

## **Recommendation for funding education, research and development in Austria**

### **Background**

The general theme of the Alpbach European Forum 2016 was the “New Enlightenment”. This was to bring attention to the need to renew the Enlightenment Project with its focus on education, science and research in times of major upheaval and global “grand challenges”. To meet this challenge the Technology Forum in particular dedicated itself to the search for new paths and tools for shaping the future. The debates and discussions in the plenary session, in the work groups and in the informal setting made one thing clear: More than ever we require a well-functioning education system, excellent science institutions, efficient research and effective implementation of research results in market-enabled innovations. Appropriate financial resources are required for this. Leading innovation nations such as the USA, Switzerland, Sweden, Finland or Denmark have determined consequences of this and increased investments in these areas for some time now. In Austria, securing funding for education, research and innovation ranks among the greatest challenges. The Federal Government also specified this in its Research, Technology and Innovation Strategy (RTI Strategy). The Federal Government’s decision to commit funds resulting from the reform of bank levies to education, science and research is evidently oriented on this.

## **Bank Levies Funding for Education And Research**

In the Cabinet meeting of 12 July 2016 the Federal Government reached an agreement on the reduction of bank levies and the distribution of advance payments of the banks to the tune of EUR one billion. This funding will be used to finance future investments in the areas of education, research and innovation.<sup>1</sup> Basically, the intention to provide additional funds for important future areas is a very positive step and is expressly welcomed by the Austrian Council for Research and Technology Development. Specifically, EUR 750 million are committed to the expansion of all-day schools. A further EUR 100 million will flow into the expansion of the technical colleges' offering, whereby some 5,000 study places will be created in the STEM area in particular. EUR 50 million are earmarked for the Education Foundation and EUR 100 million for the National Foundation.

The expansion of the all-day school is also a key education policy topic, as are the steps initiated for the education reform in this regard. As the Austrian Council has repeatedly determined with its evaluation of Austria's scientific and technological performance, appropriate measures for early childhood development and for tackling early social selection in the school system with parallel performance differentiation and talent development are urgently required<sup>2</sup> The expansion of the technical colleges' offering in the area of the STEM subjects is also very positive, and indeed corresponds with the increasing demand from the economy. The Austrian Council also welcomes the commitment of EUR 100 million each for the expansion of technical college study places and for the additional allocation of the National Foundation. However, the following should be noted here: Since its foundation in 2003, the National Foundation for Science, Technology and Development has pursued the objective of sustainable funding for Austrian RTI system projects. EUR 125 million a year were originally earmarked for this. Due to the negative interest rate trends in recent years, the revenue from ERP funds and the National Bank, from which the Foundation is funded, have fallen continuously. Prior to this, there was an additional allocation of the National Foundation from funds provided by National Bank profits, which is also hoped for this year. But this doesn't provide the original amount of the payouts either. And nor will the EUR 100 million from the bank levies

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<sup>1</sup> See [www.apa.at/News/6330811234/regierung-einigte-sich-auf-senkung-der-bankenabgabe.html](http://www.apa.at/News/6330811234/regierung-einigte-sich-auf-senkung-der-bankenabgabe.html)

<sup>2</sup> Austrian Council (2016): Report on Austria's Scientific and Technological Capability 2016, p. 19; Austrian Council for Research and Technology Development (2015): Report on Austria's Scientific and Technological Capability 2015, p. 34.

change anything here. From an overall perspective of the Austrian RTI system, the additional funds must therefore be seen as a drop in the ocean and clearly insufficient. The “fresh money” hoped for from the bank levies is an important signal at best. However, on the whole it is still too little to achieve the research quota goal that the Federal Government actually set itself.

## **RTI Strategy Funding Goals Cannot Be Achieved**

The Federal Government defined the goal in the RTI Strategy of increasing the research quota to 3.76 per cent of GDP by 2020 to catch up with the quotas of the innovation leaders. In order to actually achieve this goal, between 1.6 and 3.1 billion EUR would be additionally required (for this, see the target values shown in figure 5, which now actually differ considerably from the actual values). Even with the funds now provided from the reform of the bank levies, it will not be possible to close this substantial gap to the goal of an R&D quota of 3.76 per cent of GDP. The same applies for the Federal funding framework up to 2020 adopted on 26 April 2016<sup>3</sup>. This does not allow for an increase in the budget for education, science, research and innovation. On the contrary: The corresponding percentage of the budget will fall from 17.9 per cent in 2015 to 17.1 per cent in 2020. By way of comparison: The budget for pensions alone (ASVG and civil servants) will rise by 2020 from 25.7 to 29 per cent.

The Federal Government’s RTI Strategy explicitly explains the need for a stable and secure funding environment – not least of all to increase private R&D funding. Medium-term funding options, goal formulations in an impact and output-oriented innovation system and therefore improved planning capability and more security for a sustainable funding strategy should be defined in a research funding law, which is still not in place. Unfortunately, neither the Cabinet decision on the allocation of funds from bank levies nor the Federal funding framework up to 2020 nor the Federal Government’s activities to date take this request into account. Despite the positive signals, the Austrian Council must emphasise the absence of a dedicated and clear prioritisation of future areas and the investments they require.

