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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 figures are made available to EUA by its collective members, the national rectors’ conferences, whose support has been invaluable. Processed and analysed in view of evolving student numbers, as well as the overall economic context adjusted to inflation and GDP growth, this data provides some empirical evidence on public funding trajectories in the field of higher education in Europe.
Structure of the report

The EUA Public Funding Observatory (PFO) consists of the present report and an online tool, providing access to the full dataset on public funding to universities in Europe. The data can be consulted by country and by year of funding. The period of study spans from 2008 to 2016. The PFO also includes analysis of latest developments in 2017.

The 2017 edition features revamped country data sheets providing key figures for each higher education system covered. The country data sheets can be consulted individually or as part of the PFO Compendium 2017.

The present report consists of two parts. The first chapter offers analysis of the long-term trends captured over the period between 2008 and 2016. The second chapter presents the overview of the latest public funding developments in 2016 and 2017.

A separate note describes the methodological approach and offers further data and clarifications.

The 2017 PFO report features 34 higher education systems. For the first time, Cyprus is included in the analysis. This edition differentiates between various higher education systems within the UK, providing separate data for England, Northern Ireland, Scotland and Wales.
Part 1 Evolution of public funding to universities (2008-2016)

This chapter outlines the long-term developments in public funding to universities across Europe. EUA’s monitoring tracks the evolution of funding allocated by public authorities to universities since 2008.

Long-term developments are best contextualized against a set of key factors, such as student enrolment, inflation and economic growth.
1.1 Evolution of public funding to universities

The map shows how public funding to universities in 2016 changed compared to 2008.

The different shades of blue indicate which group each system belongs to, according to its investment dynamics. Top increases appear in dark blue. The lightest shades of blue point to the systems that cut funding in the period under review.

The funding data is adjusted for inflation. In countries where inflation is relatively high, there is a significant gap between nominal change and real change, as is the case for Iceland and Turkey.
1.2 Long-term funding trends

The higher education systems under review follow various long-term funding trajectories over the period 2008-2016.

Based on the analysis of the annual funding changes throughout the study period, several groups of systems that follow similar patterns can be identified.

Systems such as Austria, Germany or Sweden show sustainable investment patterns, characterised by both significant and sustained funding growth.

Other systems feature more limited, slower investment – Denmark, France and the Netherlands are among these.

Comparatively few systems have embarked on a recovery pattern, whereby signs of investment can be detected after a period of important cuts, as is for instance the case in Iceland or Portugal.

Finally, systems with continued cuts to higher education present characteristics of aggravating patterns (Italy, Latvia and Spain are some examples).
1.3 Evolution of public funding to universities against student enrolment

Considering funding trends in isolation only shows part of the picture for the countries analysed. Trends in student enrolment are crucial to better apprehend the situations of the different systems.

While the scope of the data collected for the period 2008-2016 does not allow for the establishment of a direct relation between public funding and student numbers at the system level, it helps understand the pressure universities face in a given system.

EUA performed the analysis for 34 systems, for which it obtained complete funding and student number datasets. The sample is divided into two groups, capturing positive and negative trends in all systems.
1.3.1 Systems with increasing funding

The graph shows the changes in both funding and student numbers for 14 systems where public funding in 2016 was higher than in 2008*.

It highlights contrasted situations across Europe and shows the differences between:

- 6 systems where funding growth can be qualified as “sustainable”, i.e. superior to student enrolment growth;
- 8 systems where the demographic pressure is not met by sufficient investment.

*Shorter timeframes are used for the following systems:
  LU (2009-2016)
  CH (2008-2014)

Student numbers for TR were capped at 100% to enhance the readability of the graph. The actual figure is +185.25%.
1.3.2 Systems with declining funding

The gravity of cuts in 19 systems also varies depending on student enrolment figures:

- 7 systems, where funding to universities decreased in 2016 compared to 2008, whilst student numbers increased, are considered to be “in danger”.

- 12 systems, where both funding to universities and student numbers decreased in 2016 compared to 2008, are considered to be “shrinking”.

Shorter timeframes are used for the following systems:

UK data: see description of the UK situation in section 1.8. The figures do not include publicly subsidised student loans.

CY is not included (no corresponding dataset for student numbers).
1.3.3 Long-term financial and demographic pressures

This matrix captures different trends in public funding and student enrolment over the period 2008-2016.

“Frontrunners” and “growing systems under pressure” are placed on the positive ends of the axes. Austria, Norway and Sweden follow sustainable funding trajectories, allowing them to preserve student/staff ratios. In Sweden, the pace of investment is nevertheless slowing down, so further commitment is key for the next years. Norway’s funding growth has recently been less pronounced. Austria, where universities obtain funding based on a three-year contract, shows more marked increases, but the funding growth is slowing down.

