</sup>). Only 14% of adults were tertiary-qualified in 2003 (1<sup>(s)</sup>), and the share of S&T occupations is below the OECD average (1<sup>(v)</sup>). However, Argentina performs well in terms of human resources for innovation when compared to other Latin American economies. Relations between industry and public research institutions are weak (1<sup>(o)</sup>), but the share of patents with foreign co-inventors over 2007/09 is on a par with the leading OECD countries (1<sup>(r)</sup>). This reflects to some extent the small number of actors engaged in such activities. In terms of ICT infrastructures there are only 10 fixed broadband subscribers per 100 inhabitants (1<sup>(k)</sup>). The e-government readiness index is among the lowest compared to the OECD area (1<sup>(n)</sup>).

**Recent changes in STI expenditures:** On average, GERD increased annually by 13.2% between 2005 and 2010, a faster pace than GDP over the same period. R&D intensity as a share of GDP was 0.62%

in 2010, a low value compared to the OECD. To improve R&D intensity and boost innovation, the government raised the budget of the Ministry of Science, Technology and Productive Innovation (MINCYT) from USD 510 million in 2010 to USD 732 million in 2012.

**Overall STI strategy:** Argentina included a long-term strategy and guidelines for policy planning in the Bases for a Science, Technology and Innovation Strategic Plan (2005-15). The core objective is to improve national R&D capabilities while increasing social equality and promoting sustainable development. The National Plan for Science, Technology and Innovation (2012-15) sets possible scenarios for achieving these goals by 2015.

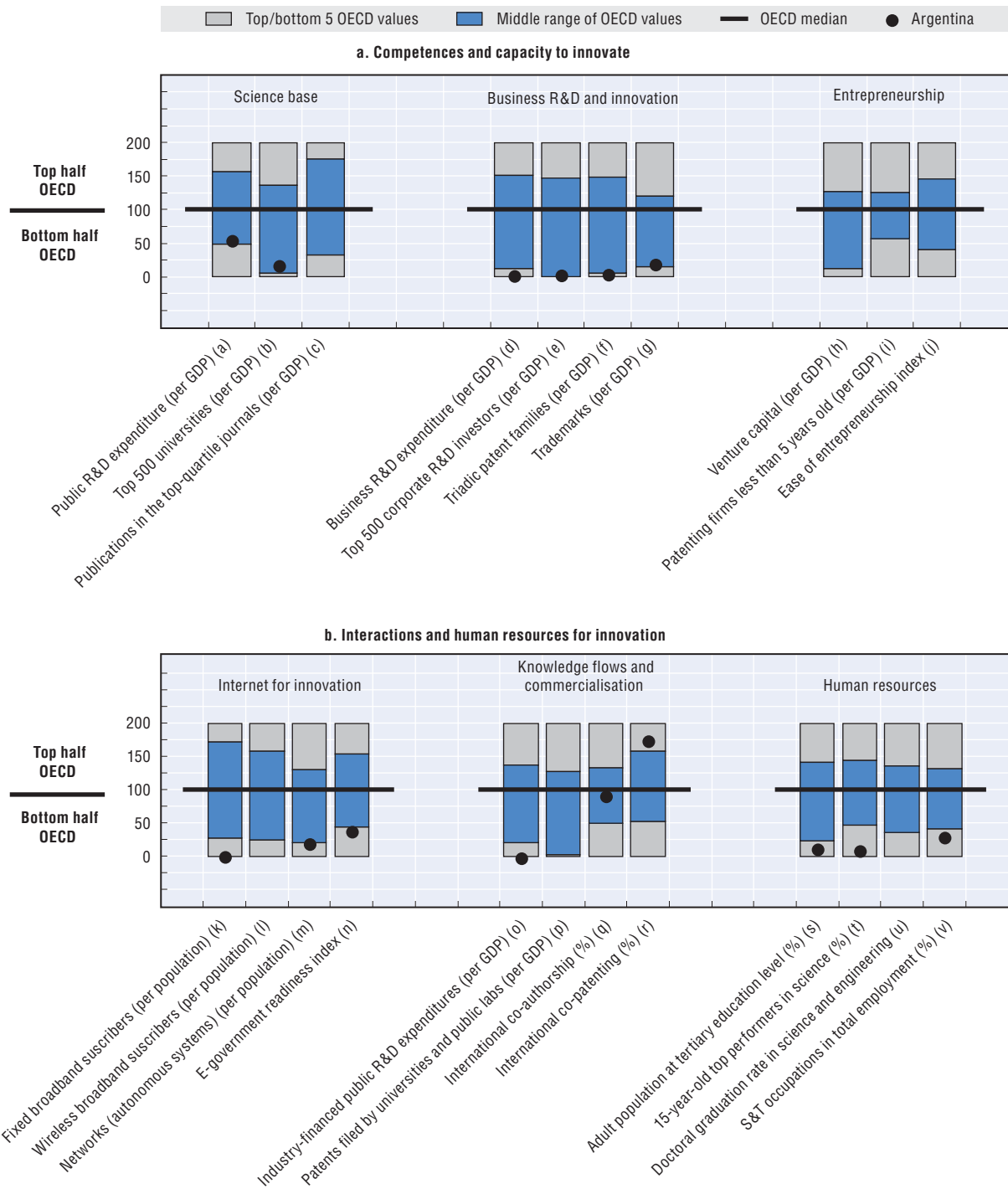
**STI policy governance:** In 2007, the Secretariat for Science, Technology and Productive Innovation became a ministry, MINCYT, with a view to restructuring the previously fragmented national STI system. Greater emphasis has been placed on soliciting the active participation of STI actors in policy design. The National Plan for Science, Technology and Innovation 2012-15 was developed in the context of an explicit public consultation framework.

