

**Deloitte.**

Researchers' Report 2014

**Country Profile: The  
former Yugoslav Republic  
of Macedonia**



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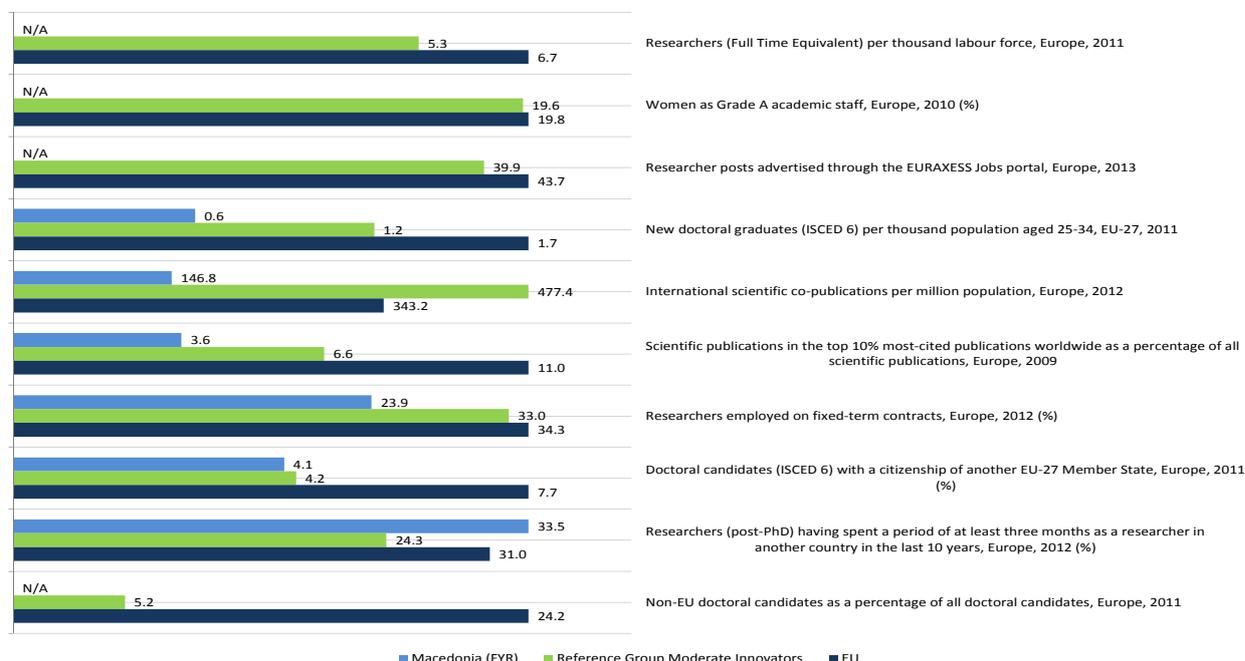
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## 1. Key data

### Key indicators measuring the country's research performance

The figure below presents key indicators measuring the former Yugoslav Republic of Macedonia's performance on aspects of an open labour market for researchers against a reference group and the EU average<sup>1</sup>.

Figure 1: Key indicators – the former Yugoslav Republic of Macedonia (F.Y.R.O.M.)



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, UNESCO OECD Eurostat education survey, Innovation Union Scoreboard 2014, MORE2.

Note: Based on the average innovation performance, the former Yugoslav Republic of Macedonia belongs to the group of "Modest Innovators" showing a performance well below that of the EU<sup>2</sup>.

### Stock of researchers

The table below presents the stock of researchers by Head Count (HC) and Full Time Equivalent (FTE) and in relation to the active labour force.

Table 1: Human resources – Stock of researchers

Indicator	F.Y.R.O.Macedonia	EU Average/Total
Head Count per 1 000 active labour force (2011)	N/A	10.55
Head Count (2011)	1 718*	2 545 346
FTE per 1 000 active labour force (2011)	N/A	6.75
Full time equivalent (FTE) (2011)	802**	1 628 127

Source: Deloitte

Data: Eurostat

\* Based on observed FTE values for the same country.

