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Research and Innovation Observatory Country Report 2016 Cyprus

The 2016 series of the RIO Country Report analyses and assesses the development and performance of the national research and innovation system of the EU-28 Member States and related policies.

It aims at monitoring and evaluating the EU policy implementation as well as facilitating policy learning in the Member States.

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Foreword

This report offers an analysis of the R&I system in Cyprus for 2016, including relevant policies and funding, with a particular focus on topics of critical importance for EU policies. The report identifies the main challenges of the Cypriot research and innovation system and assesses the policy responses implemented. It was prepared according to a set of guidelines for collecting and analysing a range of materials, including policy documents, statistics, evaluation reports and online publications. The quantitative data are, whenever possible, comparable across all EU Member State reports. Unless specifically referenced, all data used in this report are based on Eurostat statistics available in January 2017. The report contents are partly based on the RIO Country Report 2015 (Tsipouri, Athanassopoulou and Gampfer, 2016).

The analysis does not take into account the full set of CIS 2014 data that was released mid-January 2017. The factsheet in Annex include however the most recent data including one indicator from the last wave of the Community Innovation Survey.

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HIGHLIGHTS

- Real GDP growth in 2016 is expected to be stronger and it is forecast to reach 2.0 % in 2017
- The recovery of the Cypriot economy came from the tradable services sectors, such as tourism and professional services, supported by low prices and the depreciation of the Euro.
- Cyprus rose from 60th place in the world rankings in 2014 to 47th place in 2015 and was one of the ten economies with the most marked improvement in upgrading the business environment
- In the last three years, a favourable taxation regime has been introduced for innovative companies, leading to tax-exemptions over innovation and research activities
- The national R&I intensity target was reported 0.50% by 2020
- BERD is funded to a large extent by the private sector

MAIN R&I POLICY CHALLENGE

- **Improve R&I governance and evaluation at strategic level.** R&I governance in Cyprus lacks guidance and vision, as well as a coherent strategy. These shortcomings are compounded by the non-existence of an evaluation culture at the strategic level. Since 2015, the country's Smart Specialisation Strategy guides the national R&I strategy. It will mainly be implemented through the 2016-2020 R&I framework programme "RESTART". The implementation of the smart specialisation strategy might be facilitated by the R&I system's young age, which implies few institutional rigidities.
- **Strengthen and support private sector R&I activities.** Business R&D spending is one of the lowest in the EU. The reasons for low private R&I investment and demand lie to a large extent in geography and the structure of the economy (i.e. small and service-oriented economy, absence of high-tech industry) and lengthy procedures of public support programmes co-funded through ESIF. A number of instruments have been put in place or are planned to support SMEs' investment in R&D. The Action Plan accompanying the smart specialisation strategy envisages addressing the low R&D activities of SMEs and the attraction of private sector investments in R&I more generally.
- **Intensifying knowledge transfer and commercialisation of research results.** Exploitation of knowledge and research results is weak and science-business cooperation is low. The supply of venture capital or business angel funding, which would be a means to support university spin-offs after their creation, is almost negligible. At the end of 2015, a "National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem in Cyprus" has been formulated. Two of the five priority axes in the statement, "Cultivating the entrepreneurial culture", and "Facilitating access to finance", constitute highly relevant aspects for improving commercialisation of research results. The establishment of a Central Technology Transfer Office (CTTO) is planned, but implementation seems to be evolving rather slowly.

MAIN R&I POLICY DEVELOPMENTS IN 2016

- [RESTART R&I framework programme](#)
- [National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem](#)

1. Main R&I policy developments in 2016

<p><u>RESTART</u> (Spring 2016)</p>	<p>The R&I framework programme for the programming period 2014-2020 was launched in 2016 under the name "<u>RESTART 2016-2020 Programmes</u>", after no new calls had been published during 2014 and 2015. The programme mainly implements measures set out in Cyprus's smart specialisation strategy, and forms part of the Structural Funds Operational Programme "Competitiveness and Sustainable Development". RESTART has a total budget of €99m, of which €45m is to be covered from Structural Funds, and is divided into three pillars: Smart Growth, Sustainable RTDI System, and RTDI System Transformation</p>
<p><u>National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem</u> (12/2015)</p>	<p>This Policy Statement was prepared by the Unit for Administrative Reform in cooperation with the Ministry of Energy, Commerce, Industry and Tourism and approved by the Council of Ministers at the end of 2015. Among other things, it sets out a coherent vision for establishing or improving framework conditions that foster innovative entrepreneurial activities.</p>

1.1 Focus on National and Regional Smart Specialisation Strategies

Description and timing: The National Strategy on Smart Specialisation (Cyprus being a single region) S3Cy was approved by the Council of Ministers on 26 March 2015. The priority areas identified through S3Cy are: Energy, Tourism, the Structured Environment/Construction Industry, Transport/Marine, Health and Agriculture/Food Industry., Information and Communication Technologies, Environment and Key Enabling Technologies have emerged as horizontal priorities. S3Cy furthermore envisages an innovation system characterized by strong international extroversion. The S3Cy for Research and Innovation includes an Action Plan, to be implemented over the period 2016–2020, with measures amounting to €139,5m (ESIF €82,3m and €57,2m national funds). This Action Plan was revised in 2016 and it now stands at €142m.

