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Recommendation on funding universities and public sector research and development in Austria in the federal funding framework 2017 to 2020, chapter, “Science and Research”

The Austrian Council recommends

- The resources for the competitive funding of public and private research within the scope of awarding funds of the FWF and the FFG be guaranteed by increasing the budget framework for science and research in the Federal Fiscal Framework Act (BFRG) for 2017-2020 by EUR 800 million. This means raising the federal fiscal framework in the 2017-2020 period by EUR 200 million p. a.
- Defining the increase in basic funding for universities to improve teaching and research conditions to the tune of approx. EUR 1.4 billion for the 2019-2021 performance agreement period.
- Increasing funding to boost excellence (in addition to the funding already approved for IST Austria) (e. g. for the Academy of Sciences, international memberships and participation in research infrastructures) by EUR 100 million p.a.
- Setting up the legal framework conditions for capacity and performance-oriented study place management at the universities, to establish adequate capacity-oriented university funding.
- Further developing a socio-economically balanced composition of students and graduates at universities, mode and amount of the student grants.
- Achievement of the set goals of the RTI Strategy by 2020 in terms of secured funding of the second five-year period with swift formulation of the planned research funding act, before the end of 2016.

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- To exclude spending for science and research from the general savings measures in the area of discretionary expenditure (“cost dampening”) or from restrictive budget performance with regard to transfer to reserves. This should occur as a contribution to achieving the set goals in science and research.
- Securing appropriate funding of the National Foundation for Research, Technology and Development, especially the provision of a compensation allocation in the federal fiscal framework (BFRG) 2017-2020 in the event of a reduced allocation by the Austrian National Bank and the ERP.

Background

In March 2011 the Cabinet adopted the Federal Government’s RTI Strategy with the goal of becoming an innovation leader by 2020. The cornerstones of this strategy are a research quota of 3.76 per cent of GDP by 2020, a quota of 2 per cent of GDP for the tertiary sector, and the percentage of basic research is to reach 0.94 per cent of GDP. The results of the Report on Austria’s Scientific and Technological Capability 2015¹ of the Austrian Council for Research and Technology Development and current calculations² for the research quota goals once again indicate insufficient performance with the majority of the indicators used for this, in order to achieve the goals set in the RTI Strategy.

Awarding Competitive Research Funding

Without losing sight of the overall goal for 2020, the Austrian Council believes specific sub-areas must now be funded as priorities due to the current funding situation.

With a relatively constant basic research quota in the sector of 0.53 per cent in recent years, measured on GDP Austria is actually among a group of scientifically stronger countries, however a continuous increase³, especially in the percentage of competitively awarded funds, could not be achieved. In this important funding

¹ See Austrian Council: Report on Austria’s Scientific and Technological Capability 2015

² K. Hranýai / J. Janger: Research quota targets 2020. Update, December 2015. Study performed by WIF1 commissioned by the Austrian Council, 2015.

³ The target value for the basic research quota is 0.94 percent of GDP by 2020. According to current calculations (see research quota targets 2020, update 2015) basic research funding would have to almost double from EUR 1.9 billion to EUR 3.7 billion. In view of the financing situation and the budget distribution illustrated in the BFRG 2016–19 it is very unlikely that this goal will be achieved.

area for research, Austria has not been able to reduce the considerable distance to the innovation leaders over the considered period⁴.

The Austrian Council therefore believes this is extremely urgent and recommends, the percentage of competitively awarded funding be rapidly increased and a trend reversal be achieved. As the most important funding agency for basic research, the FWF has approx. EUR 200 million per year at its disposal. A budget increase of EUR 100 million a year for four years would highlight this accordingly and should be fixed in the federal fiscal framework (BFRG) 2017-2020. A comparison with the Swiss National Fund, which, with approx. EUR 800 million and about the same population, has 4 times the annual budget for funding basic research at its disposal, shows the high catch-up requirement. The translation of research results into application-oriented research and development is equally important.

The Austrian Council recommends the percentage of competitively awarded funds that are invested as part of the FFG awarding of funds also be increased by EUR 100 million each year for four years in the BFRG 2017- 2020. This in particular requires the securing and expansion of the COMET programme, in particular the successful C (Competence) centres, if it is to meet strict requirements.

Basic Funding of Universities

The universities are key institutions in the national innovation system and represent an important scientific and economic location factor in Austria. The existing potential must be utilised. The tertiary education system is analysed with 15 indicators in the Report on Austria's Scientific and Technological Capability. The goal of achieving the benchmarks predefined by the innovation leaders has only been achieved to date in specific categories. On the whole, however, it must be said that the development to date will not even come close to achieving the goals set for 2020⁵. The goal formulated again in the Government Programme 2013-2018 of

⁴ See http://www.rat-fte.at/charts_diagramme.html. The data is generated on the basis of defined indicators for the Report on Austria's Scientific and Technological Capability.