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<sup>3</sup> Austrian Federal Law Gazette, issued on 8 June 2016: Federal Fiscal Framework Act 2017 to 2020 and amendment to the Federal Budget Act 2013, of the Federal Fiscal Framework Act 2016 to 2019 and the Federal Fiscal Act 2016 (NR: GP XXV RV 1096 AB 1120 p. 128).

The Austrian Council therefore believes the budget goals formulated in the RTI Strategy and in the Work Programme will clearly not be achieved. Corresponding recommendations by the Austrian Council on 7 September 2015, 5 February 2016, 30 May 2016 or from the Report on Austria's Scientific and Technological Capability have evidently not yet been considered sufficiently. Despite the need for budget consolidation in view of the scarcity of funding resulting from the financial crisis and from long overdue structural reforms, there is still an urgent requirement for an increase in the funding for education, research and innovation. This is especially necessary because investments in these areas require more time to be able to fully develop their macroeconomic impact. It is therefore imperative that greater parts of the budget be freed up for the future areas of education, research and innovation.

### **Budget Development – Universities And FWF As An Example**

The development of the budget for the universities in the time frame of the five periods of the performance agreement (PA) from 2004 to 2008 and the financial funding of the science fund (FWF) for 2005 to 2015 are illustrated in the following as examples for an insufficient increase in the funding for education, research and innovation.

The global budget for universities rose in the observed period more or less linear. EUR 5.2 billion was awarded to the universities for the PA period 2004-2006. This rose to EUR 8.2 billion for the PA period 2016-2018. This is an increase of 57.9 per cent. However, in the same period (2004-2015) the number of students rose by more than 47 per cent. If we now calculate the changes relative to the consumer price index (HICP 2004), a drastic reduction in the funds per student becomes evident with the global budget (see figure 6). A similar situation is observed for the budget trend with the FWF. Total funding rose here from EUR 122.4 million in 2005 to EUR 173.4 million in 2010. In 2015 the total funding rose to EUR 204.7 million. However, CPI adjusted in particular, the increase in funds between 2010 and 2015 is still low. In the same period, both the number of applications and the number of people funded from the projects also rose. 2,156 researchers were funded in 2005; in 2015 it was 4,110. This reduced the approval rate, which in 2015, with regard to the total application amount, was only 21.4 per cent.<sup>4</sup>

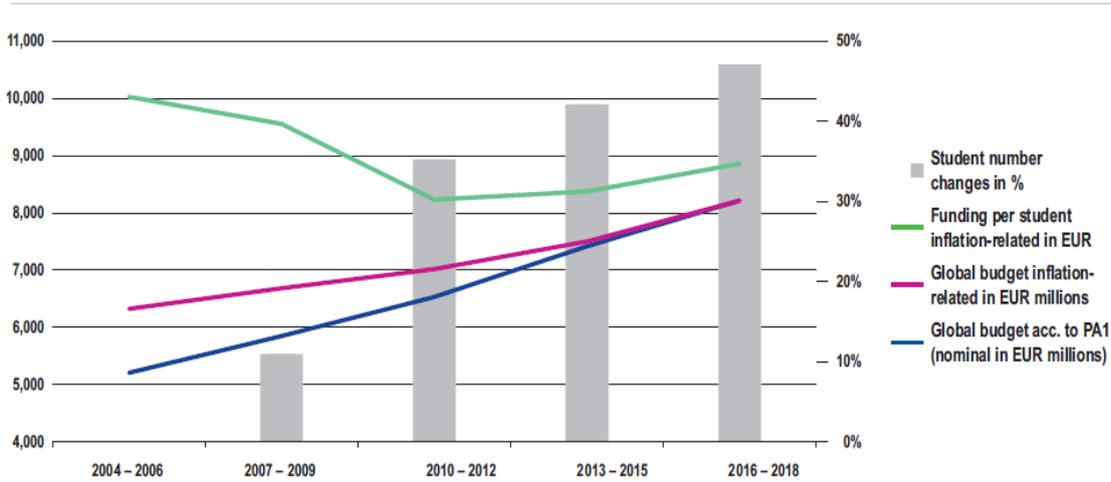
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<sup>4</sup> FWF Annual Report 2015.

Figure 6: Evolution of financing of global budgets for universities



Source: unidata; university performance negotiations; global allocation without third-party funding; Statistik Austria; VPI values.

These developments result in falling availability of funds relative to the funded people (see figure 7). Comparatively speaking, the leading innovation nations have increased their budgets in this respect. In Austria this increases the danger of losing highly qualified researchers and damaging Austria as a science location.