New developments: One of the major policy developments for 2016 was the establishment, by a Decision of the Council of Ministers on 28 December 2015, of a Governance Committee, which acts as the main Monitoring and Evaluation Mechanism for the Smart Specialisation Strategy. The Governance Committee is consisted of the Permanent Secretary of the Directorate General of European Programmes, Coordination and Development (acting as Chairman), the Director General of the Ministry of Energy, Commerce, Industry and Tourism, the Secretary General of the Cyprus Chamber of Commerce, the Chairman of the Conference of Rectors, the Chairman of the Councils of the Directors of Research Institutes.

Another important development is considered to be the launching, in the second half of 2016, of the new R&I framework programme, under the name "RESTART 2016-2020 Programmes". To a large extent, this framework programme is intended to implement measures set out in the smart specialisation strategy.

Outstanding issues: Support for science-based entrepreneurship is very weak although academia in Cyprus performs reasonably well in research output¹. However, exploitation of knowledge and research results is weak, as the PCT applications indicator in the European Innovation Scoreboard shows (17.76% of the EU median, and only 6.11% for PCT applications relevant for societal challenges). Science-business cooperation is low,

¹ RIO COUNTRY REPORT 2015: Cyprus

with public-private co-publications at 21% of the EU median². It is yet another evidence of the lack of strong collaborations between the public and the private sector.³

2. Economic Context

After three consecutive years of contraction in real GDP, growth has resumed in Cyprus in 2015 with 1.7%. Forecasts for 2016 and 2017 are 2.8% and 2.5% respectively. [Domestic demand was the main driver of the recovery](#). Investment growth remains low, government consumption contained, and net exports subdued.

2.1 Structure of the economy

Cyprus has an open, free-market, service-based economy with some light manufacturing. [92% of Cypriot companies are micro-enterprises that employ less than 10 persons](#). The service sector's share of total employment has grown from 75.2% in 2010 to 80.7% in 2015; employment in the manufacturing sector has remained stable at 9%, of which 8% in high and medium high tech manufacturing. Gross value added of the service sector, expressed as a share of GDP, has increased from 81.1% in 2010 to 86.9% in 2014 and for knowledge-intensive services from 41.6% to 43.6% respectively. The manufacturing sector's GVA has remained stable at a low level (5.8% in 2010 and 5.0% in 2014).

In 2014 there was a net gain of 10,206 new firms. However, the majority of newly registered companies are subsidiaries of well-established international companies with offices in Cyprus⁴. The firm survival rate was 63.4% in 2013.

[Labour productivity measured as GDP per employee was 85.4% of the EU average in 2014](#), placing Cyprus 16th among the EU-28. Cyprus recorded a labour productivity decline of 1.4% in 2014 (compared to an EU-28 average increase of 0.4%), which corresponds to rank 27 in the EU.

2.2 Business environment

[Cyprus rose from 60th place in the 2014 Doing Business Index to 45th place in the 2017 issue and was one of the ten economies with the most marked improvement in business environment](#). Resolving insolvency takes 6 months less in Cyprus than the EU average, but the associated costs are almost 50% higher.

Access to finance remains challenging compared to other EU Member States, but there are some signs of progress. According to the Survey on the Access to Finance of Enterprises (SAFE), 25% of companies identified access to finance as one of their most important problem in 2015, a considerable drop from 40% in 2014.

As far as impact assessment of regulations is concerned, the "National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem in Cyprus" includes the introduction of an "SME Test" in the context of a revised impact assessment mechanism for new legislation.⁵ The revised impact assessment mechanism was approved by the Council of Ministers in September 2016 and came into effect on January 1, 2017.

[Cyprus ranks 17th in the EU in integration of digital technology by businesses](#).

² European Commission, Innovation Union Scoreboard 2016.

³ RIO COUNTRY REPORT 2015: Cyprus

⁴ 2015 SBA Fact Sheet Cyprus

⁵ Ibid.

2.3 Supply of human resources

In 2015 the number of new doctoral graduates per thousand population aged 25-34 in Cyprus was 0.4. The number of researchers per thousand population was 2.97 in 2014. The number of persons engaged in research activities was estimated at 1,239 full-time equivalents.

[Cyprus has the EU's second highest tertiary education attainment rate \(52.5%, EU average: 37.9%\)](#). This is well above its Europe 2020 national target of 46%. [However, employability prospects for recent graduates have been relatively poor with a rate of 72.4% in 2014 \(EU average: 80.5%\)](#). Many young people, in particular women, in Cyprus work in jobs which do not require their level of qualification. There were 1.5 new graduates in STEM per 1000 population in 2014. [Only 0.82% of Cypriots aged 20-29 have a STEM degree](#). An action plan has been developed to help steer higher education students towards STEM fields, aiming to increase the proportion of STEM students to 20-22% by 2020.

