

Research and Innovation in Italy. The RIO country report

Leopoldo Nascia

Introduction

The long crisis experienced by Italy has changed the position of the country within the EU; in 2014 GDP per capita – traditionally higher than EU28 average – was €26,500, lower than the EU28 average of €27,400.

The issues on productivity and growth started fairly before the 2008 recession.

After the positive values recorded until the eighties, in Italy multifactor productivity (MFP) recorded a negative rate of changes.

The fall in GDP worsened the ratio of sovereign debt to GDP, which rose from 102.3% in 2008 to 132.3% in 2014, although the General Government deficit to GDP ratio from 2012 complies with EU stability programme constraints.

Many MIUR and MISE funds and research calls suffered postponements and periods of suspension because of the scarcity of public funds

Introduction

In 2013 GERD recorded an increase over 2012 of 1.1% in real terms, though provisional data for 2014 show a fall of 1.8% in real terms over 2013 due to a decrease of the R&D performed by the university sector (-5.9%) and by the non-profit sector (-2.7%).

In 2014, the business sector is the largest R&D performer, 0.72% of GDP, followed by universities with 0.35%.

Expenditure for universities accounts for 1% of Italy's GDP, as opposed to 1.5% in the EU average.

The national R&D intensity target – R&D expenditure equal to 1.53% of GDP – is still far away and the gap with the EU28 average is persisting.

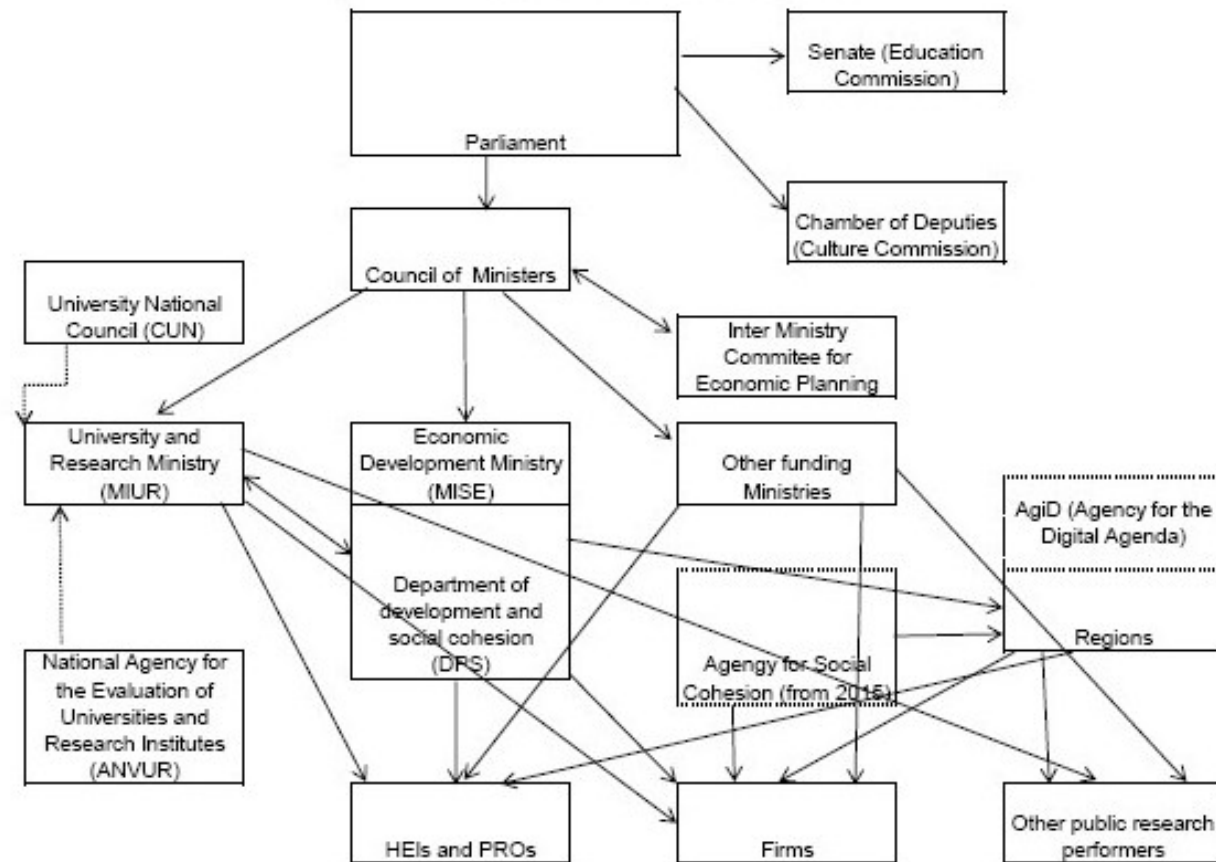
In 2014 the R&D to GDP ratio was 1.29%, as opposed to a EU28 average of 2.03%.