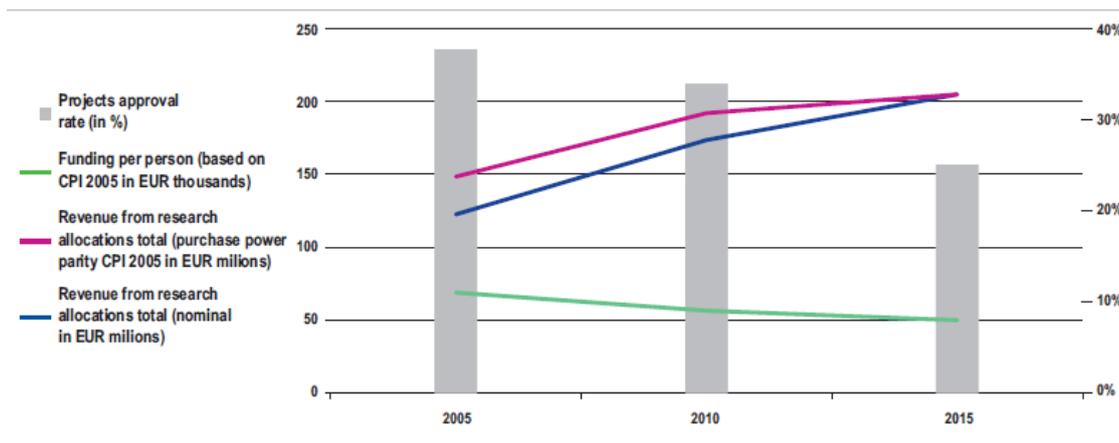
### Innovation Leader Goal Remains Distant

The financial contributions to R&D are already condensed in the most common international indices – and this although their effects can only first be seen in the long term. Austria improved on the previous year by one place to number 10 in the European Innovation Scoreboard (earlier the Innovation Union Scoreboard/ IUS).<sup>5</sup> However, in recent years a rather negative dynamic was evident: In 2009, Austria was number 6 and therefore had a lead position in the follower group. Austria has since fallen back five times in a row by one place each year. The year before, Austria was only number 11 and therefore ranked at the bottom end of the follower group. This year Austria also fell with the recently released Global Innovation Index (GII) to number 20.<sup>6</sup> The best place was achieved in 2009 at 15. The top ten here also include the leading innovation nations, Switzerland, Sweden, Finland, Denmark and Germany. This development runs in the opposite direction as that intended by the Federal Government with its RTI Strategy. The Strategy defines the goal of catching up with the leading innovation nations and joining the group of innovation leaders by 2020.

<sup>5</sup> European Innovation Scoreboard 2016, p. 12 ff.

<sup>6</sup> <https://www.globalinnovationindex.org/gii-2016-report>

Figure 7: FWF Budget Evolution



Source: FWF annual reports 2015, 2010, 2015; CPI, Statistik Austria, own calculation.

The Austrian Council believes this goal orientation still applies as it did before. On the basis of its monitoring activities in conjunction with its reports on Austria's scientific and technological performance, the Austrian Council believes it is also clear that the current measures to implement the RTI Strategy are insufficient to keep up with the development dynamic of the leading countries.<sup>7</sup> This means the innovation leaders will move further away if the trend remains as it is. As other countries show a stronger development dynamic, continuing the status quo is not an option. If Austria does not want to fall further in global competition and lose its connection with the lead group, the topics of education, research, technology and innovation must be afforded the highest possible priority – the funding required must be provided and structural adjustments must also be made. The Austrian Court of Auditors report must also be mentioned in this respect. According to the report, the structures of research funding in Austria are both characterised by complex and unclear cash flows and continue to be inefficient.<sup>8</sup> The Austrian Council repeatedly refers in this context to its findings and recommendations for this in the White Paper on controlling research, technology and innovation in Austria, which are intended to simplify funding structures.<sup>9</sup> Freed up funds could then be used directly for research.

These and other structural reforms (already defined in the RTI Strategy) are required to improve the output and effectiveness of the Austrian RTI system.

<sup>7</sup> Austrian Council (2016): Report on Austria's Scientific and Technological Capability 2016, p. 54 f.; Austrian Council for Research and Technology Development (2015): Report on Austria's Scientific and Technological Capability 2015, p. 83 f.

<sup>8</sup> Report by the Court of Auditors: Research Funding in Austria. Vienna 2016/4.

<sup>9</sup> White Paper on controlling research, technology and innovation in Austria, p. 18 ff.

However, this would also require an appropriate budgetary basis, sustainable funding security and medium to long-term planning capability.

### **Recommendation**

The Austrian Council therefore recommends once again:

- The funding gap to be closed so the goal of an R&D quota of 3.76 per cent of GDP defined in the Federal Government's RTI Strategy can be achieved by 2020.
- The goal formulated by the Federal Government on the basis of a resolution proposal of the National Council in its Work Programme 2013 to 2018 to raise the university expenditure rate by 2020 to 2 per cent of GDP be vigorously pursued.
- The immediate implementation of the announced and required RTI Strategy measures to achieve funding goals.
- The swift and conclusive formulation of the planned research funding law, to secure sustainable funding security and medium to long-term planning capacity The enforcing of structural reforms to reallocate existing resources from less productive areas into future-oriented areas, such as education, research and innovation.