

Public Funding Observatory

EUA
Public Funding Observatory
2016

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Introduction

The EUA Public Funding Observatory was launched in 2008 with the aim to monitor the impact of the financial crisis on higher education in different countries across Europe. Since then, EUA has been collecting quantitative and qualitative data on public funding received by European higher education institutions, and analysing both long-term trends and recent changes.

The funding data and other relevant statistics are made available to EUA by its collective members, the national rectors' conferences, which have been key in advancing the Public Funding Observatory over the last eight years. Processed and analysed in view of changing student numbers, as well as the overall economic context adjusted to inflation and GDP growth, this data feeds back to support decision-making at various levels with empirical evidence on the public funding trajectories in the field of higher education.

The EUA Public Funding Observatory consists of the interactive [online tool](#), which offers access to the most recent data on public funding to universities. The data can be consulted by country and by year of funding. The period of study spans between 2008 and 2016. The online tool is accompanied by a yearly report, which highlights the most important trends and short-term developments with regard to individual higher education systems and at a cross-country/system level.

The 2016 Public Funding Observatory report consists of three parts. The first chapter offers an evaluation of the latest public funding developments in 2016. The second chapter presents the analysis of the long-term trends captured over the period between 2008 and 2015. The last chapter contains the overview of the methodological approach, the related updates and data clarifications. It also provides a series of additional graphs detailing the analysis in the two other chapters.

The 2016 Public Funding Observatory features 30 higher education systems, including two newly added countries, namely Switzerland and Turkey.

EUA is grateful to its collective members for their contributions to the Public Funding Observatory and for their long-standing cooperation and continuous effort.

Key findings and messages

The evaluation of the funding situation of universities has become increasingly complex and requires the consideration of various factors such as inflation, student enrolment, economic development and the state of infrastructure. Almost a decade has passed since the start of the financial crisis, but universities across Europe are still feeling the effects.

System trends

- Between 2008 and 2015, public funding to universities increased in 11 systems in Europe. However, in seven of these student numbers grew faster than public funding, which makes it difficult for universities in such systems to cater to the expanding student body.
 - Norway and Sweden are the two “frontrunners” who have increased their funding to universities since 2008 on a larger scale than the growth of student numbers.
 - Austria, the Flemish-speaking community of Belgium, Denmark, France, Germany, the Netherlands and Turkey are the “growing systems under pressure”, meaning they have experienced faster growth in student numbers compared to funding increases.
 - Portugal and Poland are two special cases where funding trends have been generally positive; however, significant budgetary cuts took place in Portugal already before 2008 and the share of public funding to higher education in GDP was initially rather low in both countries.
- Public funding to universities declined in 13 systems in Europe between 2008 and 2015. On top of the cuts, seven systems experienced an increase in student numbers over the same period of time. In six systems the decline in funding was faster than the decline in the student body.
 - Croatia, Greece, Iceland, Ireland, Spain, Serbia and the UK are the “systems in danger” as their funding to universities decreased while student numbers grew.
 - The Czech Republic, Hungary, Italy, Latvia, Lithuania and Slovakia are the “declining systems under pressure”, meaning the decline in funding was larger than the decrease in student numbers in 2015 compared to 2008.
- The funding trajectories significantly vary across the higher education systems both in the short and long run and fluctuate within the systems from one year to another.
- Discrepancies between the systems continue to grow.

Impact

- Among the areas especially hit by the funding cuts are teaching and capital/infrastructure investment.
- The decline in funding had an impact on staff in the majority of the systems, resulting in layoffs, lower replacement rates and reduced benefits. Funding for research is impacted to a lesser extent but the EU target of 3% GDP invested in R&D is being missed.
- In 2016, six countries either introduced or expressed their intention to launch new measures to further differentiate between local or EU/EEA students and non-EU students in terms of tuition fees.
- Evolving performance-based funding frameworks push universities to acquire more competitive funding.
- In many systems universities are called to increase efficiency and deliver more for the resources they receive.
- Many national funders that have cut funding expect their universities to compensate the loss through European funding, which itself is under threat.
- European funding is becoming increasingly inefficient due to low success rates, which translates into high costs for the national systems.

Short-term trends and outlook

This chapter describes the latest developments in public funding in 24 higher education systems based on the estimated or officially announced figures in 2016. Public funding data for six systems,¹ which are included in the Public Funding Observatory 2016 but report on their funding trends with a one or two-year delay, was updated accordingly and can be consulted [online](#).

Divergent funding pathways

High variation in public funding trajectories across the reviewed higher education systems is a continuing trend that can be observed since the beginning of the Public Funding Observatory (PFO) analysis in 2008. The following description shows changes in nominal terms. As highlighted in the next chapter on long-term trends, the funding figures alone are not enough to determine whether a system is receiving adequate funding. Inflation, student enrolment, GDP rate and the state of infrastructure are important factors in determining this.

In 2016, public funding is projected to increase in nominal terms in 15 of 24 systems compared to 2015:

- Turkey recorded a significant increase (27.6%) in nominal terms in 2016 compared to last year.
- A more than 5% increase in nominal terms can be observed in five countries: Luxembourg (11.5%), Austria (9.3%), Croatia (6.5%), Iceland (7.3%) and Norway (5.6%).
- Belgium (Wallonia) and Portugal achieve almost 2% growth, whereas Spain further consolidates its efforts to increase public funding with nearly 3% nominal growth compared to 2015.
- Public funding to universities in Lithuania grew by 3.7% in absolute terms.
- Hungary, Latvia, the Netherlands, Sweden and Slovakia report minor nominal growth inferior to 1%.

Public funding is projected to decrease in nine higher education systems in 2016 compared to the previous year:

- Belgium (Flanders), Italy, Poland and Serbia expect nominal decreases inferior to 1%.
- Ireland and the UK² experience a further drop in public funding by 2.8% and 2%, respectively.
- A more significant decline can be observed in the Czech Republic (5.2%) and Slovenia (9%).
- Greece (16%) is exposed to the biggest cuts among all the systems this year.

The new data for 2016 shows stable trajectories in several systems both in the short and long term since 2008. Continuous nominal growth of public funding to universities can be observed in the French-speaking community of Belgium, Luxembourg, the Netherlands, Poland, Norway, Sweden and Turkey.

¹ These countries are Germany, Denmark, Estonia, Finland, France and Switzerland.

² Funding data provided for the United Kingdom includes research funding for institutions in the UK and teaching funding for institutions in England only (teaching funding is devolved and funding for the other entities of the UK is not reported here).

At the other end of the spectrum, the figures also confirm the continuous negative trajectory (both in the short and long term) in nominal terms of the Czech Republic, Croatia, Greece, Ireland, Italy, Latvia, Lithuania, Serbia and the United Kingdom.

Year-on-year fluctuations

The divergent funding trajectories across the higher education systems under review are accompanied by high year-on-year fluctuations.

In particular, nominal funding changed by at least 5% in nine systems in 2016. This change was negative in three systems and positive in six systems. The highest variations can be observed in Turkey (+28%), while the lowest are seen in Greece (-16%).

Considerable fluctuations in public funding can be related to several different factors, changing political agendas being just one of them. Drastic year-on-year changes and uncertainty in the level of public funding make rational strategic planning for universities very difficult. Some countries are addressing this issue.

In particular, Slovenia, where public funding to universities has varied in nominal terms between +11.82% in 2008 and -9% in 2016, has passed new legislation to fix maximum (+14.5%) and minimum (-5%) ceilings for fluctuations compared to the previous financial year.

In Austria, a three-year funding cycle guarantees a fixed allocation for the entire period and an increase every three years (as shown in the period from 2008 to 2015).

Stress test for the Nordic model

Last year's Public Funding Observatory report detected warning signs with regard to the changes in university funding in the Nordic countries. This year's figures reconfirm these trends with some countries moving to a slowdown of investment or a negative outlook. Some of the Nordic systems that have traditionally maintained higher levels of investment in higher education and research have started to cut their budgets in view of continuing economic challenges.