3. Main R&I actors

Until about ten years ago, R&I activities in Cyprus were quite limited compared to European standards, but also given the economic growth of Cyprus at that time. However, during the last years significant steps have been taken towards the upgrading of R&I activities in Cyprus. It has to be noted in this context that the R&I system of the country is very young, e.g. the University of Cyprus was established only in 1989.

The highest-level body responsible for R&I strategy is the **National Council for Research and Innovation (NCRI)**, which is composed of the ministers for Finance, Energy-Commerce-Industry and Tourism, Education and Culture, Transport, Communications and Works, Agriculture, Rural Development and Environment and Health. NCRI is advised by the **Cyprus Scientific Council (CSC)**, a technical advisory board composed of 19 eminent scientists, on strategy and policy RTDI. It is noted that the existing Governance system described above has proven complex, highly bureaucratic and rather inflexible and was, in recent years, largely driven to inactivity. The gap is currently filled, to some extent, by the Council of Ministers.

The **Directorate General for European Programmes, Coordination and Development (DG EPCD)**, an independent governmental body, is responsible for the concrete design and implementation of R&I policy. This includes the preparation and administration of the multi-annual financial programmes for R&I funding.

The design of the specific area of enterprise innovation is carried out by the **Industry and Technology Service of the Ministry of Energy, Commerce Industry and Tourism**, on the basis of the relevant overall national policy. The Industry and Technology Service launches among others, the business innovation policy measures which are included in the action plan of the Smart Specialization Strategy and is responsible for the formulation of industrial policy, including the promotion of technology and entrepreneurship and the implementation of Business Innovation Policy.

RTDI Policy is mainly implemented by the **Research Promotion Foundation**, which is the main funding agency in Cyprus. The RPF is an autonomous agency under private law. Its operation is supervised by DG EPCD and its Board of Directors is chaired by the Permanent Secretary of DG EPCD. The main Ministries involved in RTDI matters, as well as representatives from the business, academic and research community also participate in this Board. Since 1996 the **Research Promotion Foundation (RPF)**, under the supervision of DG EPCD, is the main institution responsible for the co-ordination, support

and funding of research activities in Cyprus, and organises the participation of Cyprus in major European Research Programmes.

The higher education sector (HES) has a central role in the economy of Cyprus, educating students and performing research. During the last decades the HES has increased and gone through several large reforms regarding autonomy, organisation, management and funding structure. There are three public (University of Cyprus, Technology University of Cyprus and Open University) and five private universities in Cyprus. The three state universities follow an RTDI policy that to an extent agrees with the national policy priorities of the Smart Specialisation Strategy, and also pursues RTDI goals based on their own interests and research capacities. Several non-university research performing organisations complete the public R&D landscape.

Research was traditionally seen as the prerogative of academia rather than business. Only few companies invest non-negligible amounts in R&D activities. The most important ones are a few large domestic pharma companies (€2.2m R&D expenditure) and SMEs and start-ups in ICT. Multinationals present in Cyprus do not carry out R&D activities in the country.

In 2015 the rate of R&D performed by PNPs in Cyprus (0.07% of GDP) was significantly higher than the EU average R&D by PNP (0.02% of GDP).

Public-private cooperation, knowledge transfer and commercialisation of academic research results are very weak (see Section 4.3). The indicator showing this most drastically is public R&D funded by the private sector, which was below €1m during the last years where data is available (2011-2014).

4. R&I trends

The country's EU 2020 target for R&D intensity is 0.5% of GDP, which it had almost reached in 2014 (0.48%), before sliding back slightly in 2015 (0.46%). This is however far below the EU average of 2.04%. After having followed an upward trend for about a decade, GERD has been stagnating since 2012, with €80.4m in 2015. When looking at R&I funding trends it should be kept in mind that because of the small size of the country, its economy, and total R&I funding, even small changes in absolute amounts can have visible and significant impacts.

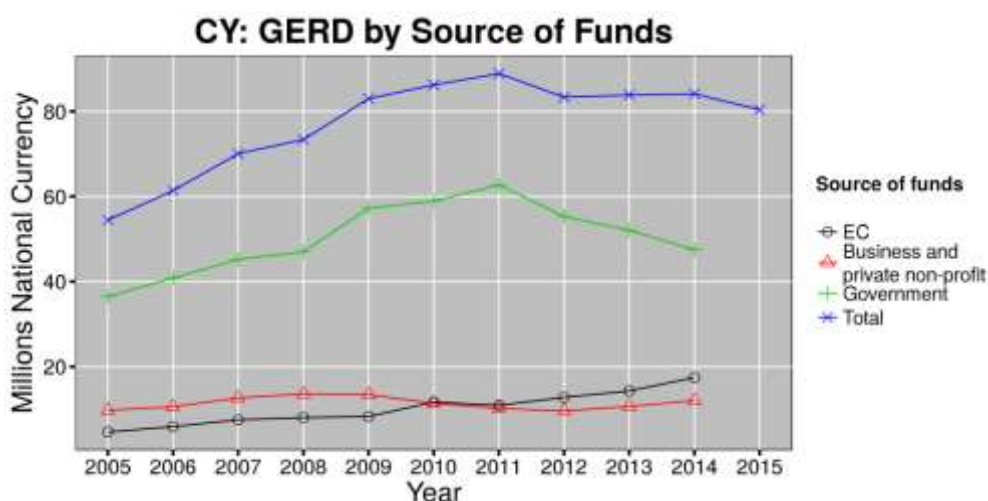


Figure 1 Trend of GERD by source of funding.
Data source: Eurostat, November 2016.