If current policies continue, it seems unlikely that Italy will reach the national R&D intensity target in 2020 and the country may see an enlarging gap with the EU28 average R&D intensity.

The governance of the system



Table 1: The structure of the Italian R&D system



Evaluation of the research system

From 2013, the more relevant evaluations of Italy's R&I system included five documents:

the ANVUR research quality assessment (VQR, ANVUR 2013);

the ANVUR report on the university and research system (ANVUR 2014);

a study of the Bank of Italy on the public research system (Montanaro and Torrini 2013).

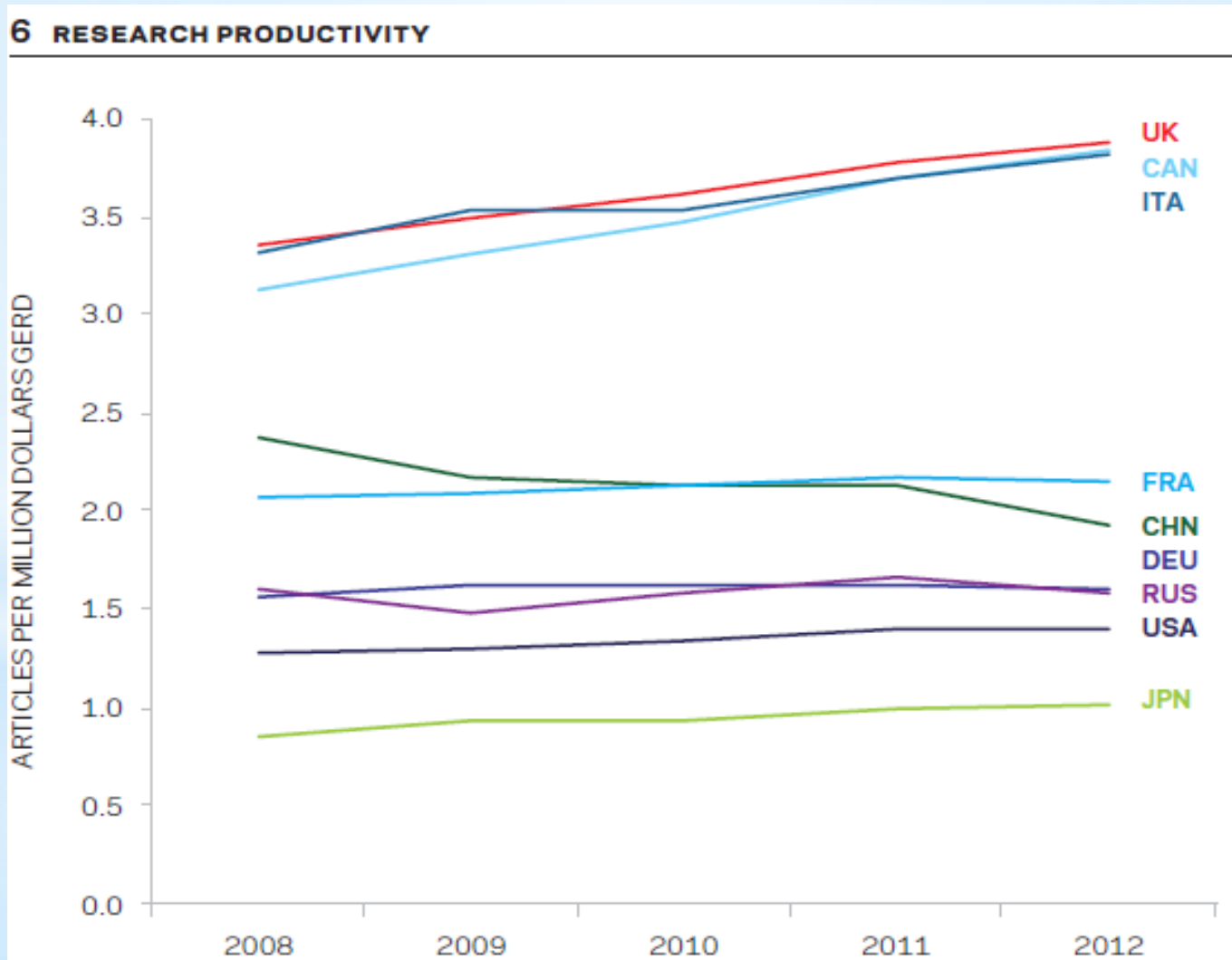
A foreign study on the research performance