Finland has been reducing funding since 2014 and although the figures for 2015-2016 are not yet available, they are quite likely to be in line with this new downward trend. In addition to the previously announced cuts, the current administration has moved to freeze the university index for its entire term, a mechanism that otherwise guarantees year-over-year growth in funding based on inflation. This effectively reduces university funding in relation to inflationary increases in ongoing operating costs through to 2019. Further cuts to university funding were avoided during budget negotiations; however, universities are still trying to cope with the previously imposed austerity measures.

Meanwhile, in Denmark the nominal funding rate remains positive, growth nearly flattened out in 2016 and the outlook is negative. The Danish Parliament approved cuts to research grants (primarily with regard to competitive funding offered by research councils and funding programmes) and the level of funding will fall from 1.09% to 1.01% of GDP in 2016. Similarly, cuts to funding for education will be about 2% per year from 2016 to 2019, totalling approximately 8%. As a result, some universities in Denmark have carried out layoffs in 2016.

The signs of recovery in Iceland that were detected in nominal and real terms in 2014 have further matured in 2015-2016. The budgetary allocations to education, science and innovation have increased as the country put forward a balanced budget for 2016 for the third consecutive year. Depending on the inflation rate in 2016, Iceland might almost close the gap in public funding to higher education, which was accumulated in the early phase of the financial crisis.

In Sweden, the annual growth rate for public funding to universities has slipped under 1% in 2016, as the country's financial situation has been affected by new challenges, particularly the influx of refugees.

Public funding to universities was further strengthened in Norway in 2016 with a 5.6% increase, following a temporary slowdown and almost flat growth last year. However, the latest increase in funding was mainly achieved by tapping into the country's sovereign wealth fund for the first time in two decades in order to cover the budget deficit and stimulate the economy. The Norwegian government has earmarked additional funds to support the ongoing structural work and the merging processes, create new recruitment positions in the higher education sector, and boost students' purchasing power.

Affected areas: cost containment on all fronts

The short-term fluctuations in public funding affected all areas of university activity in 2016 regardless of system size or geographic location.

The detailed qualitative data provided for twelve systems shows that teaching has been subject to budget cuts in several systems. Funding for teaching has continued to decline in England in line with the 2012-13 undergraduate funding reforms, from £1,671 million in 2015-16 to £1,539 million in 2016-17. The teaching grant allocated to Higher Education Funding Council for England (HEFCE) has been reduced by almost 70% since 2010-11.

In Ireland, recurrent grant funding went down from 2008 to 2015. In 2016, the funding remained in line with the previous year, not declining for the first time since 2008. However, there has been a 70% cumulative reduction in recurrent grant funding per student since 2008.

In Denmark, funding for education will be cut annually by nearly 2% between 2016 and 2019, with cuts totalling approximately 8% by 2020. Efficiency cuts were implemented in the Netherlands with the aim to reduce the number of courses.

At the same time, several systems facing a decrease in teaching funding have managed to safeguard or even increase their research budgets. This is the case for the Czech Republic, Poland, Slovenia, Sweden and the UK. For instance, the UK's science budget has been protected by the government in real terms, and has therefore seen a small increase. A new Global Challenges Fund worth £ 112 million in 2016-17 has also been introduced. In the context of European research funding, the UK government, following the UK referendum on EU membership, announced safeguards, including underwriting funding for Horizon 2020 projects applied for and approved before the exit, and reassurance to applicants from the UK's research and innovation base when applying for EU research funding.

Denmark, Ireland and the Netherlands are pursuing some opposite measures. The Danish Parliament approved cuts to research grants and the level of funding is expected to go down from 1.09% to 1.01% of GDP as of 2016. In Ireland, funding for the Programme for Research in Third Level Institutions (PRTL) has declined by approximately 80% this year compared to 2015, while the competitive state funding for science and technology has remained broadly in line with that of 2015. Finally, efficiency cuts aimed at reducing indirect cost coverage in research were implemented in the Netherlands.

Capital investment continues to deteriorate in most systems as universities are increasingly expected to fund their investment projects with their own resources or through third party sources. For instance, in Spain public investment in infrastructure and equipment has further decreased in 2016. In Sweden, public funding to infrastructure stagnated and even decreased this year, as universities are expected to take more responsibility for infrastructure initiatives within their own budget. In Ireland, where capital funding in 2016 has declined by approximately 50% and has been at minimal levels for a number of years, focus and reliance on third party sources for capital or infrastructure projects has increased. A recent government capital infrastructure plan for the period until 2021 has seen minimal capital funding earmarked for higher education.

The decline in funding has had an impact on staff in the majority of the systems, resulting in layoffs, lower replacement rates and reduced benefits. In Italy, staff replacement rate was limited to 60% of the system level in 2016. Meanwhile, in Ireland, reductions of publicly-funded staff (headcount) continue to be applied. The cumulative impact of headcount reductions in Irish universities required under the government's "Employment Control Framework" has seen a significant deterioration in student-staff ratios. As a result of funding cuts, some Danish and Finnish universities have had layoffs during 2016.

On the contrary, Latvia and Slovakia are introducing some pay rises for teaching and research staff to mitigate the effects of the previous cuts. Specifically, the Latvian government has recently approved new minimum salaries for full-time research and pedagogical staff at higher education institutions. A 30% increase will be implemented in three steps in 2017, 2018 and 2019. Likewise, staff salaries have grown by 6% in Slovakia.

The staff replacement rate has stabilised in Spain.

Making students pay

Non-EU/EEA students

In 2016, several countries either introduced or expressed their intention to launch new measures to further differentiate between local or EU/EEA students and non-EU students, thereby decreasing the level of subsidies for the latter group.

Following the example of its Nordic neighbours, the Finnish government has decided to charge tuition fees for English-taught Bachelor's and Master's programmes to non-EU/EEA students starting from the 2017-18 academic year. The new fee policy came into force on 1 January 2016. Tuition fees will not be charged for doctoral level studies, or degree programmes offered in Finnish or Swedish. Institutions will use discretion in setting tuition levels but the government has established a minimum fee of EUR 1 500 per year. Universities are also expected to introduce new scholarship schemes for non-EU

students admitted to fee-charging Bachelor's or Master's degree courses. The introduction of tuition fees is unlikely to increase the total funding of universities in Finland. On the other hand, the cuts on core university funding as well as on public research funding that the government has already introduced will have an impact on the universities' capacity to compete for fee-paying international students on a global scale.

The debate on tuition fee policy for students from non-EU countries has become more prominent in the French-speaking community of Belgium. According to a provisional draft law on the refinancing of higher education in Wallonia, universities might be able to charge non-EU/EEA students up to EUR 12 525 per year compared to the current maximum of EUR 4 175, i.e., up to 15 times higher than the fee charged to Belgian and EU/EEA students, for whom the annual charges are expected to remain at the level of EUR 835.

Similar discussions on increasing tuition fees were held in Switzerland, with a new legal basis for the funding of higher education institutions adopted in 2016 and coming into force as of 2017. While tuition fees for Swiss-resident students are supposed to remain at a “socially supportable” level, the new provisions will allow Swiss universities to charge foreign students significantly higher tuition fees. However, this change is not expected to have any major impact on the overall amount of public funding for higher education institutions in Switzerland.

Domestic students

Developments in the UK are marked by the adjustment of tuition fees, expansion of loans and abolition of student support for living costs. The government will allow institutions to raise the maximum tuition fee according to inflation in 2016-2017 if they demonstrate high-quality teaching (measured through a proposed “Teaching Excellence Framework”). The government intends to introduce a new postgraduate Master's loan in 2016 and plans are also being developed for postgraduate research loans. Finally, from September 2016 students from disadvantaged backgrounds in the UK will no longer be able to access maintenance grants to help them meet living costs. A similar proposal has been debated in Denmark that would substitute student grants with loans at the Master's level.

In Ireland, a report commissioned by the government on the “Future Funding of Higher Education in 2015” includes recommendations on the introduction of tuition fees for undergraduate students supported by a student loan system. However, current political uncertainty in Ireland means that any decision in this regard is unlikely to be made in the short to medium term.

Spain is the only country that reported a slight increase in funding for students in the form of scholarships in 2016.

Performance-based funding and efficiency

This year's developments have reconfirmed the earlier established trend towards a rebalancing of public funding systems and closer attention from governments to performance-based funding, efficiency measures and a more active use of output indicators, including those related to graduate employability³.