\*\* Trend extrapolations of the observed values for the same country.

## 2. National strategies

In the former Yugoslav Republic of Macedonia, the Ministry of Education and Science is fully responsible for the development and administration of national R&D funding as well as for research and education policy. The ministry's Department of Science and Technology Development decides on the promotion of education and science, the development of the national science system, the technological development and international scientific-technical cooperation.

<sup>1</sup> The values refer to 2013 or the latest year available

<sup>2</sup> European Commission (2014), "Innovation Union Scoreboard 2014"

The table below presents key programmes and initiatives intended to implement the strategic objectives to train enough researchers to reach the country's R&D targets, to promote attractive working conditions, and to address gender and dual career issues<sup>3</sup>.

**Table 2: National strategies**

Measure	Description
<b>Action Plan for Innovation (2013-2015)</b>	The main objective of the action plan is to strengthen competitiveness in line with the three main objectives of "Europe 2020". The budget for the Action Plan is EUR 19 million. A Special Advisory Body for Innovation was formed for the purpose of coordinating the Innovation Strategy and thus the Action Plan. This Advisory Body for Innovation is a part of the Department for Innovation, Competitiveness and Entrepreneurship within the Ministry of Education and Science.
<b>Industrial Policy 2009-2020</b>	The Industrial Policy presents a structured and guided development path for the country's innovation, including in the following key areas: applied research, development and innovation, collaborative approaches for enhancing competitiveness, human resource development and knowledge creation, internationalisation, etc. Cooperation across entities, and between universities and industry in undertaking scientific research activity is strongly promoted.
<b>National Strategy for the Development of Education 2005-2015</b>	The purpose of the strategy is to create opportunities for improving education and training, research, development and promotion of cultural values for young people and adults. It also strengthens the collaboration between industry and academia. The Strategy also requires that by 2015 the Ministry of Education and Science increase the university intake to 3 500 students per 100 000 inhabitants, so that the minimum required in the developed European countries can be reached.
<b>National Innovation Strategy for 2012-2020</b>	The main objective of the National Innovation Strategy is to respond to the challenges of the absence of a domestic strategy and policy for developing a National Innovation System. The strategy deals with issues of concentration of research activities at one university, overlapping responsibilities between the Ministry of Education and Science and the Ministry of Education, and the low level of awareness and demand for innovation. It also proposed deduction of or exemption from the tax or customs duties for research and development to encourage private investment in R&D and Innovation.
<b>National Programme for Higher Education, Scientific and Research Activities (2013-2017)</b>	The objective of the National Programme for Higher Education, Scientific and Research Activities is to encourage and support the research community in several areas with appropriate state budget funds. The Programme targets public and private universities, faculties, the Academy of Sciences and Arts, independent research institutions and individual researchers. It is implemented via annual programmes and provides government funding for: <ul style="list-style-type: none"> <li>– Scientific research projects (national and international);</li> <li>– Publishing activity;</li> <li>– Scholarships for young researchers;</li> <li>– Organisation of national scientific conferences;</li> <li>– Participation of scientific researchers in international conferences, seminars, congresses and symposiums;</li> <li>– Study trips;</li> <li>– Public institutions' programmes;</li> <li>– Purchase of foreign literature; and</li> <li>– Access to electronic databases.</li> </ul>
<b>Programme of the Government for the period 2011-2015</b>	This Programme sets strategic priorities and goals in different areas, such as economic development, e-society, education, science, R&D, etc. It is an extension of the Programme for the period 2008-2012. The Programme incorporated the following reform measures and policies: <ul style="list-style-type: none"> <li>– Increased investments in scientific research infrastructure in order to create a foundation for the use of modern research methods;</li> <li>– Promotion of cooperation with scientific research institutions from abroad to enable better knowledge transfer;</li> <li>– Creation of possibilities for joint degrees with foreign universities;</li> </ul>

<sup>3</sup> F.Y.R.O.M. Country Page. Erawatch, Available at: [http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country\\_pages/mk/country?section=Overview](http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/mk/country?section=Overview) Accessed 19.04.2012.