4.1 Public allocation of R&D and R&D expenditure

R&D expenditures in Cyprus are financed mainly by the government. Public funding of R&D was estimated at 0.27% in 2014, and R&D performed by the public sector in 2015 at 0.06% of GDP.

Public funding has been steadily increasing from 2010 onwards, although there was a slight drop in 2012 because of the financial crisis in the economy of Cyprus. [In 2014, the share of public funding was 32.9% \(€27.7m\), showing a slight drop from 37.9% \(€31.8m\) that was in 2013.](#) The higher education sector (HES) received funding in the amount of 0.17% of GDP from the government sector. R&D performed by HES made up 0.25% of GDP.

Funding from abroad accounted for 23.7% of total GERD in 2013. 73% of this was EU funding through Structural Funds for R&D and participation in the Framework Programmes.

In 2014 tax exemptions for R&D and innovation expenses were introduced. To be eligible, companies must have allocated at least 10% of their operating expenses on R&D over the past 3 years, or be vetted by an expert committee as being capable of producing innovative/improved results. [An IPR Box introduced in 2012 appears to encourage transfers of IPR acquired elsewhere to a Cypriot trust, rather than setting up R&D activities in Cyprus.](#)

4.2 Private R&D expenditure

BERD was 0.08% of GDP in 2015, the lowest in the EU. This represents a slight increase since 2013, but given the low total sums this change is almost negligible in absolute terms.

The manufacturing sector is the most R&D intensive, which results mostly from a continuous fall in services' R&D intensity since 2009. The primary underlying reason is that the dominance of the Cypriot economy by financial intermediary services came to a halt in the wake of the financial crisis (whereas few financial companies had strong R&D activities, their relative contribution to the overall low BERD had been nevertheless substantial). Within manufacturing, the pharma industry is by a wide margin the top investor in R&D. Its R&D expenditure did not decline during the crisis and increased tremendously from 2013 to 2014 to €3.9m.

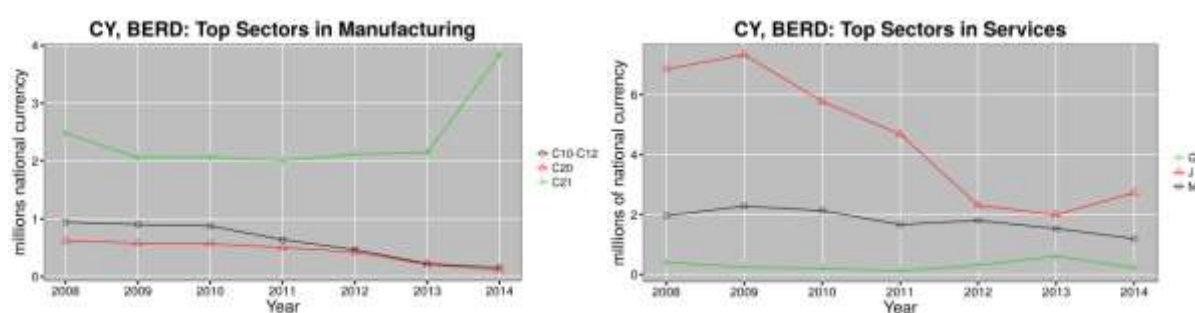


Figure 2 Top sectors: manufacturing (C21: manufacture of basic pharmaceutical products and pharmaceutical preparations; C27=manufacture of electrical equipment; C29=manufacture of motor vehicles, trailers and semi-trailers). Top sectors: service (G=wholesale and retail trade, repair of motor vehicles and motorcycles, J=information and communication, M=professional, scientific and technical activities).

Funding of private R&D from abroad is negligible, having flat-lined at 0.01% of GDP since 2005. Due to its remote geographical situation vis-à-vis the rest of the EU territory, and a tiny domestic market, the island is an unattractive location for multinational companies to set up R&D facilities.

4.3 Public sector innovation and civil society engagement

The supply of digital public services in Cyprus ranks below the EU average. The percentage of e-Government users is also below the EU average (28% vs. 33%). [The 20 basic public services identified by the European Commission to measure availability of electronic public services are all being provided in Cyprus.](#)

[Cyprus plans to upgrade e-government services by introducing electronic signatures, creating a single point of contact for tele-services, and developing a web portal for small businesses.](#) 7 Citizen Service Centres have been established all over Cyprus, with the aim to provide multiple services from one point of contact. 3 more are envisaged to be opened in 2017. The action plan accompanying the "Digital Strategy for Cyprus" includes the "modernisation of public administration and provision of more applications and services to citizens and enterprises, namely, e-Government and eHealth services". It furthermore envisages schemes co-financed by EU Structural Funds for supporting SMEs in increasing their use of ICT.