For example, this is the case for Denmark, where the employment status of new graduates might be taken into account in future as part of the government's plan to reform the country's system of educational funding and introduce new criteria for public funding per student. Similarly, new legislation in Slovenia will consider graduate employability among other criteria that underpin the development of financing to HEIs⁴.

In Italy, the transition from a historical allocation formula to a standard cost formula is underway. The latter weighs 30% of the base component in 2016, which has increased from EUR 1.2 to 1.4 billion between 2015 and 2016.

As anticipated by the PFO 2015 report, a new performance-oriented funding scheme was introduced in Latvia in the second half of 2015 with an additional EUR 5.5 and 6.5 million provided for this purpose in 2015 and 2016, respectively. Further discussions are expected to focus on the amendment of national legislation on basic public funding for higher education and the updating of the funding formula.

Whether countries maintain, increase or decrease public investment in the university sector, institutions are called to increase efficiency and deliver more for the resources they receive. In addition to shifts in public funding modalities, public authorities sometimes justify budget cuts with the need to incentivise institutions to operate more efficiently.

In Sweden, decreasing funding for capital investment has mobilised some large institutions to collaborate on joint infrastructure projects. In the Netherlands, where the funding trajectory remains stable, so-called "efficiency cuts" aimed at reducing the academic offer and the coverage of indirect costs in research continued in 2016.

This year EUA has started a new project – [USTREAM](#) (Universities for Strategic, Efficient and Autonomous Management) – with the aim to explore measures pursued by universities across Europe in order to enhance efficiency. The project is also focused on the analysis of system-wide policies and frameworks that enable universities to operate efficiently⁵. Examples of good practices will be collected through an online survey until the end of 2016.

³ More details about the impact of performance-based funding on institutions and university landscapes can be found in EUA's report "Designing strategies for efficient funding of universities in Europe", Bennetot Pruvot, E., Claeys-Kulik, A.-L. & Estermann, T., 2015, EUA, Brussels.

⁴ The 2017 Law on Higher Education Action is planned to introduce a two-tier funding system in Slovenia consisting of (a) "fundamental" (institutional) funding with fixed and variable parts (max. 25%) provided on a four-year basis and (b) "development" financing (3% of all funds) based on selected indicators, e.g., field of study and student enrolment, introduced by the earlier amended decree on budgetary financing of higher education institutions.

⁵ See www.eua.be/activities-services/projects for more information on the USTREAM project.

Growing competition for limited European funds

When it comes to sources of funding, universities in some countries are caught between two fires.

On the one hand, while reducing national public funding to universities, governments increase pressure on universities to obtain funding from the EU and other third party sources. For example, the Irish government has set very ambitious targets of doubling the national return from Horizon 2020 over the life of the programme. In many systems, the amount of (national and European) competitive research funding attracted by a university is one of the elements of performance-based funding frameworks, which are becoming increasingly important.

On the other hand, universities find it ever harder to obtain EU grants given the oversubscription of the EU programmes and the record low success rate (e.g., approximately 14% in first 100 calls of Horizon 2020).

This drive towards compensating for national cuts with funds from European sources poses multiple risks to the sustainability of universities.

First, the reduction in public funding for universities impacts the overall ability to keep up with investment in top research staff, support services and infrastructure and thus compete successfully for European funding. As a result, universities suffering from cuts might also gradually lose their attractiveness as partners for consortia and collaboration networks, which are important in the context of European research and innovation. EUA's analysis has found that well-funded universities tend to compete better for European funding, which leads to disparities between participating institutions and systems.

Second, participation in European programmes is associated with high costs as enormous effort is put into the preparation and management of successful projects. These costs, which are rarely calculated at any level, come on top of insufficient coverage of indirect costs under Horizon 2020. This risks a further concentration of funding to already well-funded institutions and further cost pressures for institutions that are not well funded.

Finally, the push towards substituting basic national funding to universities with competitive European funds deprives universities of the fundamental possibility to pursue coherent and sustainable strategic research programmes as short-term funding opportunities may have a higher priority given their explicit financial reward. The cost of lost opportunities both in unsuccessful applications and successful projects driven by momentary gain can be very high.

The declining success rate in Horizon 2020 not only reflects the push towards European funding, spurred by national cuts, but also the fact that fewer funds have been made available for the calls, not least because money is redirected from Horizon 2020 for other purposes. In total, EUR 2.2 billion were taken away from Horizon 2020 last year to set up the European Fund for Strategic Investments (EFSI). An EUA analysis⁶ of EFSI's progress after one year of operations shows that universities have not benefitted from this scheme for several reasons. Loan schemes and financial instruments are not

⁶ For further information on EFSI and its impact on universities, please see: www.eua.be/activities-services/eua-campaigns/eu-funding-for-universities

suitable to replace grant funding for university-based research, in particular in a climate of decreasing funding for universities. Secondly, universities in most European countries are simply not allowed to borrow money or can do so only under strict conditions. Furthermore, the nature and scale of projects considered for financing by EFSI essentially excludes universities from participation in this scheme. Finally, the annual budget discussions show that the EU programmes are not beyond further cuts.

Against this backdrop, EUA has launched a [campaign](#) in 2016 calling for sufficient funding (overall level and cost coverage), sustainability of funding conditions (grants instead of loans for academic research and education) and simplification of funding schemes (implementation; management; reduction of administrative burden for beneficiaries). EUA's campaign is focused on bringing all players together and discussing the challenges of university funding, as European and national funders need to coordinate and cooperate more closely to increase the overall efficiency of public investment in higher education, research and innovation.

Funding trends in 2008-2015

The analysis of the recent changes and outlook on the future of university funding provides a useful operational snapshot of the state of public funding in 2016. However, it is important to incorporate the short-term developments of public funding to universities in the longer term, spanning the period of 2008-2015.

The funding picture is highly complex and many factors play a role in evaluating if a system is evolving in a positive or negative direction. Below we explore the impact of inflation, student enrolment, GDP rate and the state of infrastructure on the long-term funding trends across Europe.

Funding factors

Inflation

Inflation was an important factor for public funding over the period between 2008 and 2015. The inflation factor particularly mattered for five countries, namely Croatia, Iceland, Serbia, Slovakia and Slovenia, where the public funding to universities was growing in nominal terms, but decreasing in real terms in 2008-2015. (For more details see the methodological notes.) The table below shows the difference between nominal change in public funding to universities in 2008-2015 and the change adjusted for inflation.

Table 1 Evolution in public funding between 2008 and 2015 in 30 higher education systems

Evolution in public funding 2008-2015	Country/system	
	Change adjusted for inflation	Nominal change (not adjusted for inflation)
Between 20% and 40% increase	Germany, Denmark, Luxembourg (*), Norway, Sweden, Turkey	Austria, Belgium (fr and fl), Germany, Denmark, Iceland, Luxembourg (*), Norway, Poland, Sweden, Turkey
Between 10% and 20% increase	Austria, Belgium (fr and fl), Poland	France, Portugal, Netherlands, Serbia,
Between 5% and 10% increase	Switzerland (**)	Switzerland (**)
Between 5% increase and -5% decrease	France, Finland (***), Netherlands, Portugal	Croatia, Finland (***), Slovakia, Slovenia
Between 5% and 10% decrease	Croatia, Iceland, Slovakia, Slovenia	Italy, Spain
Between 10% and 20% decrease	Czech Republic, Spain, Italy,	Czech Republic, Estonia (****), Hungary, United Kingdom
Between 20% and 40% decrease	Estonia (****), Hungary, Ireland, Lithuania, Serbia, United Kingdom	Ireland, Latvia, Lithuania
Decrease superior to 40%	Greece, Latvia	Greece

NB: (*) For the period of 2009-2014; (**) for the period of 2009-2013; (***) for the period of 2010-2014; (****) for the period of 2008-2014, see methodological notes for more details.

Student numbers

The second factor that is important for the analysis of the funding trends in the long run is the change in the number of students. In particular, it is important to explore whether the investment made by the higher education systems where funding has been increasing is sufficient to enable universities to cater to larger numbers of students. Conversely, where public funding is being cut, the extent to which decreasing student numbers justify the cut should also be carefully assessed. The table below shows the evolution of student numbers in 2008-2015. (For more details see the methodological notes.)