Measure	Description
	<ul style="list-style-type: none"> <li>– Establishing strict and fair selection criteria for staff employment in scientific research institutions; and</li> <li>– Support for cooperation between scientific research institutions and economic institutions.</li> </ul>
<b>Stop Brain Drain Strategy (2013-2020)</b>	The strategy aims to combat the brain drain and to actively encourage brain gain, i.e. the repatriation of national researchers currently working abroad. The strategy addresses the key issue of stimulating brain circulation, harbouring a creative work force and investing in human capital.
<b>Strategy for Scientific–Research Activity (planned)</b>	The primary goal of the Strategy for Scientific–Research Activity is to create a knowledge-based society through increased expenditure on research and technological development, rising to 1.8% of GDP by 2020, with a private sector share of 50%.
<b>Legal framework for scientific research and technological development</b>	
Law on Scientific and Research Activities, Law on Encouragement and Support of Technological Development (2011), Law on the Academy of Sciences and Arts, Law on Higher Education (2008), Law on Innovation (May 2013).	

Source: Deloitte

### 3. Women in the research profession

#### Measures to support women researchers in top-level positions

The government has taken no policy measures to increase the number of women researchers in high-level positions in research, technology and innovation (RTD). However, under the Strategy for Gender Equality 2013-2020, specific strategic goal no. 24 established a pilot gender equality educational programme. In higher education, gender equality has been introduced as a specific subject at the Pedagogical Faculty and at the Institute for Social Work. It is expected that this will result in the promotion of the principle of gender equality in both higher education and scientific research.

#### Measures to ensure a representative gender balance

The Strategy for Gender Equality contains nothing specific on this.

#### Parental leave

Maternity leave provisions are not specifically regulated for scholarship or fellowship holders. Only if women are employed at an institution, are they entitled to maternity leave; otherwise this is not specified.

### 4. Open, transparent and merit-based recruitment

#### Recruitment system

The Law on public servants (2010) and the Law on civil servants (2000) regulate the recruitment procedure for public institutions. The recruitment of public servants is seen as a transparent procedure based on the criteria of professionalism and competence, including the principle of “equitable representation of minorities”, and published in at least two daily newspapers (2010). The Agency for Administration is responsible for the recruitment process and it further regulates these issues based on its own internal rulebooks.

#### Open recruitment in institutions

An amendment to the Law on Higher Education (2008) was passed in early 2014, which introduced a system of external evaluation of higher education and self-evaluation of higher education, as well as a system of quality assessment of academic staff. This will be carried out in line with the procedures, standards and guidelines established by the European Association for Evaluation in Higher Education (ENQA) and other institutions, organisations and associations that establish and apply European standards and guidelines for evaluating the performance and using the services of recognised international organisations and associations that perform quality assurance in higher education.

External evaluation will be carried out by external commissions, divided by subject matter, and composed of at least three professors from internationally recognised universities, in positions equivalent to positions of associate professor and full professor. They must have at least three years’ experience in conducting external evaluation. One member of the committee will act as chairperson.

The table below presents information on open recruitment in higher education and public research institutions.

**Table 3: Open recruitment in higher education and public research institutions**

Do institutions in the country currently have policies to ...?	Yes/No	Description
– <b>publish job vacancies on relevant national online platforms</b>	Yes	They publish job vacancies on their own websites.
– <b>publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)</b>	No	Development of the FYRoMacedonia EURAXESS network started in September 2013. Activities are already in place to promote the importance of publishing job vacancies on the EURAXESS platform.
– <b>publish job vacancies in English</b>	No	However, certain institutions, such as the St. Paul the Apostle University in Ohrid do publish job vacancies in English.
– <b>systematically establish selection panels</b>	Yes	-
– <b>establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)</b>	Yes	The number and the role of members is clearly defined; two people from the institution and one person from the Agency for Administration. The inclusion of foreign experts and gender balance are not foreseen.
– <b>publish the composition of a selection panel (obliging the recruiting institution)</b>	No	-
– <b>publish the selection criteria together with job advert</b>	Yes	The selection criteria are clearly spelled out in each public announcement for a job vacancy.
– <b>regulate a minimum time period between vacancy publication and the deadline for applying</b>	Yes	The law stipulates the time between vacancy publication and the deadline for applying cannot be less than five days.
– <b>place the burden of proof on the employer to prove that the recruitment procedure was open and transparent</b>	Yes	-
– <b>offer applicants the right to receive adequate feedback</b>	No	-
– <b>offer applicants the right to appeal</b>	Yes	Applicants have the right to appeal within eight days of the decision.