International **Comparative Performance** of the **UK** Research Base – **2013**

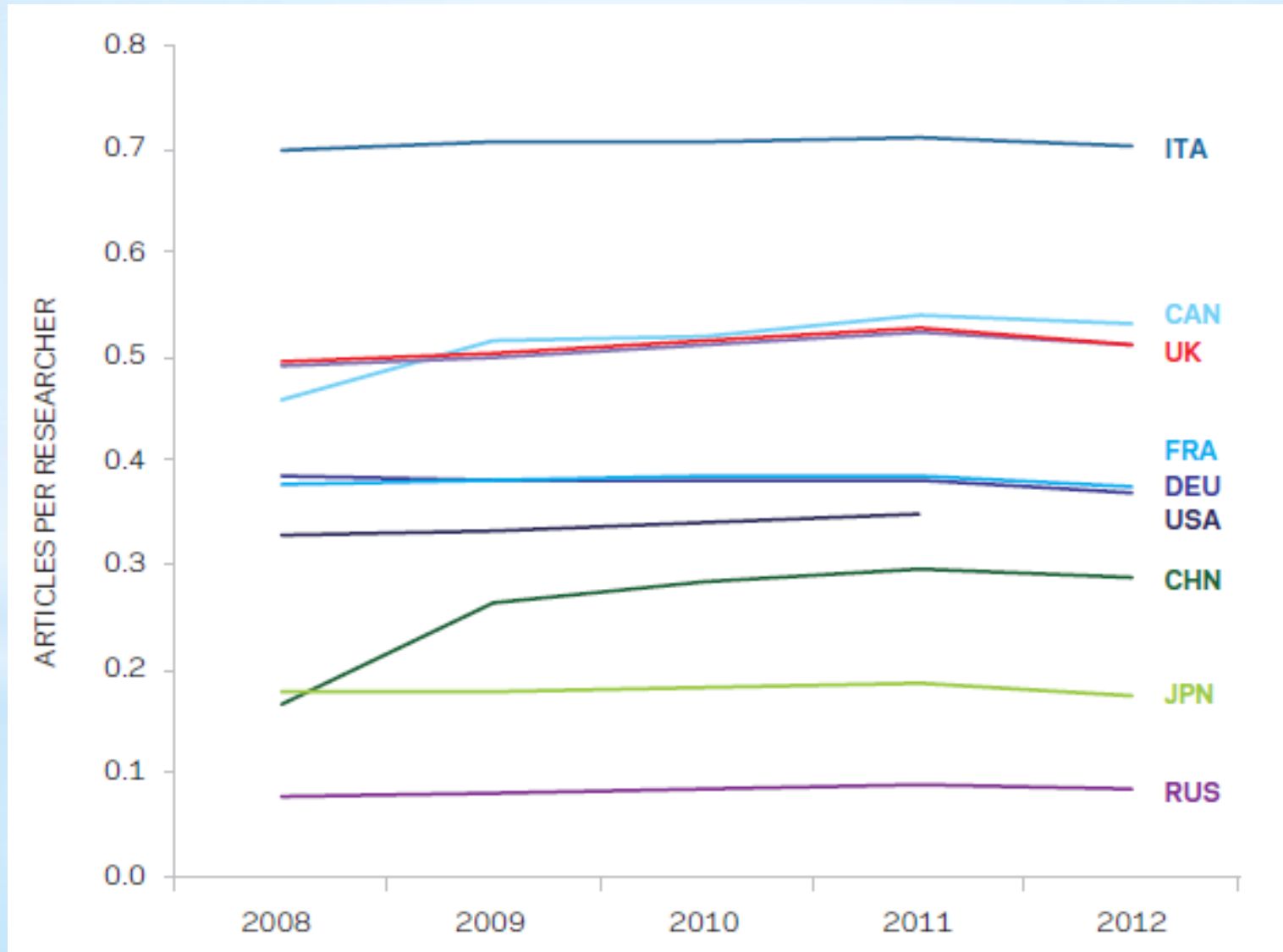
A report prepared by Elsevier for the
UK's Department of Business, Innovation
and Skills (BIS)

UK government report based on **Scopus**

Number of scientific articles for each million of USD in R&D



Number of articles per researcher



Recent Developments in Research and Innovation Policy and systems

The National Research Programme 2014-2020

The new National Research Programme 2014-2020 should be the major document at the base of the national R&I strategy since 2014. However, the change of Government in 2014 and the amendments by the new Minister Stefania Giannini has delayed the whole process that is still pending since the approval by the CIPE is missing

National and Regional Research and Innovation Strategies on Smart Specialisation

All regions have a RIS3 but the implementation is still missing

R&I policy initiatives

The revision of ASN

The new research system assessment

The innovative start-up laws (2012 and 2015)

The tax credit reform

The patent box

The doctoral reform

PONREC 2014-2020

R&I policy initiatives

FFO and FOE allocation criteria

The 2015 FFO, differently from the 2014, showed another reduction of financing: €6.9b in 2015 compared to €7b in 2014 for a total reduction of €87.4m following the spending review of 2014.