Other countries in Northwestern Europe (e.g. Germany and Denmark) tend to be under higher pressure due to rising student enrolment, and funding growth that is not fast enough to cater to this larger student population. A special case, Turkey, is subject to massification of higher education, which is difficult to match in terms of funding and is partly accommodated by the expanding private sector.

Central and Eastern European countries, placed in the left-hand bottom corner of the matrix, are exposed to negative patterns both in terms of student enrolment and public funding. Poland is one exception to this trend. It has been re-investing in higher education for three years in a row against a backdrop of brain drain and reducing student cohorts.

Finally, “systems in danger” (highlighted in red) include those systems that are cutting funds while facing growing student populations.

The situation in the UK is detailed in section 1.8. Other systems were not featured on the graph because of incomplete datasets: BE-fr, CH, CY, EE, FI, GR, LU.
1.4 Public funding to universities and GDP growth

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding ↑ &gt; GDP↑</td>
<td>Investment above economic growth</td>
<td>AT, DE, DK, LU, NO, PL, PT, TR</td>
</tr>
<tr>
<td>Funding ↑ &lt; GDP↑</td>
<td>Investment below economic growth</td>
<td>FR, NL, SE</td>
</tr>
<tr>
<td>Funding ↓ &gt; GDP↑</td>
<td>Disinvestment despite economic growth</td>
<td>CZ, FI, HU, IE, IS, IT, LT, LV, RS, SI, SK, UK*</td>
</tr>
<tr>
<td>Funding ↓ &lt; GDP↓</td>
<td>Disinvestment slower than economic decline</td>
<td>HR</td>
</tr>
<tr>
<td>Funding ↓ &gt; GDP↓</td>
<td>Disinvestment greater than economic decline</td>
<td>CY, ES, GR</td>
</tr>
</tbody>
</table>

In addition to evolving student numbers, it is also important to take account of the country’s investment capacity while assessing the progression of public funding to universities over time. When considered against GDP growth, it is possible to identify some general patterns for various systems over the period 2008-2016.

The first group in the table refers to the most committed systems, which increase their investment in public universities at a larger scale than economic growth.

There appears to be unused margin for manoeuvre in France, the Netherlands and Sweden, where investment remains lower than GDP growth over the period (second group).

Crucially, the third group of countries reduces funding for universities, despite the overall positive GDP growth. Although the picture is highly complex at the national level, this is a warning signal for countries that may miss an indispensable step in strengthening their knowledge economy.

The fourth and fifth groups are characterised by funding cuts and economic decline.

UK data: see description of the UK situation in section 1.8.
Not included in the table above: BE-fl, BE-fr, CH, EE (incomplete datasets)
1.5 A sustained divide in Europe

This graph shows the yearly changes in the number of systems cutting or increasing funding for universities in the period from 2008 to 2016.

2012 appears to be the most difficult year for universities in Europe. After that year, a certain degree of recovery can be detected, as more countries started to re-invest in their universities (Iceland; Lithuania; Hungary as to 2014).

However, recovery at the European level remains slow, and many university systems throughout Europe still operate with lower funding than in 2008.

Two important messages from this are the entrenchment of austerity measures and budget cuts over the long run, with limited capacity of public authorities to restore funding levels and re-invest in universities; and secondly, the sustained divide that plagues Europe and prevents the harmonious development and strengthening of the European Higher Education and Research Areas, as well as, more broadly, that of knowledge economies.

The graph above includes the 27 systems for which the funding dataset is complete between 2008 and 2016. Excluded: CH, EE, FI, LU, UK-ni, UK-sc, UK-wa.
1.6 Long-term developments in university staff

This figure presents different groups of systems according to the changes in the number of students and staff (academic and non-academic) over the period 2008-2016.

The financial and demographic pressures are reflected in the student/staff ratio. Given the varying scope of the data collected, no direct estimates of student/staff ratios can be made. Nevertheless, comparing the dynamics for student numbers and staff can help detect certain trends across Europe.

The situation is particularly challenging for Irish and Northern-Irish universities that have experienced growing student numbers, but have had to reduce staff.

Conversely, Hungarian, Polish and Slovenian universities have managed to increase the number of employees despite their diminishing student populations.

*Systems where the growth in staff numbers is slower than that of students.

The figure above includes the 24 systems for which the total staff and student number datasets are complete for the period 2008-09 to 2015-16.
1.7 Staff numbers against public funding

For those systems where complete datasets are available for the period 2008-2016, it is possible to give some indications on academic and administrative staff numbers against the backdrop of public funding.