### Key figures

<b>Labour productivity, GDP per hour worked in USD, 2010</b> (annual growth rate, 2005-10)	n.a.	<b>GERD, as % of GDP, 2010</b> (annual growth rate, 2005-10)	<b>0.62</b> (+13.2)
<b>Environmental productivity, GDP per unit of CO<sub>2</sub> emitted in USD, 2009</b> (annual growth rate, 2005-09)	<b>3.53</b> (+3.5)	<b>GERD publicly financed, as % of GDP, 2010</b> (annual growth rate, 2005-10)	<b>0.47</b> (+16.2)

Figure 10.1. **Science and innovation in Argentina**

Panel 1. Comparative performance of national science and innovation systems, 2011



Note: Normalised index of performance relative to the median values in the OECD area (Index median = 100).

**Business R&D and innovation:** The budget of the National Agency for Promotion of Science and Technology (ANPCYT), in charge of funding for business innovation, increased by 18% in 2010.

**ICT and scientific infrastructures:** The development of research infrastructures is one of the objectives of the Bases for a Science, Technology and Innovation Strategic Plan. To this end, the Federal Infrastructure Plan for Science and Technology 2008-11 allocated USD 97 million for the improvement and expansion of 50 research centres and associated institutions. The Technology Platform Projects programme supports the establishment of centres of excellence with advanced facilities in the areas of genomics, proteomics and structural biology, stem cells, pre-clinical tests with experimental animals, new materials, software engineering and bioinformatics.

**Clusters and regional policies:** The MINCYT has put more emphasis on cluster policies. The main instruments are the Productive Clusters Integrated Projects Programme (PI-TEC), which promotes the creation of clusters, and the Strategic Areas Programme (PAE), which was established in 2006 to foster the creation of knowledge clusters in priority sectors with high potential for economic and social impact.

**Knowledge flows and commercialisation:** To address weak linkages between academia and industry, the government established the sectoral funds, including FONSOFT for the software industry and FONARSEC for areas critical for national socioeconomic development (agri-sector, health and energy). They have promoted the creation of 35 public-private partnerships in these strategic fields. Additionally, sectoral mobility of researchers is encouraged through programmes such as Researchers in Business and Scholarships in Businesses.