25% of the FFO is distributed among universities on the basis of a 'standard cost' per student.

20% of the FFO will go to 'better performing' universities, and will be distributed as follows:

65% on the basis of their performance in ANVUR quality assessment review (ANVUR, 2013);

20% on the basis of their recruiting policies (scientific production assessed by ANVUR of the professors that are recruited or promoted);

8% on the basis of the relevance of international teaching activities, combining the presence of foreign students and the courses followed abroad by local students.

7% on teaching activities.

Research funders

MIUR for research and MISE for innovation are the main players for the national R&I funding mix.

Also other ministries are involved

The Digital Italy Agency (AgID), has the responsibility to fund R&D in ICT.

EU structural funds and FP funding are relevant but not yet at a degree comparable to the central budget.

In Italy institutional funding continues to play a major role

Regions do not invest large amount of resources in R&D, their involvement usually happens into the framework of the PONREC.

Research funders

The main R&D fund is FIRST (Fondo per gli investimenti nella ricerca scientifica e tecnologica) that supports the FAR (Fondo per le agevolazioni alla ricerca), as well as funds mainly directed towards universities and PROs.0

Since 2013 the “Fondo per la Crescita Sostenibile” (FCS), focused on technological innovation, has replaced the “Fondo rotativo per sostegni alle imprese e gli investimenti in ricerca” (FRI).

Resources for PRIN decreased from €100m in 2009 to €38.2m in 2012. Resources for FIRB in the call launched at the end of 2012 were €29.5.. No funds have been made available in 2013 and 2014.

The funding mix of MIUR and MISE is strongly dependent on the approval of the yearly budget law that can change the financial resources available for research.

Assessment of the framework conditions for business R&I

The current framework for business investment in R&I is quickly evolving towards indirect incentives and towards the implementation of a number of specific measures for SMEs.

In the last three years, governments have reformed the access to the direct funding of R&I, introduced different typologies of indirect incentives, made available some administrative facilitations, implemented a lot of tax benefits and finally allowed some derogations to the general business laws. Start-up laws, tax credits and the patent box law are the three layers aimed to trigger R&D investments. Since 2014, the political agenda has focused also on the attractiveness of Italy to foreign investments as a key issue for the success of R&D investments in the business sector. An assessment on the success of the current policies is not yet available. The public-private cooperation degree is still low, as also indicated by the Italian CIS survey largely discussed in the previous RIO Country Report 2014.

The current measures are oriented to award the private sector of any public-private partnership and do not deal with the removal of internal barriers of HEIs and PROs.

Policy mix assessment

The policy mix for funding R&D recorded some major changes from 2012 since the governments streamlined the access to the main direct funds, revised the performance scheme of the institutional funds, revised the indirect incentives to the private business and introduced the peer review as regular feature of the evaluation procedure in competitive programmes.

However, delays, postponements, change of strategies, in addition to the lower available budget caused uncertainty on the operators and on the scheduling and the effective relevance of the major measures.

The traditional competitive programmes for untargeted research, after years of underfinancing, have not recorded any new calls for years, and only a few new programmes started in 2014 and 2015, among which a new PRIN call in November 2015

Job opportunities in Research

Laws 1/2009 and 240/2010 do not concern PROs which are not supervised by MIUR.

The downsizing of the HEIs personnel, analysed in the previous RIO Country Report, has determined a decrease of the quantity and quality of teaching activities.

The scarce availability of permanent positions can turn young researchers into a widespread mobility towards foreign research institutions.

One direct consequence has been the growing “brain drain” of Italian researchers moving to foreign universities and research institutions. The large scale emigration of researchers weakens seriously Italy’s science, technology and research base and represents a major challenge for the continuing effective operation of Italy’s R&I system.

Job opportunities in Research

Modest number of foreign researchers finds employment in Italy.

For young researchers who succeed in having research opportunities in the country, a major problem has been the insecurity of employment, with a variety of temporary arrangements that have created a large amount of young scholars with high uncertainty on their future prospects. Temporary researchers wages are dramatically below the EU average.

For permanent university staff, a wage freeze has been in place for several years now, leading to lower real remunerations and preventing in most cases any possibility of wage increase.

Meeting structural challenges

The low levels of business R&I activities and the need to increase innovative performances

The public sector funding of R&I and the need to increase the country's R&D

The governance of the R&I system and the case of Universities.

Territorial inequalities

The downsizing of technological and productive capabilities

The downsizing of higher education

The downsizing of human capital and the brain drain of researchers