Table 2 Evolution in student numbers between 2008 and 2015

Evolution in student numbers (2014-2015 compared to 2008-2009)	Country/system
Student numbers grew by more than 10%	Austria, Belgium (fl), Denmark, Germany, Croatia, Ireland, Iceland, Luxembourg, Netherlands, Norway, Switzerland, Turkey
Student numbers grew by less than 10%	France, Finland, Portugal, Serbia, Spain, Sweden, United Kingdom
Student numbers decreased	Czech Republic, Greece, Estonia, Hungary, Italy, Lithuania, Latvia, Poland, Slovakia

Data on the higher education systems for which student numbers are available for the period between 2008-2009 and 2014-2015 shows a variety of situations in different countries in Europe. Specifically,

the student body grew in 19 higher education systems, 12 of which experienced more than 10% growth from 2008-2015, and decreased in nine countries. High year-on-year variations in student numbers may be challenging for universities, in particular when the calculation basis for public funding does not take these changes into account (or with a delay, for instance when using multiannual averages).

Economic growth

The economic growth reflected in GDP is another important factor for long-term changes in public funding, which is included in the analysis within the Public Funding Observatory. Overall, the state of affairs in public funding to universities mirrors to a large extent the precarious economic situation in Europe, as growth is still weak and some countries are close or already in recession. In 2008-2015, the GDP of EU countries grew by approximately 2.7%. By comparison, in the seven-year period directly preceding the financial crisis, economic growth had reached as high as 16.6%⁷. Therefore, it is also important to analyse how the sector investment evolves in relation to national economic growth. The table below shows how the funding to universities has progressed in nominal terms as a share of GDP in 2009-2015.

Table 3 Evolution in public funding to higher education institutions as a percentage of GDP between 2008 and 2015

Evolution (2015 compared to 2008)	Country
2015 higher than 2008	Austria, Germany, Denmark, France, Croatia, Netherlands, Norway, Poland, Portugal, Serbia, Slovenia, Sweden and Turkey
2015 lower than 2008	Czech Republic, Spain, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Slovakia, and United Kingdom

In most cases, where systems receive an increasing amount of public funding in nominal terms, this is mirrored by an increasing share of GDP, and vice versa. Several exceptions to this trend are Finland, Iceland, Slovakia and Switzerland. In these countries, the rise of GDP was to a varying extent higher than an increase in public funding in nominal terms.

While inflation, GDP and student numbers are among the input factors that may affect the level of public funding to universities, staff numbers depend on the funding situation and represent one of the impact areas together with teaching, research and capital investment. In our analysis, staff changes serve as an indicator to determine the implications of funding changes and changing student numbers, and thus assess how “fit” a system has been over the last eight years.

Based on comparable academic and non-academic staff data collected by EUA for 23 higher education systems this year, the analysis of the long-term patterns between 2008 and 2015 show that 10 systems have increased their university personnel by more than 10%. In seven systems, the increase was under 10% and in six countries staff numbers decreased between 2008 and 2015.

⁷ Source: Eurostat. Real GDP growth, 2001-2015.

Table 4 Evolution of staff numbers between 2008 and 2015

Evolution (2014-2015 compared to 2008-2009)	Country/system
Staff numbers grew by more than 10%	Belgium (fl), Germany, Denmark, Croatia, Iceland, Luxembourg, Norway, Sweden, Switzerland and Turkey (*)
Staff numbers grew by less than 10%	Austria, France, Hungary, Netherlands, Poland, Slovenia and UK
Staff numbers decreased	Czech Republic, Ireland, Spain, Italy, Latvia and Slovakia

(*) Academic staff only

In most systems, long-term changes in student population and staff numbers go hand in hand. For example, most of the countries that have significantly increased their student enrolments (e.g., Belgium (fl), Germany and Denmark) between the academic years of 2008-2009 and 2014-2015 have also seen their staff numbers go up. Two exceptions to this trend are Austria and the Netherlands, where student numbers are growing faster than staff, which puts some pressure on these systems. Another outlier is Ireland, where the number of core funded staff, excluding research funded or other “externally” funded staff members, has decreased by nearly 15% against the backdrop of an almost one fifth increase in student numbers over the same period. As a result, the cumulative impact of headcount reductions in universities required under the government’s “Employment Control Framework” has seen a significant deterioration in student staff ratios. Similarly, the systems with a shrinking student body have also gradually reduced their staff numbers over the same period of time. This is, for instance, the case of the Czech Republic, Italy, Latvia and Slovakia.

The analysis of funding between 2008-2015

Taking all factors into account, a polarised map emerges, with 11 countries/systems having increased funding to the sector, and 13 having cut funds to universities in 2015 compared to 2008.⁸

In particular, public funding to universities has been mainly growing in Northwest Europe, including the Scandinavian countries, the Benelux countries, Austria, France and Germany, as well as Turkey. At the same time, all of these countries have experienced a growth in the number of students over the studied period. In seven of 11 such systems, for which the full dataset both for funding and student numbers is available, funding has been growing at a slower pace than the number of students.

Negative funding trends are mostly found in the Baltics, Eastern and Central Europe, Southern Europe and Western Balkans as well as in Ireland and the UK. In parallel, some of these countries have also experienced significant growth in the number of students.

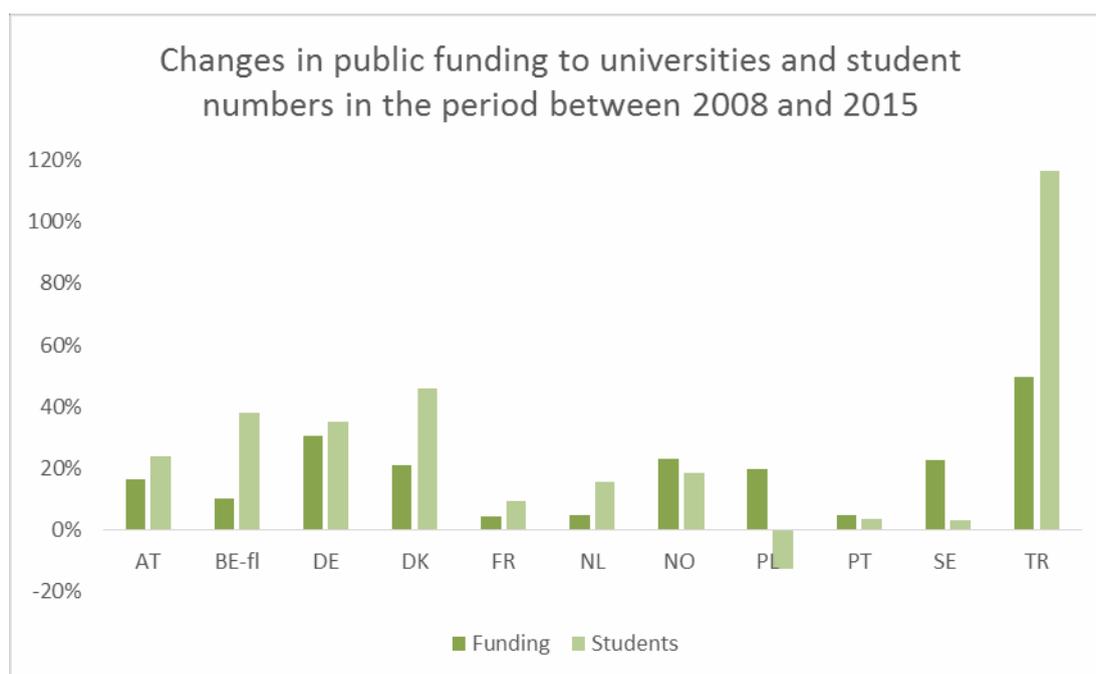
The long-term funding trends at the country level are explored in more detail below.

⁸ For the remaining six systems of the total sample the data for funding and student numbers is incomplete.