While France, Italy and Sweden show increases and decreases in staff that are more in line with increases and decreases in public funding, the situation appears to be more complex for other countries.

Among those systems that invest in staff at a higher rate than public funding growth are Flanders, Croatia, Denmark and the Netherlands. Hungary and Slovenia have increased staff in a context of lower funding.

In some cases, the effort is entirely focused on (or significantly higher for) academic staff (Flanders, Denmark, Netherlands and Sweden), while in others the growth has essentially concerned administrative staff (Hungary and Slovenia). Austrian universities have increased investment in administrative staff, while Croatia and Norway display more coherent growth of both staff categories.

An outlier, Poland, shows relative stability in staff numbers while public funding has been increasing, although in a context of dwindling student numbers.
1.8 Focus on the United Kingdom

The 2017 Public Funding Observatory collected data for the four higher education systems of the United Kingdom, allowing to distinguish between different patterns over the period 2008-2016. England and Wales have followed the same patterns over the period, with a significant shift towards publicly subsidised loan-based tuition fees. Meanwhile, Scotland displays a comparatively slower funding erosion, as the student population continues to grow. Increasing demand challenges the sustainability of a system that until now was characterised by grant-covered tuition fees. The period of analysis for Northern Ireland is shorter (2010-2014) and reveals significant funding cuts for an under-resourced system, which has been cutting on enrolment and staff to maintain quality.

The chart includes direct grant funding only. In 2008-09 around 72% of teaching funding in England was provided through direct grants, down to 15% by 2016-17. Total funding for teaching however increased by 33% over the period. It has been estimated that of the GBP 16.7bn invested in HE in England in 2017, the government will pay for GBP 7.9bn in the long term (ca. 47%)*.

The base year for comparison is 2008 for UK (aggregated data) and UK-en; 2009 for UK-wa and 2010 for UK-sc and UK-ni.

Part 2 **Short-term trends in funding to universities**

This chapter provides the overview of the most recent university funding trends in Europe. It explores the short-term trajectories of total direct public funding to universities, allocated over the last two years, and investigates their impact on various university activity areas.

Funding data for 2017 is not yet available for all 34 systems covered in the PFO, nor is the inflation rate for the current year. Therefore, the analysis centers on the changes in nominal public funding for 2017 and in real public funding adjusted to inflation for 2016.
2.1 Public investment in universities in 2017 (in nominal terms)

<table>
<thead>
<tr>
<th>Change</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 10% increase</td>
<td>HU, IS</td>
</tr>
<tr>
<td>5% – 10% increase</td>
<td>BE-fl, CZ, ES, NO, SK, TR</td>
</tr>
<tr>
<td>1 – 5% increase</td>
<td>BE-fr, HR, IE, NL, PL, PT, SE</td>
</tr>
<tr>
<td>-1% – +1% change</td>
<td>AT, CY, LT, UK-sc</td>
</tr>
<tr>
<td>1 – 5% decrease</td>
<td>UK-en*</td>
</tr>
<tr>
<td>5% – 10% decrease</td>
<td></td>
</tr>
<tr>
<td>&gt;10% decrease</td>
<td>UK-wa*</td>
</tr>
<tr>
<td>No data</td>
<td>CH, DE, DK, EE, FI, FR, GR, IT, LU, LV, SI, RS, UK-ni</td>
</tr>
</tbody>
</table>

Funding figures for 2017 are only available for 21 of 34 higher education systems in the sample. Of these 21 systems, 15 increased funding for universities by more than 1% in 2017. The biggest expansion in nominal terms compared to the year 2016 was achieved in Hungary (29.6%) and in Iceland (11.1%). In four systems, the funding changes remained within the range of -1% to 1%.

* UK data: see description of the UK situation in section 1.8
2.2 Evolution of public funding to universities in 2015-2016 (in real terms)

The adjustment of 2016 public funding data to the inflation rate for that year complements the analysis of the short-term funding trends.

In 2015-2016, the biggest investments in real terms (top 9) were made in Turkey (18%), Austria (8%), Luxembourg (8%), Croatia (7%) and Iceland (7%).

The biggest cuts were applied in Greece (-16%), Slovenia (-9%) and Czech Republic (-6%).

The changes in other systems were less pronounced.
2.3 Short-term funding trends

Several specific regional and country-level trends can be identified in the short term:

Some **signs of recovery** of public investment in universities can be observed in Northern Europe and Central Europe, as “all EU Member States’ economies set to grow in 2016, 2017 and 2018”*. The recovery is marked by significant year-to-year fluctuations and is still quite fragile. More funding effort is needed to mitigate the effects of the previous cuts and to keep up the positive trend.