According to the [latest Progress Report on the Action Plan for Growth](#) by the Unit for Administrative Reform established in 2015, the goals of the reform outlined in the Digital Strategy for Cyprus include:

- Provision of new public e-Services through the government gateway Ariadni, according to the Action Plan for ARIADNI 2016-2017 that was approved by the Council of Ministers (May 2016)-
- Development of a [web page](#) on Government Procedures Guidelines which gives information about the procedures/services that are provided by all Government Organisations (it has gone live since July 2016).
- Introduce eID in Cyprus, using the Estonian expertise for drafting the policy and the technical part of the tender documents for the relevant procurement procedure.
- Review and redefinition of the existing national ICT/e-government structure and the responsibilities of each of the involved actors
- Development of a Web-Portal for SMEs
- Digitalization of all entrepreneurship support schemes
- Upgrade the government's IT infrastructure to be able to support electronic signatures and other electronic security services

Startup Cyprus, an association representing innovative enterprises and the startup ecosystem of Cyprus, supports, endorses and promotes the European [Startup Manifesto](#). Its goal is to "put Cyprus firmly on the global startup map and mainstreaming the startup mentality and entrepreneurship mindset".

5. Innovation challenges

5.1 Improve R&I governance and evaluation at strategic level

Description

The RTDI system in Cyprus is relatively young (from the mid-1990s) and is evolving over time with the aim to increase efficiency and modernise the government, research and productive sector cooperation. However, there are still several shortcomings in the area. The major ones are: (a) the dis-functioning of the current system of governance (NCRI and CSC) and the lack of adequate coordination among the various stakeholders involved in the Research and innovation System in Cyprus (b) shortcomings in the process of formulating an integrated national strategy for R&I, due, inter alia, to the dis-functioning of the governance system and (c) the insufficient linkage between research

and business activity resulting in below than expected utilisation of research results from the productive sector to the benefit of the economy.

Aggravating the lack of strategic orientation is the fact that funding programmes of the previous period (2007 – 2013) often did not concentrate their calls on specific subjects. This was intended to activate diverse research dynamics when the system was designed, but it has [led to funding being spread thinly over many research areas without taking into consideration the country's competitive advantages and the economy's small size.](#)

These shortcomings in strategic governance are compounded by the non-existence of an evaluation culture at this level. Whereas individual proposals and projects are funded on a competitive basis and are usually evaluated systematically to the extent they are co-financed by Horizon2020 and Structural Funds, tools for strategy design and policy adaptation are underdeveloped.⁶ Systematic programme evaluations or foresight exercises are not being undertaken. This weakens the system's capacity to react to changes in the economic situation of the country or in funding recipients' needs.

Policy response

A National Committee for Research, Innovation and Technological Development (NCRITD, not to be confused with NCRI mentioned in the description above) was created in 2013 to prepare suggestions on a new R&I structure and governance. It presented its report to the government in spring 2014. For top-level governance, it recommended the creation of the post of a Commissioner of Entrepreneurship and Innovation who is to hold political responsibility for R&I strategy and policy, and to be advised by a National Council of Research, Innovation and Entrepreneurship, which designs and monitors R&D strategy.

Since 2015, the country's Smart Specialisation Strategy (Cyprus consists of a single region) doubles and is guiding the (officially unmodulated) Cyprus R&I strategy. It was developed by the Directorate General for European Programmes, Coordination and Development (the main body responsible for research policy implementation) in cooperation with the Research Promotion Foundation (main funding agency) and the Cyprus University of Technology, thus involving also research funders and performers. The strategy is fully compatible with the 2014-2020 Operational Programme for Competitive and Sustainable Growth,⁷ and will mainly be implemented through the "RESTART 2016-2020 Programmes", which aims at:

- The effective utilization and further development of Human Resource potential in Cyprus, and especially the younger generation of researchers.
- The enhancement of the cooperation between the Production System and the RTDI System as this is considered to be the keystone for the developmental process and the maximisation of the return of public investment in the field of RTDI.
- The enhancement of Extroversion and Development of International Collaborations to the benefit of the fulfilment of Cyprus's strategic objectives.

Concerning the lack of programme evaluations, the current programming period foresees that all national R&I funding schemes are included in the Action Plan of the Smart Specialisation Strategy for the implementation of which a National Monitoring and Evaluation Mechanism was established. Monitoring and assessment will, in addition to progress reports, use indicators (possible indicators that could be used are already included in the Smart Specialisation Strategy).

⁶ *ibid.*

⁷ Tsipouri et al. (2016) RIO Country Report Cyprus 2015

The national ERA Roadmap is expected to be finalised in early 2017. It reiterates many recommendations of the NCRITD report, but the concrete measures put forward in the roadmap are only weakly related to strategic R&I governance.