Systems with growing level of public funding over 2008-2015

In 2008-2015, public funding to universities was growing in 11 systems in Europe. However, in seven of these systems student numbers were growing faster than public funding. While any one-to-one correlation between these two parameters must be considered with caution, this nevertheless points to the growing pressure that universities in such systems might be experiencing in catering to growing student bodies.

Graph 1 Systems with rising levels of public funding (2008-2015)



NB: In addition, three more systems follow the positive trend in funding in the long run (Luxembourg, the French-speaking community of Belgium and Switzerland). They are not included in the graph above because of insufficient data comparability.

Frontrunners

The public funding to universities has been growing faster than the student numbers in two countries in Scandinavia, namely Sweden and Norway. Although these two countries have recently experienced some slowdown in funding, the overall funding trend remains positive. Both countries increased their funding by more than 20% in real terms from 2008 to 2015. The level of investment is particularly significant in Sweden where the student body has grown by 3% compared with the 18% increase in student numbers in Norway. Of all the systems, Sweden also dedicates the highest share of GDP to the public funding of universities, which grew from 1.29% to 1.35% over the same period. The figure for Norway increased from 0.75% to 0.95% over the same period. Universities in both countries saw an increase in staff numbers which is broadly in line with the changes in student numbers.

Growing systems under pressure

In seven higher education systems, namely Austria, the Flemish community of Belgium, Germany, Denmark, France, the Netherlands and Turkey, the public funding growth rate was slower than the student growth rate.

The rise of student numbers and public funding to universities has been particularly noticeable in Turkey. With a nearly 50% increase in funding to universities from 2008-2015, Turkey is one of the top leaders in this respect. The latest increase in funding is due to the additional public budget resources allocated to trigger regional and local development. At the same time, the country has experienced its highest increase in student numbers, having more than doubled its student body over the last eight years (+116%). Given Turkey's high inflation rate, the relative figures are significantly lower than the absolute numbers (49.6% vs 152.7%)⁹. Finally, Turkey also increased its share of university funding in GDP from 0.59% in 2008 to 0.85% in 2015.

Both Austria and Germany increased their public funding to universities since 2008 by 16.5% and 30.6%, respectively. However, student numbers in these countries also grew considerably by 24% and 35%, respectively. In both countries, the share of GDP dedicated to university funding improved over the same period of time, whereas in Germany the funding growth rate even surpassed the GDP growth rate from 2008-2015. Similarly, in France public funding to universities increased by 4.3% in real terms in 2015 compared to 2008, whereas student numbers expanded by 9.5%. The share of higher education funding in GDP increased from 1.05% in 2008 to 1.09% in 2015.

University funding was also growing in the Flemish (10.42%) and the French-speaking communities of Belgium (19.89%). While the latest student data is not yet available for Wallonia, in Flanders the student population was expanding at a much higher pace than public funding (+37.91% in 2008-2015).¹⁰ The growth of funding in the Netherlands is the lowest among the systems with positive dynamics (4.8%), whereas the student body has expanded by more than 15.7% since 2008. Although the share of university funding in GDP increased between 2008 and 2015, the rise was lower than in other countries, having reached only 0.5% by 2015. The relatively weak growth of university funding in the Netherlands reflects the country's overall economic slowdown between 2008 and 2015.

University funding in Denmark was growing at a pace similar to its Scandinavian neighbours from 2008 to 2015 (+21.15%). Together with Sweden, Denmark is the only country that has increased its share of public funding to higher education institutions beyond 1% of GDP. However, the student body expanded by more than 45% in line with the state priority of increasing higher education attainment. The 25% target for the youth cohort with a higher education degree was achieved by 2013 and is no longer a priority for the new government. The student body only increased by less than 2% between 2014-2015 and 2015-2016 and it is expected to stabilise after 2016.

⁹ The inflation rate in Turkey varied between 6% and 10% between 2008 and 2015 and is projected to reach 8% in 2016.

¹⁰ The student data for Belgium (fr) is not yet available for the academic year 2014-2015. Student numbers in this system grew by 20.6% between 2008-2009 and 2013-2014.

Special cases

Switzerland was not included in the graph as funding data is only available for the period between 2009 and 2013. Several factors point to the fact that Swiss universities might be under pressure. While public funding to universities grew by 5% in real terms, the student body expanded by almost 25%. In addition, Switzerland is the only country among the systems with positive funding dynamics, which actually decreased its share of university funding in GDP from 1.7% in 2009 to 1.4% in 2013. Since, Switzerland has remained the top country in terms of the share of funding allocated to universities, but given the country's solid economic growth over the same period of time there is further room for improvement.

In Luxembourg, the investment in the higher education sector, which is represented by the University of Luxembourg, increased by 58% in real terms in 2009-2015.¹¹ This increase was supported by relatively high economic growth and the growing share of university funding in GDP, which progressed from 0.25% in 2009 to 0.3% in 2015. The expanding public investment also reflects a 38% increase in the student body over the same period of time, as student numbers have been growing since the establishment of the University of Luxembourg in 2003.

Poland remains the only country among the "new" members which was increasing its public funding to universities between 2008 and 2015 (+19.7%), with a noticeable growth achieved over the last two years. As student numbers are going down (-12.5%), this rise of funding propelled by the country's strong GDP growth is definitely a positive sign. However, when it comes to the comparative outlook, it should be noted that the university sector in Poland had suffered from underinvestment in the years prior to 2008 whereby large volumes of funding were necessary to improve the overall resource capacity of Polish universities.

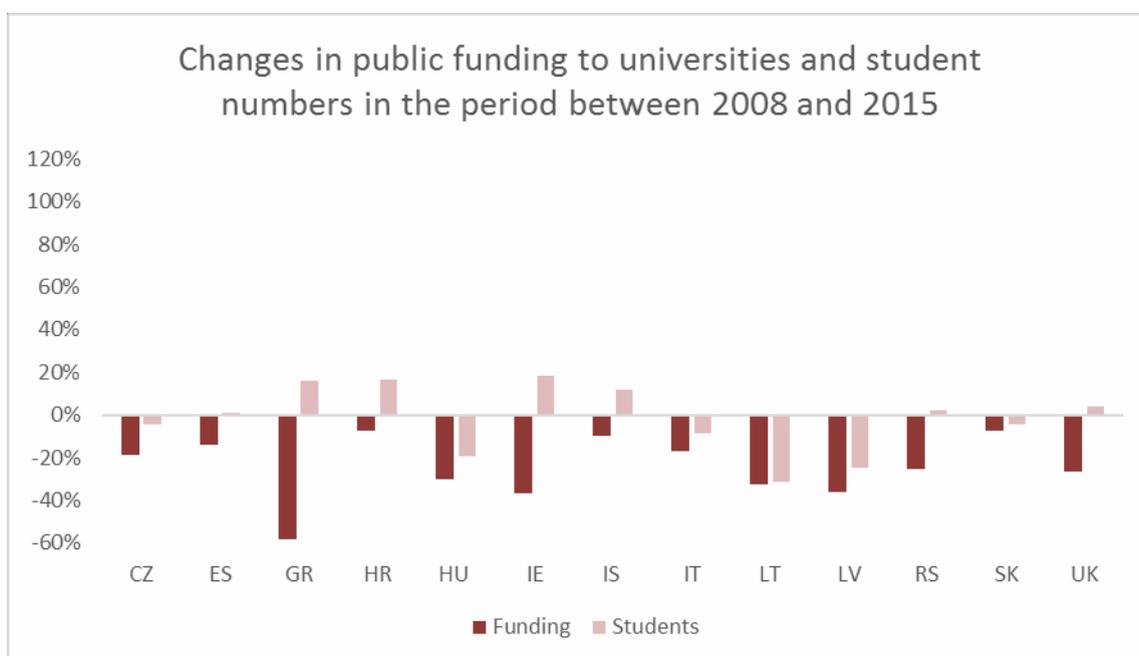
The situation in Portugal is quite similar to the case of Poland. Portugal fully restored and even increased the level of funding by 4.8% in 2015 compared to 2008. Following a strong 20%-push in public funding to universities in 2014, Portugal remained on a positive track with 5% growth in 2015. It is therefore the only country in southern Europe with positive funding dynamics in relation to changing student numbers. However, it should be noted that funding to Portuguese universities had been cut before 2008; therefore, the pre-crisis level of funding may not have been achieved yet.