⁵ See Report on Austria's Scientific and Technological Capability 2015.

raising the university expenditure quota to 2 per cent of GDP by 2020 cannot be fully achieved either on the basis of the current federal fiscal framework 2016-2019⁶. The recently adopted performance agreements 2016-2018 between the universities and the Federal Ministry of Science, Research and Economic Affairs reflect the unsatisfactory funding situation at the universities in this respect. Even if cuts have not been made compared with other areas, with regard to the multitude of university tasks, underfunding still continues, and the distance to the leading nations cannot be reduced.

In figure 4, the updated version of the research quota goals⁷ shows the development of university expenditure measured on the number of students in the international comparison, in US dollars, at purchase power parity. The graphic shows how, despite the increases achieved in the university sector, the per capita expenditure in Austria has levelled off due to the sharply rising number of students⁸. The basic budget for Austria's 22 universities, including parts of the higher education area structural funding available during the performance agreement period for 2016 to 2018, is approx. EUR 8.367 billion. Due to the stressed framework conditions (e.g. the high number of students, partially insufficient supervisor-student ratios and infrastructural failings), expenditure per student does not increase, as also shown in the graphic. An improvement in study conditions is therefore only possible within limits. A comparison of Austria with Switzerland and Bavaria shows different framework conditions at the universities.

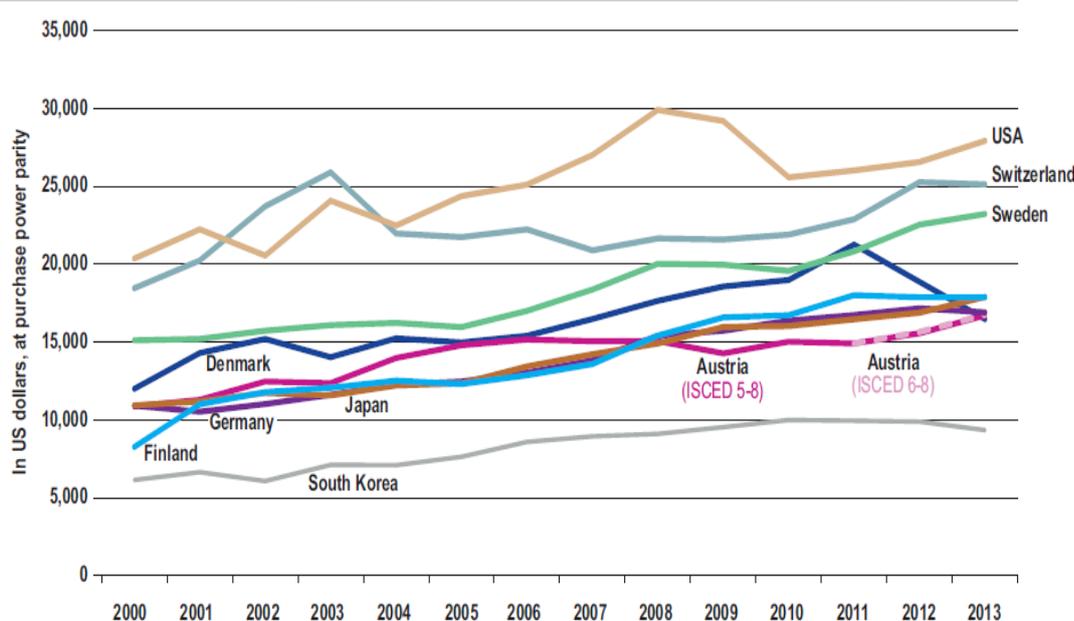
In 2014 a total of approx. 350,000 people studied at Austrian universities, of which approx. 45,600 were at technical colleges.

⁶ See Strategy Report on the Austrian Federal Fiscal Framework Act 2016–2019

⁷ K. Hranýai / J. Janger: Research quota targets 2020. Update, December 2015. Study performed by WIFI commissioned by the Austrian Council, 2015. 2000–2011: Classification according to ISCED 1997 (ISCED 5A/B & 6); 2012: Classification according to ISCED 2011 (ISCED 5–8).

⁸ For the comparison it should be noted that the OECD does not differentiate between full-time equivalents and headcounts and these must be considered for the evaluation.

Figure 4: Expenditure on higher education by student numbers and compared to other countries



Source: EAG; students in full-time equivalents; Austria: students not on basis of full-time equivalents

In Switzerland at 12 universities⁹ it was 144,000 people and 90,000 at technical colleges, and in Bavaria there were 238,000 people at 23 universities¹⁰ with 122,000 at technical colleges. In Austria therefore, per number of inhabitants, about twice as many people study at universities than do in Switzerland or Bavaria. The percentage of students at technical colleges in Austria is 13.1%; in Switzerland it is 38.4%; and in Bavaria it is 33.9%. A comparison of the budget¹¹ (see table) shows a clear difference in the available funds per student or graduate. For the next PA period 2019-2021 the Austrian Council recommends an increase in the basic budget available for universities by approx. EUR 450 million each year, therefore a total of EUR 1.35 billion. A considerable percentage of the students in Austria is included in the statistic as “not exam-active”. For the 2013/14 study year 176,550 students were included as “active”¹². If we apply this number and increase the annual funding by the recommended EUR 450 million of the basic budget for the universities, the funds per student could be almost doubled

⁹ 10 canton universities, Swiss Federal Institute of Technology Zurich and Swiss Federal Institute of Technology Lausanne.