Source: Deloitte and Law on Public Servants, article 3.

### EURAXESS Services Network

The former Yugoslav Republic of Macedonia officially started to develop its EURAXESS network with a grant from the European Commission in September of 2013. FYRoMacedonia has developed its own EURAXESS portal (<http://www.euraxess.mk/>) where researchers can find information on life and work in the country.

## 5. Education and training

### Measures to attract and train people to become researchers

The government developed a 'Higher Education for All' policy as part of the Programme of the Government 2008-2012. The goal was for 25% of the relevant age group to be receiving higher education by 2012. One key step towards achieving this strategic goal and enabling a larger group of students to enrol at universities, the government in 2008 opened a new university in Shtip, as well as new faculties in bigger cities with decreased or no tuition fees<sup>4</sup>. No information is available as to whether the target was achieved.

The table below shows the number of tertiary education graduates between 2006 and 2011.

**Table 4: Tertiary education graduates per gender (2006-2011)**

Bachelor's degree graduates	2006	2007	2008	2009	2010	2011	2012
<b>Male</b>	2 185	3 218	4 352	4 321	4 333	4 264	<b>4 608</b>
<b>Female</b>	4 028	5 142	6 486	5 911	5 611	5 538	<b>5 784</b>

<sup>4</sup> F.Y.R.O.M. Country Page. Erawatch, Available at:

[http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country\\_pages/mk/country?section=Overview](http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/mk/country?section=Overview) Accessed 19.04.2012.

Bachelor's degree graduates	2006	2007	2008	2009	2010	2011	2012
<b>Total</b>	6 213	8 360	10 838	10 232	9 944	9 802	<b>10 398</b>

Source: Deloitte

Data: ERAWATCHwebsite<sup>5</sup>

Source: Republic of Macedonia State Statistical Office

In 2009, the St. Paul the Apostle University for Information Science & Technology was established in Ohrid, employing staff from the USA, Great Britain, Italy, Albania, Iran, Israel and Ukraine and adopting English as its primary teaching language. The university's main focus is on science and research.

There are plans for a scientific technology unit at the engineering campus of the Ss. Cyril and Methodius University, Southeast European University in Tetovo working with an ICT company, Seavus, which has a base in the Bitola region.

### Doctoral graduates by gender

The table below shows the number of doctoral graduates in the former Yugoslav Republic of Macedonia by gender as a ratio of the total population.

Table 5: Doctoral graduates by gender

Indicator	F.Y.R.O.Macedonia	EU Average
<b>New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (2011)</b>	0.6	1.7
<b>Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2011)</b>	0.7	1.6
<b>Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2011)</b>	0.6	1.8

Source: Deloitte

Data: Eurostat

### Funding of doctoral candidates

The government provides scholarships and other funds for students. For instance, PhD or master's studies candidates enrolled in one of the top 100 world universities or top 20 European universities from the Shanghai Jiao Tong University ranking received funding for their complete costs during their studies. The Ministry of Education and Science also awards scholarships for under-graduate, post-graduate and doctoral studies at local universities. All scholarship candidates are selected through competitive calls<sup>6</sup>.

### Measures to increase the quality of doctoral training

The 'Equipping Laboratories for Scientific Research and Applicative Activities' (2009-14) project aims to advance research at state universities and public scientific organisations by creating and equipping research laboratories. The first list of 22 laboratories selected for financing was announced in October 2010. Since then, an additional 58 laboratories have been funded, bringing the total to 80. By the end of the project it is expected that a total of 130 laboratories will have received finance totalling EUR 60 million<sup>7</sup>.