¹¹ Given the lack of data for the benchmark year 2008, Luxembourg is not included in the graph.

Systems with declining levels of public funding over 2008-2015

Public funding to universities was declining in 13 systems in Europe between 2008 and 2015. On top of the funding cuts, in seven systems the student numbers were growing over the same period of time and in six systems the decline in funding was faster than the decline in the student body.

Graph 2 Systems with declining levels of public funding (2008-2015)



NB: In addition, three more systems follow the negative trend in funding in the long run (Estonia, Finland and Slovenia). These countries are not included in the graph above because of insufficient data comparability.

Declining systems under pressure

The decline was significant in the Czech Republic (18.8%) but somewhat lower in neighbouring Slovakia (7.5%), where funding has been shrinking since 2011. Slovakia demonstrated a small increase in public funding both in nominal and real terms in 2015, thus overriding the negative trend of the two preceding years. Both the Czech Republic and Slovakia started to experience a loss of students since 2013-2014 and thus moved to a group of countries where the student body decreased in 2008-2015. In both countries the funding was decreasing faster than the student numbers in 2008-2015, whereas the share of university funding in GDP dropped from 0.6% and 0.7% to 0.5% and 0.6%, respectively.

Although still insufficient to cover the cumulative reduction in public funding since 2008, improvements to the long-term trend can be found in Hungary. The country embarked on a positive trajectory in 2014, showing a strong increase in funding at the level of almost 30%, and further reduced its funding gap by nearly 15% in 2015. However, the cuts accumulated over 2008-2015 still amount to 30% of the pre-crisis level. As a result, the share of university funding in GDP considerably dropped from 0.6% to 0.5%. In addition, the funding decline was faster than the decrease in student numbers.

The updated figures for Italy still expose a significant decline in public funding (17.1%) where cuts concern all areas of university activities. The proportion of university expenditures in GDP has slightly

decreased in the context of funding cuts and the flat economic growth over the period of 2008-2015. The student numbers declined by 8.6% at a slower pace than the funding cuts.

The three Baltic countries, where the student body has been significantly shrinking, were particularly hit by the cuts in university funding since 2008. In Latvia and Lithuania public funding has fallen by 36% and 32.8%, respectively. The recent increases in both countries focused on salaries only modestly reduced the gap. (In Latvia, the growth rate of approximately 8% has been holding steady for the second year in a row.) The figures provided by the Lithuanian Rectors' Conference distinguish between state subsidies and EU structural funds received by the sector. While Lithuania is not the only country that reports on EU structural funds in the PFO (e.g., Estonia, Finland, Slovenia and Spain), its example shows the impact of such funds on the country's university sector. In particular, the share of EU structural funds in Lithuania increased from 3% to 42% of the total public funding to universities from 2009 to 2015. If included in the analysis, these figures can change the country's funding trend to a positive one. Yet this example also shows how a country uses European structural funds to compensate for cuts at the national level. This approach might potentially undermine the overall sustainability of universities if no sufficient national funding is put into the system to fund university operations.

Estonia and Finland are not included in the graph given their incomplete datasets.¹² The long-term trend for Estonia can be assessed on a shorter period of 2008-2014 where the funding to universities went down by 26% compared to the approximately 20% decrease in student numbers. Unlike Latvia and Lithuania, Estonia has one of the highest shares of higher education funding in GDP, on which it aligns with Scandinavia rather than the other Baltic states. However, this share dropped from the pre-crisis level of 1.5% in 2008 to 1.1% in 2014. Only Denmark, Finland and Sweden had higher values in 2014.

Finland, where the funding has been marginally decreasing since 2013, saw a 2.68% drop in funding compared to the 2010 level. The student body reduced by 1.4% over the same period of time. The share of university funding in GDP insignificantly went down in Finland from 1.16% in 2010 to 1.13% in 2014 but still remains one of the highest across Europe, only lagging behind Denmark and Sweden.

Systems in danger

Greece, Croatia, Ireland, Iceland, Serbia and Spain are among the countries that were confronted with both funding cuts and growing student numbers in the period between 2008 and 2015. In all of these countries, the negative or flat economic growth seems to have been a more important factor for changes in funding compared to the enrolment realities. All of them, except for Serbia, decreased the share of university funding in GDP over the period of study. As a result, the higher education systems in these countries have been put under extreme pressure.

At the negative end of the spectrum, Greece continues to suffer from the largest decrease in public funding to universities, with a nearly 60% decline since 2008. Many institutions in Greece face difficulties with covering basic operational costs, as the student population increased by more than 15% from 2008 to 2015.

¹² The funding data for Estonia is missing for the two years, whereas the reporting for Finland starts with the year 2010 and not 2008, as for the most of the countries included in the study.

Similarly, Serbia cut its university funding by more than one fourth over the same period. Serbia is the country where the nominal increase of 15.72% from 2008 to 2015 is completely absorbed by the high inflation rate, which results in a cut of 25.5% in real terms. Serbia experienced the biggest drop in university public investment among all the systems under review this year, as the 2015 budget reduced by 14% compared to 2014. This drop has upset the period of a relatively stable public budget dynamics since 2009. Student numbers grew by approximately 2% from 2008 to 2015, although the growth is projected to flatten and even turn negative in 2016.

In Croatia the real-term funding cuts (-7.3%) were among the lowest in the region from 2008 to 2015. In nominal terms, the country recorded some minor positive growth in funding, and the overall share of university expenditures in GDP even improved from 0.7% to 0.8% over the same period, despite a negative economic outlook. However, the student body was growing very rapidly and expanded by 16.7% over the last eight years. This expansion creates some tension in the system, as the funding trends fail to align with student growth.

In Spain, the long-term funding trend remained negative from 2008 to 2015. However, the country managed to reduce the funding gap and is projected to reach the pre-crisis level of funding within a couple of years from now if the current levels of funding growth are maintained. Compared to other countries in this group, the share of university funding in GDP is still relatively high in Spain, despite its drop by a few percent from 0.72% to 0.69% between 2008 and 2015. Student numbers grew by less than 1% over the same period and are projected to decline in the near future.

Due to the high inflation rate in Iceland, a +31.7% nominal rise of funding to universities corresponds to a 9.6% inflation-adjusted decrease. The country has been showing some signs of recovery since 2013 and further consolidated its positive trajectory with a 10% funding increase in 2015. Similar to other Nordic countries, the share of university funding in GDP is quite high in Iceland, although it went down from 1% in 2008 to 0.9% in 2015. Nevertheless, a nearly 10% increase in the student body, combined with the funding cuts, put the universities in Iceland under pressure from 2008 to 2015.

Ireland has been exposed to a significant reduction in public funding, having lost more than one third (36.6%) of its funding volume since 2008, despite a progressive increase in students. The share of university funding in GDP decreased more than twofold from 0.8% in 2008 to 0.4% in 2015. The cumulative reduction in recurrent grant funding per student since 2008 has been 70%. Student staff ratios have been deteriorating as a result of required staffing reductions and increasing student numbers. These reductions have also impacted the ability of universities to maintain a broad range of tutorials, practical exercises and other teaching support.

Special cases

Slovenia is the only country in the sample where the long-term negative growth of public funding to universities is slower than the decline in student numbers. This country is not included in the graph as the student numbers for the academic year 2014-15 are not yet available. However, looking at the period from 2008 to 2014, the funding went down by 8% in real terms, whereas the student body shrunk by nearly 16%, i.e., twice as fast as funding.

Since 2008, the UK lost more than one fourth (26.7%)¹³ of its funding volumes despite a 4.2% increase in student numbers. The share of university funding in GDP has also gone down from 0.6% in 2008 to 0.4% in 2015. The UK case, however, is quite special as funding to universities is devolved to a large extent to the student level.

All in all, the long-term trends in public funding are quite resilient: countries with accumulated decline find it hard to reinvest whereas countries with a growing level of funding struggle to keep up their funding volumes. As a result, the European university landscape and public funding are subject to Matthew's effect. The discrepancies become omnipresent: the new member countries in recent years have faced a significant slowdown in the process of convergence, and the countries of the "old EU" have been affected by the phenomenon of divergence - for example, the growing gap between north and south. These developments represent a significant challenge to the consolidation of the European Higher Education and Research Areas.