¹⁰ Of these, 12 universities, 3 theological universities and 8 art colleges

¹¹ Data given refers to values for 2013, if not otherwise specified. For Bavaria: Bayerisches Landesamt für Statistik; for Switzerland: Statistik Schweiz.

¹² Source: The all-Austrian university development plan 2016–2021, table 8.

and the funding situation at Austrian universities would be more or less balanced with that in Bavaria.

	Students at universities 2014/2015	Spending in EUR billions	Funding/ graduates in EUR	Funding/ students in EUR
Austria	304,160	3.838	102,869	12,619
Switzerland	143,961	7.220	216,284	50,152
Bavaria	242,160	6.308	142,415	26,051

Improved Framework Conditions At Universities

An improvement in the funding situation alone is, however, too little to achieve future improvements in the study and research conditions, which in turn would result in an increase in the benefit for society as a whole. In this respect it is rather necessary to create parallel framework conditions that enable an efficient organizational structure and therefore reduced administration expense for the universities and the Ministry. However, it is also important that the prospective students coming from the education levels upstream from the tertiary sector have an appropriate level of education. The current situation in Austria is insufficient for this. The quality in the entire education chain must be raised to international level.

Study Place Management And Study Place Funding

A measure that is repeatedly required is the swift introduction of capacity-oriented university funding (“study place funding”)¹³ Access regulations, which only allow a predictable number of students in a small number of subjects, as well as a high number of students with (too) low study success (about 40 per cent of students are classified as study-active), however, hinder a capacity-oriented study place funding model here. The legal preconditions must therefore be put in place to determine the existing capacities in teaching and research at the universities, and building on this in coordination with the Ministry, to define the number of capacity-oriented study places. This could only be

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¹³ See, Recommendation of the Austrian Council for University Governance and Management Structures, March 2015

achieved to an unsatisfactory degree with the current provisions. To be able to also use the capacities at the universities for optimum teaching and research, parallel to this, adequate access management is also required, as is consistent management of the study courses taken. An increase in exam-active students will also be promoted in the all-Austrian university development plan. The number of exam-active students will be raised by the 2017/18 study year by 10 per cent compared with the 2014/15 study year. The offered performance at the university must also be met with a performance oriented study attitude by the students and this must also be encouraged accordingly. Those who cannot show good reason for no or too little study activity must expect to lose their study place as a result.

Due to the existing study place funding the technical colleges have a clear benefit with the selection of students. In Austria, this results in the curious situation, whereby candidates rejected at technical colleges, (can) bypass to the universities without any access hurdles and must be accepted there. In the discussion on access and study place management it must in any case be taken into account that social obstacles to study access or study success will be removed as much as possible with a suitable (improved) study assistance system and an equivalent study access will be targeted. To enable an increase in the percentage of “non-traditional admissions”, the Austrian Council believes the scholarship system must also be further expanded parallel with this. In this context, we would refer to the final report of the “Social Security Students” work group of 2013, whose results could now be implemented immediately.

Efficient Control And Administration

In addition to the benefits it brings, the farreaching autonomy of the universities also results in more reporting and administrative duties. With regard to the sharply growing administration staffing levels in some places and the costs this brings, possibilities for a lean administration and reporting system must be considered and possible synergies between the universities and the responsible ministry must be worked out. Within the scope of content-related control, in view of the increasing specialization with parallel rising complexity at the universities, the need to interlink subjects with one another and with IT and digital tasks, as well as on another

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level with the humanities and social and cultural sciences, also increases. On this basis Open Innovation therefore also increases in importance all the time.

The Austrian Research Funding Act

The RTI Strategy explicitly explains the need for a stable and secure funding environment to generate private research and development funding. Medium-term funding options, goal formulations in an impact and output-oriented innovation system should also be defined in a new research funding law to be worked out. Quote: *“In addition to the principles and goals of the research policy, this law will also include specific objectives, the definition of a corridor for research and development investments by the federal Government, the new version of the research funding law, planning and allocation principles, a code of conduct and a reporting system.”* Frequently required, to date there is still no research funding law that would enable proved planning capability and therefore more security for a sustainable funding strategy. The Austrian Council recommends achievement of the goals set by the RTI Strategy by 2020 in terms of secured funding of the second five-year period with the swift formulation of the planned research funding act, before the end of 2016.

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