Policy Assessment

A political decision is still to be made on how to implement the NCRITD recommendations, making the prospects for swift implementation difficult to assess. On the development of programme evaluation systems and foresight capacities, no tangible progress has been made.

In the absence of a stand-alone national R&I strategy, the Smart Specialisation Strategy represents, at least in the shorter term, a usable substitute that can guide policy formulation and development. Its choice of priority areas seems to well reflect Cyprus' competitive advantages and has received favourable reviews from peer evaluators and the EC.⁸ The implementation of the smart specialisation strategy might be facilitated by the R&I system's young age, which implies few institutional rigidities.

5.2 Strengthen and support private sector R&I activities

Description

Business R&D spending is one of the lowest in the EU and had not yet regained its pre-crisis volume of €16.7m in 2008 by 2015 (€13.3m). The European Innovation Scoreboard puts Cypriot business R&D expenditure at only 6% of the EU median – which is, however, a slight increase from 5% in 2015.

The reasons for low private R&I investment and demand lie to a large extent in geography and the structure of the economy. Cyprus' peripheral and remote location – far away even of the closest EU Member State, Greece – and the small domestic market (around 850,00 inhabitants) are a disincentive for high-tech companies' location choices. The service sector dominates the economy (84.5% of Gross Value Added). Whereas some financial service firms may perform well in terms of process innovations, these activities are not measured reliably and R&D intensity of Cypriot service firms overall is low. Employment in medium-high/high-tech manufacturing and knowledge-intensive services was at 0.8% of total employment in 2015, equal to Luxembourg, but lower than Malta (3.5%) and Estonia (3.6%).

Another reason is the weak cooperation between academic excellence (or its pursuit) and business sector on the exploitation of scientific results. Low awareness among SMEs of support programmes and funding opportunities during the previous period 2007-2013 has also been identified as an obstacle to higher R&D activity.⁹ Moreover, according to the National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem,¹⁰ one of the main challenges for enhancing business R&D activity is insufficient access to capital, which is exacerbated by the ongoing consolidation of the country's finance sector.

Policy response

National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem sets out some objectives to improve framework conditions for business R&I, among others reforming the corporate tax system, streamlining the regulation governing the creation

⁸ S3 Platform 2014

⁹ Unit of Administrative Reform 2015

¹⁰ See also next challenge 5.3: https://issuu.com/presidency-reform-cyprus/docs/_fc7917ffc2122a/1?e=23693381/36744221

of university spin-offs, strengthening intellectual property legislation, and using resources from Structural Funds in a more targeted manner guided by the smart specialisation strategy.

A number of instruments have been put in place or are planned to support SMEs' investment in R&D. Among them is a grant programme by the Ministry of Energy, Commerce, Industry and Tourism for co-funding R&I activities with a budget of €17m for 2015-2020 (which exceeds current total annual business R&D expenditure). Further initiatives include Business Innovation Centres, which will provide advisory services to public and private businesses for the development of competitive products, the creation of clusters in ICT, transport, viticulture and construction, and an Innovation Voucher system ("Innovation Packages") providing limited funding support (€5,000-€20,000) for enterprises, joint ventures and start-ups or collaborations with public research organisation in order to promote Innovation Culture or product certification. All direct funding instruments are to be co-financed by Structural Funds. "Innovation Houses" planned to be established in 2017 will provide entrepreneurship training and guidance to the unemployed and students. The scheme is expected to help create 40 new SMEs. In June 2015, RPF issued a call for expressions of interest for participating in the planned programme "Enhancing the Innovation Management Capacity of Cypriot SMEs"¹¹.

The Action Plan accompanying the smart specialisation strategy envisages addressing the low R&D activities of SMEs and the attraction of private sector investments in R&I more generally.

Policy Assessment

To address the structural economic deficiencies, a suitable way forward seems to be the renewal and expansion of productive capacities in high-tech niche areas. Some of the above instruments, notably the clusters initiative, have the potential to contribute to such a development. The impacts of those new direct funding measures need to be evaluated in a few years. Such evaluations would be more insightful if they did not only assess direct economic impact on beneficiary companies, but analysed the synergies between instruments and the extent to which this policy mix improves niche sectors' competitiveness.

Expectations should remain realistic regarding the extent of innovative activities of SMEs to be created with the help of Innovation Houses, as the establishment of many of those firms may be driven more by the difficulty to find other employment than by innovative business ideas.

The implementation of several actions listed in the [National Policy Statement](#) for the Enhancement of the Entrepreneurial Ecosystem have already been initiated. For example a new legal framework for the creation of university spin-offs and for opening academic research infrastructures to the private sector is under examination, accompanied by a set of principles that Universities will have to follow. Also the revision/strengthening of the intellectual property legislation is at a very advanced stage. Furthermore, the recently adopted tax incentives for investment by individuals in innovative firms are expected to increase R&I in the private sector. More specifically, in December 2016, the House of Parliament approved a revision of Income Tax Law in order to improve incentives that foster investment in start-up and innovative companies in Cyprus, that come into effect on 1st January 2017.