Methodological notes

This part contains some methodological notes and data clarifications, as well as detailed graphs that support the analysis of the two previous chapters.

Data collection

In line with the established practice, national rectors' conferences were invited in the spring of 2016 to complete the questionnaire and to correct previously submitted figures in order to verify and ensure the consistency of the data over time.¹⁴ The newest public funding data was obtained for the following higher education systems, including two new systems: Switzerland and Turkey.

The funding figures and student numbers were updated for previous years for several systems. The related updates are specified in the system datasheets that can be downloaded from the [online tool](#). The following countries have corrected their dataset in full this year: France, Greece, Latvia and Luxembourg. The noticeable change in the public funding figures and student numbers for France is due to the inclusion of other sources of funding, including local and regional investment as well as EU structural funds, and the exclusion of students enrolled at private universities, respectively. The datasheets include details on the reasons for the latest changes.

¹³ This figure includes the teaching grant for English universities only, while capital and research funding are allocated through the funding councils on a UK-wide basis with universities benefitting from about two-thirds of this income.

¹⁴ The original funding and other data may be computed differently in the various higher education systems referred to in this report. The detailed data, definitions, calculation methods and sources of data for each system are presented in the Public Funding Observatory online tool.

Table 5 Higher education systems included in the Public Funding Observatory 2016 edition

Austria	France	Lithuania	Slovenia
Belgium – Flanders	Germany	Luxembourg	Spain
Belgium – French-speaking Community	Greece	Netherlands	Sweden
Croatia	Hungary	Norway	Switzerland
Czech Republic	Iceland	Poland	Turkey
Denmark	Ireland	Portugal	United Kingdom
Estonia	Italy	Serbia	
Finland	Latvia	Slovakia	

For three countries, public funding data covers periods different from 2008 to 2015. In particular, the Swiss public data is missing both for the benchmark year 2008 and for the last two years. Therefore, the long-term trends in this country are reported separately for a five-year period from 2009 to 2013. Similarly, the long-term developments in public funding in Finland (2010-2014) and Luxembourg (2009-2015) are presented separately given the differences in the covered period due to data availability.

In addition to the public funding data and student numbers, the 2016 survey included one additional figure referring to academic and non-academic staff employed by higher education institutions. The comparable data was obtained for 23 higher education systems and is used to broaden the scope of the analysis of the respective higher education landscapes.

Data analysis: inflation and conversion rates

In line with the 2015 edition, which introduced a methodological change with regard to the use of the actual inflation rate in lieu of the provisional figures for the current year, Eurostat data for 2015 was used to make adjustments to inflation for all the analysed countries.¹⁵ For the same reason, the 2016 figures may be subject to correction in 2017, as the 2016 figures can only be analysed in terms of “nominal change” at this stage given that the 2016 inflation data provided by Eurostat is not yet available for the whole year. Considering the low level of inflation in most countries under review, the nominal fluctuations provide early insight into funding developments in the near future.

It should also be noted that, for non-Eurozone countries, the conversion rate used is that of August 2016. This rate was applied to all data.

Table 6 Inflation rate between 2008 and 2015

Inflation over the period 2008-2015	Country
Above 40% inflation	Iceland, Serbia (*), Turkey
20% to 40% inflation	Hungary
10% to 20% inflation	Austria, Belgium (fr and nl), Estonia, Croatia, Finland, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Slovakia, United Kingdom
5% to 10% inflation	Czech Republic, Germany, Denmark, Slovenia, Spain, France, Greece, Latvia, Portugal, Sweden
Below 5% inflation	Ireland, Switzerland

¹⁵ Inflation rates are typically calculated for a twelve-month annual cycle and are not yet available for 2016.

(*) Inflation data is partly sourced from the World Bank (data for 2015).

Adjustment of the previously reported short-term trends for 2014-2015

The Public Funding Observatory 2015 report provided an overview of the short-term developments in public funding in 20 systems between 2014 and 2015. This analysis was however limited to nominal changes since the inflation data for 2015 was not fully available at the time the report was released.

Given a relatively low inflation rate as well as the current deflationary trend¹⁶ in the euro area, the real and nominal values do not significantly differ, except in the case of Turkey where the inflation rate amounts to nearly 8%. Nevertheless, it is still important to update the conclusions based on the actual expenditure figures adjusted to inflation in order to more accurately assess the latest trends.

Of 26 countries/systems, which have provided funding data for 2014-15, public funding remained stable in real terms in four countries, namely in Austria, Norway, Sweden and the UK. Seven countries, primarily in southern and southeastern Europe, decreased their volumes of funding, and 15 countries increased theirs with the most noticeable increases in Hungary as well as Luxembourg.

Table 7 Evolution in public funding between 2014 and 2015

Evolution 2014-2015	Country/system	
	Change adjusted for inflation	Nominal change (not adjusted for inflation)
10% increase and above	Hungary, Iceland, Luxembourg	Hungary, Iceland, Luxembourg
Between 5% and 10% increase	Belgium (fr), Latvia, Poland	Belgium (fr), Latvia, Poland, Portugal, Turkey
Between 1% and 5% increase	Germany, Denmark, Netherlands, Portugal, Slovenia, Slovakia, Turkey	Germany, Denmark, Netherlands, Portugal, Slovenia, Slovakia, Sweden, Norway
Stable (from -1% to +1%)	Austria, France, Norway, Sweden, UK	Austria, Belgium (fl), France, UK
Between 1% and 5% decrease	Belgium (fl), Croatia, Czech Republic, Italy	Croatia, Czech Republic, Italy
Between 5% and 10% decrease	Greece, Ireland	Ireland
Decrease superior to 10%	Serbia	Greece, Serbia

Data analysis: student numbers

The EUA Public Funding Observatory has been collecting student data since 2013. The evolving student body is one of the key factors that underpin the development of national university landscapes and therefore represent an important element in the analysis of university funding trends.

It is important to stress that student population is not the only factor that determines the level of public funding. Even in those funding systems that directly link funding to student numbers, for instance, by means of a funding formula, student numbers represent only one indicator among others.

¹⁶ In 2015, nine countries experienced deflation compared to four countries in 2014.