The Regional Joint Doctoral Programme in Entrepreneurship and SME Management for Western Balkan Countries DOCSMEST is a three-year Tempus project aiming to develop and implement a Joint Doctoral Programme in Entrepreneurship and SME Management. The Faculty of Economics – Prilep at the Saint Kliment Ohridsk University (UKLO) is part of this programme. The project will aim to introduce the three-cycle higher education system in accordance with the Bologna Process and key EHEA/ERA Goals. Some of the project objectives include mobility of academic and administrative staff and doctoral students; enforcing the business stakeholders' involvement in both curriculum development and research activities; establishing standards for doctoral studies and providing quality assurance; emphasising research as the most important part of the studies; establishing linkages with the business community.

### Skills agenda for researchers

Under the Action Plan for Innovation (2013-2015), the measures foreseen include increasing the quality of education to match the needs of the innovation system in developing researchers' skills and competences. In

<sup>5</sup> Ibid

<sup>6</sup> Ibid

<sup>7</sup> Ibid

addition, the amendments to the Law for Higher Education (adopted in January 2013) recommended establishing career centres at universities, and introducing courses on entrepreneurship and innovation.

The new Innovation Strategy lists as a next step legislation for Technology Transfer Offices (TTOs).

The government has launched a promotional campaign website [www.osmelise.mk](http://www.osmelise.mk) (Be brave! Take the first step!) which promotes university start-up creation and the legislation to promote university spin-off company projects passed in 2012. The investment of more than EUR 10 000 is intended for researchers who apply R&D outcomes to establish a spin-off company and is intended to help with start-up costs.

## 6. Working conditions

### Measures to improve researchers' funding opportunities

Measures to improve researchers' funding opportunities are foreseen within the National Programme for Research and Scientific Activity 2013-2017, which indicates the need for increased funding. Specifically, the programme calls for an increase in the budget for research funding and encourages the establishment of a special fund dedicated to research.

The programme for Research and Scientific Activity for 2014 within the Ministry of Education and Science budget increased the budget by 18 million denars, bringing it to 108 million denars (some EUR 1.75 million). This budget includes funding for national and bilateral research projects. This budget also includes support for infrastructure.

A 20% increase in the research and scientific activity budget of the Ministry of Education and Science in 2014 will go towards implementing activities that will directly contribute to making national R&D more attractive, including spending on R&D personnel, support for mobility and knowledge transfer. Within this budget, 77 million denars (some EUR 1.25 million) has been designated for support to young researchers as a way to prevent further brain drain.

### Remuneration

For information, see the country profile on remuneration of researchers from the MORE2 study on the EURAXESS website.<sup>8</sup>

### Researchers' Statute

The country does not provide a statute for researchers; however all researcher rights and obligations are closely regulated in the internal statutes of scientific and higher education institutions.

### 'European Charter for Researchers' & 'Code of Conduct for the Recruitment of Researchers'

The country does not itself have a promotion plan for the 'Charter & Code'. However, four institutions are already part of the 3<sup>rd</sup> and 4<sup>th</sup> cohort of the HRS4R: the Macedonian Academy of Sciences and Arts and the South East European University are part of the 3<sup>rd</sup> cohort, and University American College Skopje is part of the 4<sup>th</sup>. The fourth signatory of the code is the Association for Economic Research, Advocacy and Policymaking "Finance Think" Skopje.

Under the leadership of the Macedonian Academy of Sciences and Arts in the WeB-InUnion project (Bringing Western Balkan Countries closer to the Innovation Union), a road show in 2014 raised awareness of the 'Charter & Code' in at least four different cities in Macedonia. Under this initiative, the International Balkan University from Skopje became the fifth institution to endorse the Charter and Code and the University of Information Science and Technology from Ohrid became the sixth.

### Autonomy of institutions

There are five state universities, ten private universities and nine private higher education institutions, supervised by the Ministry of Education and Science and established by the Law on Higher Education (2010).