**Cautious steps forward** are made in Scandinavia, as well as in Belgium, France and the Netherlands, which seem to get back on the investment track after a few years of minor negative or flat growth.

**Continuing commitment to investment** can be observed in Austria, Germany, Luxembourg and Switzerland. In these systems, the latest funding increases either match or surpass the average annual growth of public funding for universities.

**Aggravating decline** in public funding for universities can be observed in some countries in the Balkans and Central Europe, as well as in Ireland and Spain.

Finally, Turkey faces the challenge of funding massification of higher education, with some recent large-scale increases.

More detailed analysis of these patterns is presented below.

2.3.1 Signs of recovery: Northern Europe

Finland slightly increased its public funding to universities in 2015, compared to the two previous years. Since no funding data is available for 2016-2017 for Finland, it is quite difficult to assess how sustainable this trend is. The earlier cuts have forced the Finnish universities to reduce expenses, particularly for non-academic staff, and cut costs by adjusting all operations. Although additional funds (EUR 143 million) were allocated for research, these injections are unlikely to compensate for the cuts. Finland is still retaining one of the highest GDP shares of public funding to universities, although it slightly decreased in 2015.

In the context of a robust economic growth with a surplus of almost 20% of end-year GDP in 2016, Iceland made a significant re-investment in the last two years. Provided the inflation rate remains low in 2017, Iceland might reach its 2008 level of university funding. Teaching is one of the areas that benefit most from the funding increase. The sector reports on some moderate positive effects on teaching and staffing policies achieved through this year’s re-investment. The annual student growth remains at 12%. In this context, the government aims at ensuring better financing per student.
2.3.2 Signs of recovery: Central Europe

Croatia’s investment in universities moved into the green in 2016, with 7% in growth. A somewhat lower increase was achieved in 2017 to compensate for the previous cuts. While the most recent dynamics look quite optimistic, the growth needs to be sustained in the longer term.

After a year of minor growth in 2016 (1.7% in real terms), Hungary increased its funding to universities by nearly one third in nominal terms in 2017, amidst the controversial reforming of the Hungarian higher education sector. Investments were made in all areas (teaching, research, staff and particularly infrastructure) despite the continuing student decline of -2.8% in 2016-17 compared to the previous academic year. This is the second massive increase in university funding in Hungary since 2014.

After a few years of significant growth, public investment in Polish universities seem to slow down a bit in 2016 and 2017, although the latest figures represent commitments and actual expenditures might still be higher. The government opted to provide additional resources for research, which had moderate positive impact on this area. The funding formula was modified to focus on student-to-staff ratio. Against the backdrop of the continuing decline in student numbers (-4% in 2017) and a minor increase in staff numbers, some Polish universities will see the number of admitted candidates reduced in 2017, as compared to 2016.

Slovakia increased its public funding for universities in 2017 for the third year in a row. The 2017 increase promises to be the biggest with more than 5% in growth in nominal terms. Research, teaching and staff areas are positively affected by the increase, as salaries of academic and non-academic staff grew by 6% and 4%, respectively in 2017.
2.3.3 Signs of recovery: Cyprus and Portugal

In Cyprus, which was added to the PFO in 2017, minor increases in public funding were made in 2016 and 2017. Considering the country’s negative inflation rate (-1.2% in 2016), the minor increase in absolute terms (1.2%) resulted in a higher value in real terms (2.4%) in 2016. Provided inflation remains below zero, the 0% change in absolute funding in 2017 might be translated into some positive growth. Additional funds specifically go to support university infrastructure.

The positive signs are so far due to the impact of the inflation rate. A much stronger commitment to public funding for universities in Cyprus is necessary to compensate for a more than 20% decrease accumulated since 2008.

The funding dataset for Cyprus is rather limited, as only two public universities out of three provided data. No coherent student dataset is available for these institutions.

Portugal retains the positive trend of the last three years. Although a yearly increase in real funding was rather limited (1.8%) in 2016, the country’s outlook for 2017 is more optimistic, with nearly 5% more (in nominal terms) invested in public universities, particularly to support staff. Yet the overall impact of the latest funding changes on research, staffing policies and infrastructure is estimated by the sector as significantly negative, considering the budget cuts applied before 2008.
2.3.4 Cautious steps forward: Scandinavia

**Sweden** and **Norway** are projected to cautiously increase their investment in universities in 2017 after a short period of stagnation, whereas Denmark allocated additional funds in 2016. However, the countries’ respective latest annual investments are still below the average annual growth for the 2008-2016 period.