**Globalisation:** Argentina has signed several bilateral agreements to foster research co-operation. It also has several bi-national centres, such as the Centre of Plant Genomics with Spain, and the Centre for Research in Neurosciences, Cancer and Stem Cells with the German Max Planck Society. Moreover, the

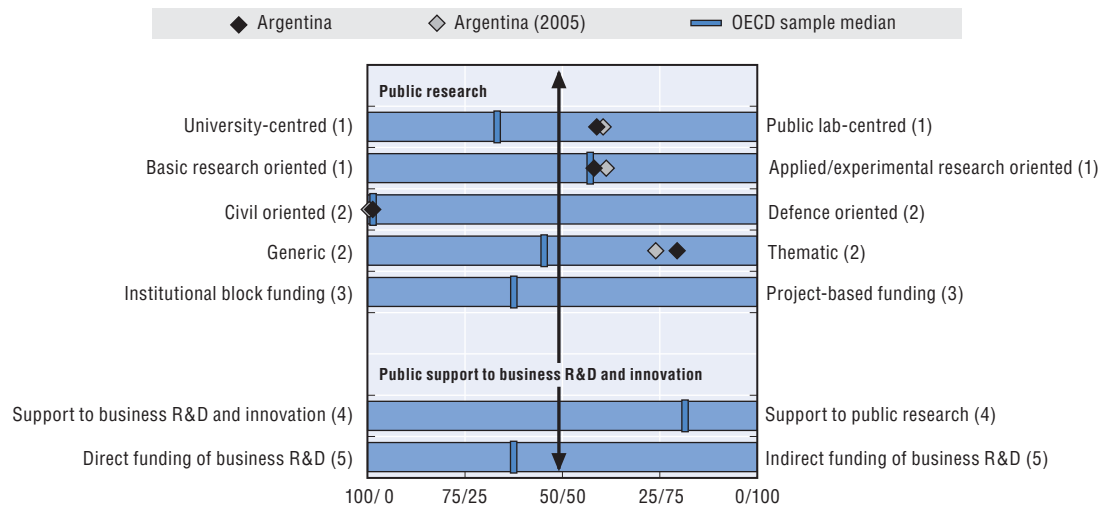
government introduced the Raíces programme to reach out to expatriate researchers and encourage them to contribute to the national S&T system. The objective is both to create stronger links with expatriates and to encourage their return to Argentina.

**Human resources:** Argentina has already achieved the target of three full-time researchers for 1 000 employees set for 2015 in the Bases for a Science, Technology and Innovation Strategic Plan. Policy instruments to attain this objective include scholarship schemes to raise the number of students with tertiary education in specific strategic fields, and the National Research and Technology Council (CONICET), which plays a pivotal role in training of S&T human resources, had its budget increased threefold in recent years. Initiatives such as Eager Minds: Science and Technology and Education aim at raising awareness of science and increasing interest in research across society by encouraging scientists to visit schools.

**Emerging technologies:** MINCYT has identified areas in which R&D and innovation can foster economic growth and address social needs, specifically social inclusion and sustainable development, by drawing on Argentina's natural and dynamic advantages. These areas include the agri-sector, health, bio- and nano-technology, as well as software. New sectoral funds have been established to support these policies. In 2009-10 FONSOFT had a budget of USD 24 million to promote R&D and technological upgrading in SMEs in the ICT sector by supporting their R&D projects, providing education projects, helping them export, and facilitating the creation and consolidation of such firms. Between 2009 and 2010, FONARSEC (agri-sector, health and energy), which is funded with grants from the World Bank and the Inter-American Development Bank, provided USD 88 million for 113 projects.


**Green innovation:** Some of MINCYT's sectoral funds address environmental and energy issues. Specific projects include a new bio-energy project for the development of alternative sources of energy and a fund for clean and safe water to provide arsenic-free water to isolated populations.

Panel 2. Overview of national innovation policy mix, 2010



1. Balance as a percentage of the sum of HERD and GOVERD.
2. Balance as a percentage of total GBAORD.
3. Balance as a percentage of total funding to national performers.
4. Balance as a percentage of the sum of HERD and GOVERD funded by government and higher education and components of (5).
5. Balance as a percentage of the sum of indirect funding of business R&D and innovation through R&D tax incentives and direct funding of BERD through grants, contracts and loans.

Source: See reader's guide and methodological annex.

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