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<sup>8</sup> <http://ec.europa.eu/euraxess/index.cfm/services/researchPolicies>

The Decree on Norms and Standards for Establishing Higher Education Institutions and Performing Higher Education Activities (2010) defines the criteria required for the accreditation of the Higher Education Institutions (HEIs) and evaluation of their scientific research. One of the mandatory requirements for universities is the involvement in the educational process of professionals with experience in business<sup>9</sup>. The Ministry of Education and Science ensures that the criteria are met through the Evaluation and Accreditation Board for Higher Education in the country.

The national universities are granted full autonomy under the Law on Higher Education (2010), including academic freedom and management autonomy in recruitment of teaching and research staff.

**Table 6: Types of institutional autonomy**

Organisational	Financial	Staffing	Academic
<ul style="list-style-type: none"> <li>– Selection procedure for the executive head</li> <li>– Selection criteria for the executive head</li> <li>– Dismissal of the executive head</li> <li>– Term of office of the executive head</li> <li>– Inclusion and selection of external members in governing bodies</li> <li>– Capacity to decide on academic structures</li> <li>– Capacity to create legal entities (except when there is an associated requirement for a budget. In that case, permission from Parliament is needed).</li> </ul>	<ul style="list-style-type: none"> <li>– Ability to keep surplus</li> <li>– Ability to own buildings</li> <li>– Ability to charge tuition fees for national/EU students (BA, MA, PhD)</li> <li>– Ability to charge tuition fees for non-EU students (BA, MA, PhD).</li> </ul>	<ul style="list-style-type: none"> <li>– Capacity to decide on recruitment procedures (senior academic/senior administrative staff)</li> <li>– Capacity to decide on dismissals (senior academic/senior administrative staff)</li> <li>– Capacity to decide on promotions (senior academic/senior administrative staff).</li> </ul>	<ul style="list-style-type: none"> <li>– Capacity to select students (BA, MA)</li> <li>– Capacity to introduce programmes (BA, MA, PhD)</li> <li>– Capacity to terminate programmes</li> <li>– Capacity to choose the language of instruction (BA, MA)</li> <li>– Capacity to select quality assurance mechanisms and providers</li> <li>– Capacity to design content of degree programmes</li> </ul>

Source: Deloitte

### Career development

The Law on Higher Education (2010) introduced tighter criteria for obtaining a PhD degree as well as for promotion of academic staff to professors' positions at the national universities<sup>10</sup>. The general human resources policy, which is common to all existing older public universities, is to recruit from those university students who have achieved the best results during their undergraduate and/or postgraduate study. The only exception is the new public University for Information Science & Technology. This hires experienced professors from abroad. The private universities have specific human resource policies in line with their strategies. All universities offer the possibility of tenure track.

### Shift from core to project-based funding

The shift from core to project-based funding has no impact on the research system. However, it can have an impact on the researchers' working conditions, due to the fact that project-based funding does not automatically carry entitlement to social security.

### Social security benefits (sickness, unemployment, old-age)

Only researchers who are full time employees of institutions are entitled to receive social security benefits.

## 7. Collaboration between academia and industry

The Memorandum for Cooperation between the main universities and chambers encourages them to cooperate via the organisation of mutual training programmes. Enterprises which are members of the chambers provide internships for students.

<sup>9</sup> F.Y.R.O.M. Country Page. Erawatch, Available at: [http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country\\_pages/mk/country?section=Overview](http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/mk/country?section=Overview) Accessed 19.04.2012.

<sup>10</sup> Ibid

The National Programme for Scientific and Research Activities (2013-2017) foresees putting activities in place early in the Programme to encourage researchers to move from the public to private sector.

In 2010, the government made a 30-day internship in a company or government institution compulsory for all students in line with the objectives of the 'National Strategy for the Development of Education 2005–2015' for strengthening university-industry collaboration<sup>11</sup>.

The Programme of the Government for 2011-2015 encourages universities to establish companies based on science or technology. The legislation for university spin-off companies' projects addresses this challenge, but the effects have been limited so far because the research output of some faculties and from public research institutions currently has limited potential for commercialisation. Moreover, companies, and more particularly SMEs, have a weak absorptive capacity with respect to academic research. Training and technology adaptation activities, and testing and manufacturing extension services are envisaged in the National Innovation Strategy to overcome these obstacles.