¹¹ RPF – Research Promotion Foundation (2015) Enhancing the Innovation Management Capacity of Cypriot SMEs

5.3 Intensify knowledge transfer and commercialisation of research results

Description

Cyprus performs reasonably well in academic research output (9.5% of top-10% most-cited publications in 2016, higher than Estonia or Malta), even though exploitation of knowledge and research results and public-private co-publications are weak (see above, outstanding issue in section 1.1). The country's extremely high score on community trademarks (424%) is largely due to the existence of an IPR Box scheme (see "Policy response" below)¹².

Support for science-based entrepreneurship is very weak¹³. Although the existing incubator scheme does not receive funding anymore, and the establishment of a Science and Technology Park has been postponed several times; in 2016 the Ministry of Energy, Commerce, Industry and Tourism has proceeded with the announcement of a call for the development and operation of the Science and Technology Park. The supply of venture capital or business angel funding, which would be a means to support university spin-offs after their creation, is almost negligible (business angel investments totalled €600,000 and were concentrated in two companies in 2013); In consideration of the above, in 2016 the government has initiated a series of discussions with interested parties in an effort to introduce alternative financing mechanisms/instruments such as: venture capitals, crowdfunding platforms, business angels networks. The aim is to increase the availability of finance for high risk innovative start-ups mainly through the activation of inactive private capital. Furthermore, a study on the assessment and recommendation of appropriate alternative financial instruments for the Cyprus economy has been assigned by the government to EIB and it is expected to be completed in 2017.

Further contributing to this situation is a lack of awareness and underestimation among SMEs of the benefits they can reap from cooperation with research organisations.¹⁴

Policy response

At the end of 2015, a "[National Policy Statement for the Enhancement of the Entrepreneurial Ecosystem in Cyprus](#)" has been formulated under the direction of the new Unit for Administrative Reform. Domestic stakeholders, as well as the European Commission and experts from other Member States, were involved in preceding consultations. Two of the five priority axes in the statement, "Cultivating the entrepreneurial culture", and "Facilitating access to finance", constitute highly relevant aspects for improving commercialisation of research results. The country's Smart Specialisation Strategy also lists the promotion of synergies between the academic and business communities as one of its goals.

The Research Promotion Foundation (RPF) is planning the establishment of a Central Technology Transfer Office (CTTO) in order to provide support to the academic and research institutions in Cyprus in relation to the protection and exploitation of their research results and intellectual property. The CTTO will be complemented by Units within the major academic and research institutions, which will undertake basic technology transfer activities and facilitate the communication between the institutions and the CTTO. A Business Plan was prepared by external experts and will be put into stakeholders' consultation.

The legal framework and the functioning of the technology transfer centre will be examined and finally decided by the government. Currently, a legal study is being carried out regarding the legal framework of the development of the CTTO, to be hosted by the RPF.

¹² European Commission, Innovation Union Scoreboard 2016.

¹³ Innovate Cyprus 2014

¹⁴ Unit of Administrative Reform 2015

The scheme "Supporting Enterprises to Develop Innovative Products and Services" provides financial support for the promotion of cooperation between research institutions and industry. However, only 14% of grant applications involve cooperation with universities or other research centres. The "Innovation Houses" scheme is supposed to enable university graduates to set up their own innovative companies to utilise their research results.

One legislative proposal involves tax cuts for investments in innovative businesses, while the second involves a reframing of protection of intellectual property, so that the [securement of patents is made easier](#). According to the Cyprus National Reform Programme 2016, one of the key actions of this year's plan was the promotion of tax incentives for innovative enterprises¹⁵.

Policy Assessment

To some extent, commercialisation of research results can only be improved if the private sector's low demand for R&D is addressed (see Challenge 2). Given that most parts of the country's R&I system are very young, it might be unrealistic to expect a rapid improvement in the smoothness of science-business interactions. New support schemes have not been in place long enough to robustly assess their effectiveness.

The National Policy Statement for the Enhancement of the Entrepreneurial Ecosystems sets out a coherent vision for establishing or improving framework conditions that foster innovative entrepreneurial activities. The National Policy Statement is accompanied by around 80 specific actions and it also sets well-defined quantitative targets. The 1st progress report is currently being finalised and it will also include the priority actions for 2017.

The planning for the establishment of the CTTO (which until 2016 traded under the preliminary title "National Knowledge Transfer Office", NKTO) seems to have evolved rather slowly over the past two years but in July 2016 the preliminary results of a study regarding the legal aspects of the operation of the CTTO were delivered and are under consideration. Also an enterprise has already been accredited as BIC.

6. Focus on creating and stimulating markets

This section aims at describing and assessing national level efforts to introduce demand-side innovation policies to stimulate the uptake of innovation or act on their diffusion, including public procurement and regulations supporting innovation. It also analyses policy measures aimed at internationalisation of companies with the aim of increasing the innovativeness of the economy.