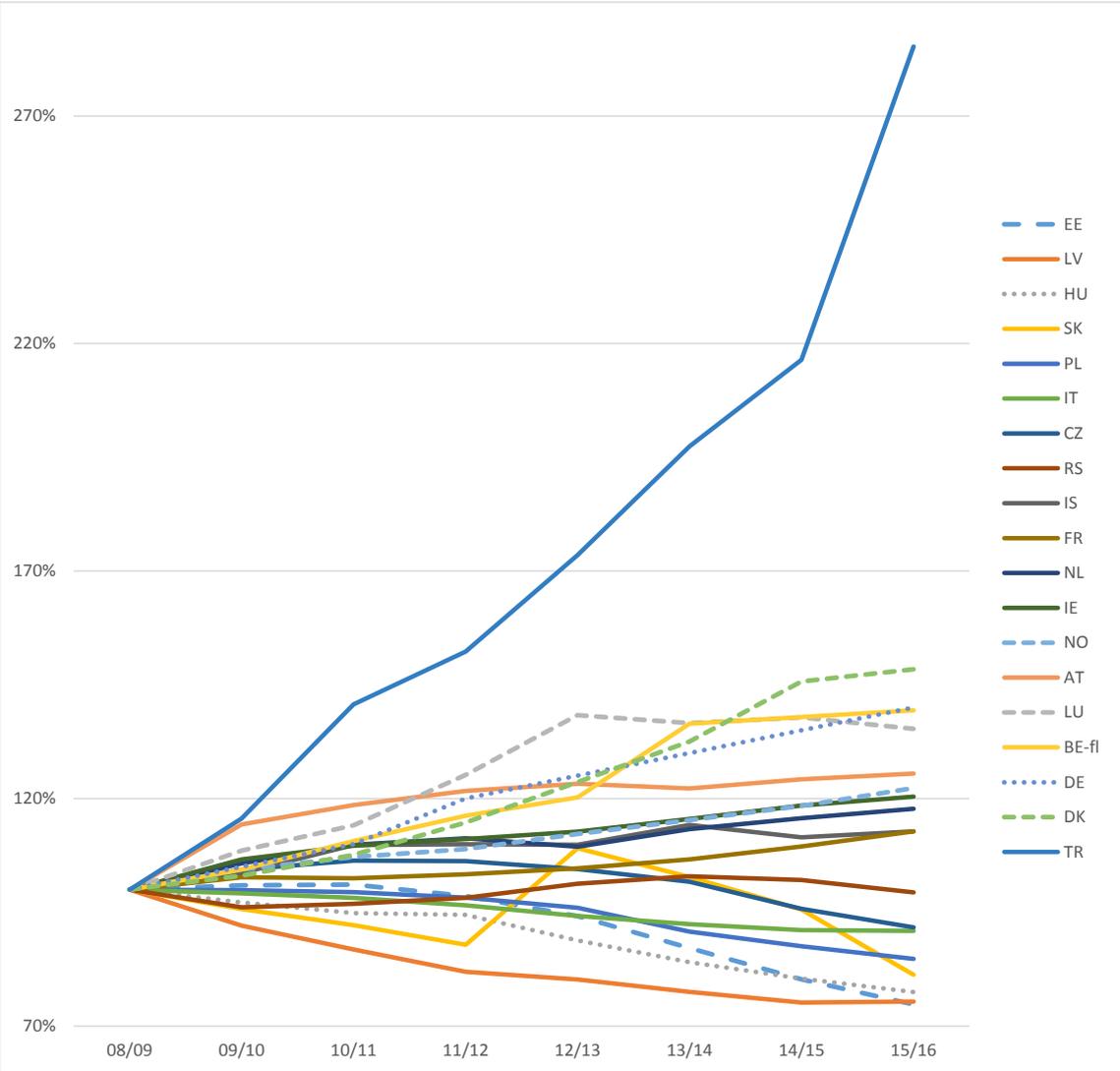
Such systems also account for a time-lag between a significant change in student numbers and the adjustment of funding allocation. For this reason, the relationship between these two factors must be considered with caution.

It should be kept in mind that while student datasets are individually coherent over time, the fact that they are based on different calculation methodologies makes direct comparisons relevant to only a limited extent.

Table 8 Latest evolution: 2015-2016 academic year compared to 2014-2015

2015-2016 compared to 2014/2015	Country/system
Student numbers grew by over 5%	Turkey
Student numbers grew by 1 to 5%	Austria, Belgium (fl), Denmark, France, Germany, Iceland, Ireland, Netherlands
Stable student numbers (-1% to 1%)	Italy, Latvia
Student numbers dropped by 1 to 5%	Czech Republic, Hungary, Luxembourg, Poland
Student numbers dropped by 5 to 10%	Estonia
Student numbers dropped by over 10%	Slovakia

Graph 3 Evolution of student numbers between 2008 and 2015

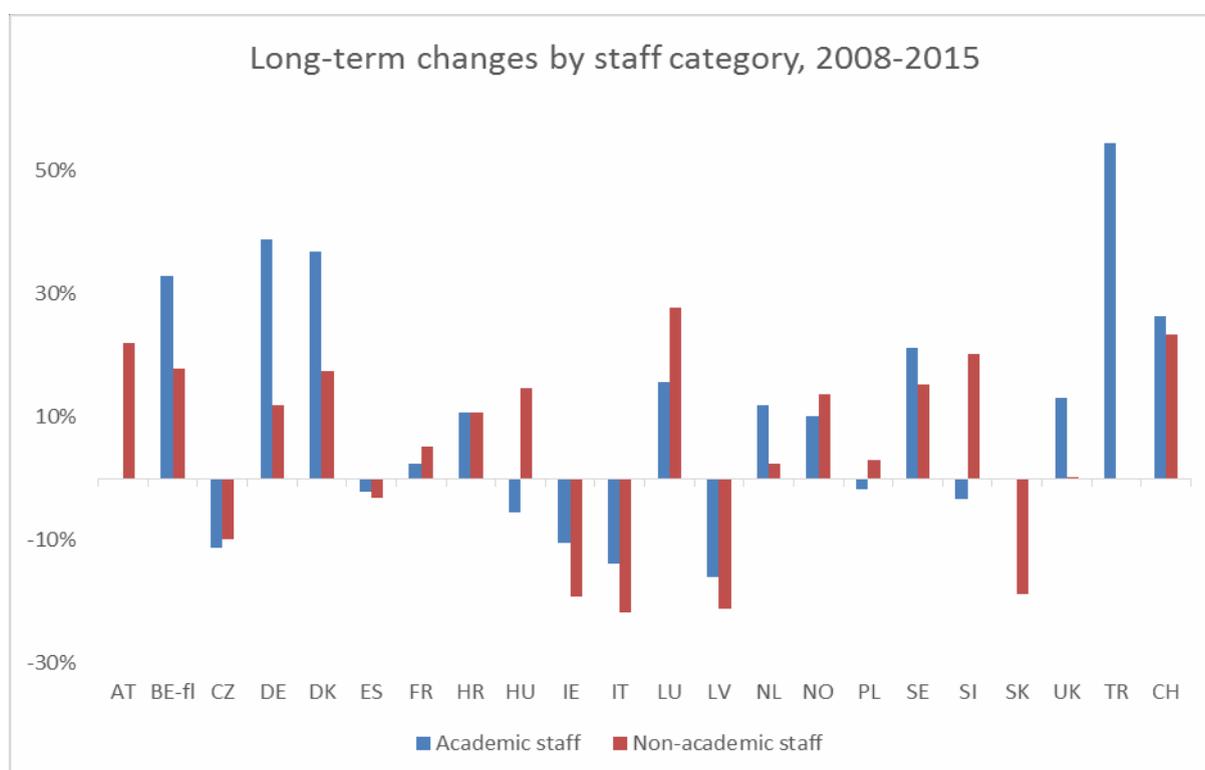


Data analysis: staff numbers

The 2016 edition of the PFO has, for the first time since its launch, included staff numbers, which were provided by 27 NRCs in addition to the core public funding data. Together with the student numbers, the changing number of personnel employed by public higher education institutions represents another important element of the funding landscape and offers useful insights into the developments.

Based on the data provided for academic and non-academic staff, the long-term trends in staff changes can only be traced for the period between 2008 and 2014. It should, however, be stressed that the available data is rather heterogeneous as it reflects different traditions and approaches to staff categorisation and definitions across the systems.¹⁷ Not all datasets are comparable in terms of the data range. Therefore, the cross-country comparability of the collected academic and non-academic staff data is quite limited. Similar to the analysis of the public funding and student data, the objective is to expose and monitor the system-level changes rather than perform cross-system benchmarking.

Graph 4 Changes in staff numbers by category of staff between 2008 and 2015



NB: Data for Turkey is only available for academic staff.

Gross Domestic Product (GDP)

The 2015 PFO report presented the consolidated figures for 2008 to 2013 as GDP data for 2014 had not yet been published by Eurostat at the time the report was released. To continue the series and to fill in this gap, this year's report provides the consolidated overview of GDP changes from 2008 to 2014. The related data is missing for three systems, namely Switzerland, for which public funding figures for 2014 are not yet available, and the French-speaking community and the Flemish community of Belgium as GDP data at the regional level cannot be sourced from Eurostat.

¹⁷ For example, part-time lecturers can sometimes be counted as part of academic staff, while in other systems they are considered as part of non-academic personnel.

Table 9 Changes in the share of public funding to universities in GDP between 2008 and 2014

Evolution (2014 compared to 2008)	Country
2014 higher than 2008	Austria, Croatia, Denmark, France, Germany, Luxembourg, Netherlands, Norway, Poland, Portugal, Serbia, Slovenia, Sweden and Turkey
2014 lower than 2008	Czech Republic, Estonia, Finland, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Slovakia, Spain and United Kingdom

The data analysed in this report is available through the

EUA Public Funding Observatory online tool:

<http://www.eua.be/publicfundingobservatory>

EUA welcomes feedback on the report at the following address: funding@eua.be

European University Association

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The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 47 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact on their activities.

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