## 8. Mobility and international attractiveness

In 2011, the percentage of doctoral candidates (ISCED 6) who were citizens of another EU-27 Member State was 4.1% in the former Yugoslav Republic of Macedonia compared to 4.2% among the Innovation Union reference group and an EU average of 7.7%<sup>12</sup>.

The EURAXESS Services Network supports the mobility of researchers both to and from the country. The participation of the national researchers in EU programmes is strongly encouraged by the government. Research mobility is mainly achieved through bilateral agreements between universities and through EU programmes, such as Erasmus Mundus, Marie Curie, etc.<sup>13</sup>

The former Yugoslav Republic of Macedonia has active cooperation agreements in the area of education, science or technology with more than a dozen countries:

- EU: Austria, Bulgaria, Croatia, France, Hungary, Germany, Italy, Slovenia, Spain and UK;
- Non-EU: Albania, Montenegro, Serbia and Turkey.

Over the period 2006-10 (most recent figures available), the Ministry of Education and Science carried out a total of 109 scientific research projects and awarded 45 scholarships under the bilateral agreements. These agreements cover:

- Expert exchanges;
- Cooperation between higher education institutions;
- Scholarships;
- Joint scientific research projects;
- Exchange of information and publications; and
- Other forms of cooperation as agreed between the parties.

The main areas of international cooperation are: agriculture, biotechnology, food processing, chemistry, pharmaceutical research, and environmental protection.

Of the total of 109 projects, 67 were with EU countries with a total value of EUR 0.676 million and 42 projects with non-EU countries with a total value of EUR 0.448 million.

In 2010, the Ministry of Education and Science signed an agreement with the Israeli company MP Labs for the implementation of international projects involving students from the former Yugoslav Republic of Macedonia.

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<sup>11</sup>Ibid

<sup>12</sup> See Figure 1 "Key indicators – former Yugoslav Republic of Macedonia"

<sup>13</sup> F.Y.R.O.M. Country Page. Erawatch, Available at:

[http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country\\_pages/mk/country?section=Overview](http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/mk/country?section=Overview) Accessed 19.04.2012.

The former Yugoslav Republic of Macedonia has also developed cross-border cooperation in support of projects that will include cooperation of institutions and organisations from both the former Yugoslav Republic of Macedonia, and organisations and institutions from Albania, Bulgaria, Greece, Kosovo and Serbia.

### **Measures aimed at attracting and retaining 'leading' national, EU and third country researchers**

One of the areas where there has been a noticeable improvement is the recognition of diplomas. The government has accelerated the procedure for the validation of diplomas, reduced the cost, and simplified the procedure. In addition, a database and forum for scientists and business persons abroad has been created.

The Ministry of Education and Science is planning a Strategy for Networking, Cooperation, and Reducing the emigration of highly educated Individuals that will focus on creating conditions to monitor and coordinate the movement of highly educated individuals who choose to emigrate, reduce the emigration of highly educated individuals by increasing the appeal of the labour market and engage highly educated youth, as well as improve the quality of educational opportunities provided by the government.

### **Inward mobility (funding)**

There is no official strategy or programme to encourage foreign researchers to study in Macedonia. Several private universities offer scholarships to foreign students; however, these are mostly funded through private sources.

### **Outbound mobility**

There is no official strategy or programme to encourage researchers to spend some time as a researcher in another country; however, the government launches a yearly call for applications for scholarships, fellowships, grants and other sources of funding to spend a research period abroad.

Moreover, part of the increase in the Ministry of Education and Science's research and scientific budget in 2014 will be allocated for master and doctoral students, both inside and outside the country, as well as for students and professors going abroad under the CEEPUS (Central European Exchange Programme for University Studies) programme.

### **Promotion of 'dual careers'**

There is no official strategy or programme to support dual careers.

### **Portability of national grants**

National grants are not portable.

### **Access to cross-border grants**

There is no national programme or strategy granting non-residents access to national grants or fellowships; however, the government provides access to grants and scholarships for minorities, non-residents included.