In a 2015 Innobarometer survey on public procurement, 31% of Cypriot companies said they had won at least one public procurement contract since January 2012.¹⁶ This is an increase of 15 percentage points from the 2014 survey. In May 2016, the European Commission requested Cyprus (as well as 21 other Member States) to transpose the three 2014 directives on public procurement and concessions into national law, as the period for notifying transposition had elapsed in April 2016.

The National Reform Programme 2016 envisages an emphasis on the promotion of voluntary and market instruments to support innovation. The Cypriot government intends to target production and consumption patterns and the provision of services through the active promotion of voluntary environmental tools and product labelling schemes, coupled with an enhanced green public procurement to boost the market for green products and services¹⁷.

¹⁵ Unit for Administrative Reform, Presidency, [Action Plan for Growth, 1st Progress Report](#), June 2015

¹⁶ [Flash Eurobarometer 415 INNOBAROMETER 2015 - THE INNOVATION TRENDS AT EU ENTERPRISES REPORT, September 2015](#)

¹⁷ European Semester 2016 [Country Report Cyprus, 7.4.2016 SWD \(2016\) 120 final](#)

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List of abbreviations and definitions

BERD	Business Expenditures for Research and Development
CTTO	Central Technology Transfer Office
CSC	Cyprus Scientific Council
DG EPCD	Directorate General for European Programmes, Coordination and Development
EC	European Commission
ERA	European Research Area
EU	European Union
EU-28	European Union including 28 Member States
GDP	Gross Domestic Product
GERD	Government Expenditures for Research and Development
GVA	Gross Value Added
HES	Higher education sector
ICT	Information and Communications Technology
IPR	Intellectual Property Rights
NCRI	National Council for Research and Innovation
NCRITD	National Committee for Research, Innovation and Technological Development
NKTO	National Knowledge Transfer Office
PCT	Patent Cooperation Treaty
RTDI	research, technology, development and innovation
R&D	Research and Development
R&I	Research and Innovation
RPF	Research Promotion Foundation
SAFE	Survey on the Access to Finance of Enterprises

SME	Small and Medium-sized Enterprise
STEM	science, technology, engineering and mathematics
S3Cy	Strategy on Smart Specialisation
VC	Venture Capital

Factsheet

	2009	2010	2011	2012	2013	2014	2015	2016
GDP per capita (euro per capita)	22900	23000	23000	22500	21000	20400	20600	
Value added of services as share of the total value added (% of total)	79.59	80.9	83.23	84.93	86.47	87.2	87.17	
Value added of manufacturing as share of the total value added (%)	6.12	5.81	5.21	4.68	4.33	4.66	4.76	
Employment in manufacturing as share of total employment (%)	9.36	8.98	8.69	8.32	7.97	7.75	7.76	
Employment in services as share of total employment (%)	73.63	74.55	75.79	77.06	79.04	79.92	80.25	
Share of Foreign controlled enterprises in the total nb of enterprises (%)	0.59	0.63	0.65	0.64	0.65			
Labour productivity per hour worked (Index, 2010=100)	98.4	100	101.1	101.5	103.2	104.3	105.3	
New doctorate graduates (ISCED 6) per 1000 population aged 25-34	0.18	0.15	0.26	0.26	0.26	0.34	0.31	
Summary Innovation Index (rank)	16	16	16	17	17	17	18	
Innovative enterprises as a share of total number of enterprises (CIS data) (%)				42.1		41.8		
Innovation output indicator (Rank, Intra-EU Comparison)			12	13	12	10		
Turnover from innovation as % of total turnover (Eurostat)		14.7		11.4				
Country position in Doing Business (Ease of doing business index WB)(1=most business-friendly regulations)						60	47	45
Ease of getting credit (WB GII) (Rank)						56	39	
EC Digital Economy & Society Index (DESI) (Rank)						23	23	23
E-Government Development Index Rank								64
Online availability of public services – Percentage of individuals having interactions with public authorities via Internet (last 12 months)	24	25	29	30	30	41	34	38
GERD (as % of GDP)	0.44	0.45	0.45	0.43	0.46	0.48	0.46	
GBAORD (as % of GDP)	0.45	0.42	0.41	0.36	0.33	0.36	0.34	
R&D funded by GOV (% of GDP)	0.31	0.31	0.32	0.28	0.29	0.27		
BERD (% of GDP)	0.09	0.08	0.06	0.06	0.07	0.08	0.08	
Research excellence composite indicator (Rank)				16				
Percentage of scientific publications among the top 10% most cited publications worldwide as % of total scientific publications of the country		8.11	10.09	7.81	9.64			
Public-private co-publications per million population	17.57	28.08	21.43	18.56	12.7	6.99		
World Share of PCT applications	0.01	0.01	0	0.01	0	0.01		

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Figure 1 Development of government funding of total GERD. 10

Figure 2 Top sectors: manufacturing (C21: manufacture of basic pharmaceutical products and pharmaceutical preparations; C27=manufacture of electrical equipment; C29=manufacture of motor vehicles, trailers and semi-trailers). Top sectors: service (G=wholesale and retail trade, repair of motor vehicles and motorcycles, J=information and communication, M=professional, scientific and technical activities). 11

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