Further to a minor negative change in real funding in 2016 (-0.2%), **Sweden** is back to flat annual growth in 2017 (1.6% in nominal terms, subject to correction to the projected positive inflation rate), as the economy continues to show strong real GDP growth. The level of funding for different activity areas essentially remains unchanged. The sector reports moderate positive effects in research, teaching, student services and infrastructure.

University investment in **Denmark** grew by nearly 2% in 2016. The government has put forward a new public funding system still based on zero tuition fees (Danish and EU students), student completion time and employability. Under the new system, the government may ask universities to adjust, postpone or suspend investments if the total budgeted investment for publicly-funded institutions exceeds the amounts laid down in the Finance Act. However, total public funding was cut in 2017 and the funding per full time student is going down. Despite the declining GDP growth, public funding to universities in **Norway** grew by 1.6% in real terms in 2016 and is projected to have a similar growth pattern in 2017.
2.3.5 Cautious steps forward: Western Europe

The 2016 investment in the Dutch universities was the country’s highest increase since 2008 (+2.4% in real terms) and the 2017 funding figures should be at least of a similar scale (+2.8% in nominal terms). The additional funds were allocated for research and teaching, with moderate positive effects for both areas. However, funding per student adjusted to inflation goes down in view of the growing student numbers (+2% in 2017-18). Reallocation from teaching to grants for performance agreements decreased from EUR 150 million in 2016 to EUR 120 million in 2017.

Real investment in universities in France reached 1% in 2016, which is almost in line with the most recent student enrolment trend – thus, overriding the negative funding dynamics of the previous year.

In Flanders (Belgium), funding increased by less than 1% in 2016, although the forecast for 2017 looks much brighter (+9% in nominal terms). The short-term funding trend in the French-speaking Community of Belgium is somehow the opposite: more funding was allocated in 2016 (+4.14%), but only 2.6% (in nominal terms) will be invested in 2017, as the Belgian economy shows robust growth.
2016 was quite positive in terms of funding dynamics in Austria, Germany and Luxembourg.

In Austria, real public investment in universities was the second highest among all systems (8.2%). However, no further increases can be expected in 2017 and 2018 given the country’s three-year funding cycle.

Germany increased its real funding for universities in 2016 by 4.1%, which is the highest increase in three years.

With a 7.9% increase in real funding in 2016, Luxembourg also demonstrates a continuing commitment to investing in its university.

The funding dataset for Switzerland is not complete, as it spans over the period of 2008-2014. The latest funding data is available for the year 2014, when public funding for Swiss universities increased by 7.5% in both real and nominal terms.
2.3.7 Aggravating decline: Ireland

Public funding to universities in Ireland dropped by 2.6% in 2016. Although recurrent funding increased by 3.5% in 2017, the first increase in almost a decade, increasing student numbers means that funding per student continues to decline. In addition, national pay agreements have resulted in increases in the cost base for higher education institutions in Ireland in 2017. Restrictions remain in place regarding core staffing numbers. Research funding remains under pressure in Ireland with institutions encouraged to expand research through non-state sources including Horizon 2020. Capital funding (for example investment in infrastructure) after years of decline is now at minimal levels and has remained broadly in line with the previous year albeit at a very low base.

The Expert Group established by the Ministry of Education to examine the future funding of higher education reported in late 2016 on a substantial funding shortfall and the unsustainability of the current funding model. The report identified that a further annual investment of EUR 1bn per annum will be required by 2030 to meet demographic demand and address issues arising from a sustained period of underinvestment. The report recommended that all beneficiaries of higher education should contribute to the funding of higher education including the State, Employers and students and set out a series of potential funding options for consideration.

The report was submitted to a cross-party parliamentary committee for review. Considerations are ongoing in this regard with consensus proving difficult. This, with the current political uncertainty in Ireland, means that any decision on the future funding of higher education is unlikely to be made in the short to medium term, leaving the sector in a precarious position as demographic changes continue to increase pressure on the system.
2.3.8 Aggravating decline: Spain

Spain continues to follow a negative trajectory, which was only interrupted in 2015. The outlook for 2017 seems positive, nevertheless, with a 5.10% estimated increase in nominal terms. Student enrolment remains broadly stable, but even small increases in the student population contribute to higher pressure on universities. The additional funds in 2017 are channeled to support research, staff and infrastructure, with some moderate positive effects. The country’s university funding is, however, still in the red, since it has not closed the funding gap accumulated since 2008.
Several countries further aggravated their investment patterns in 2016 and 2017. In the Balkans, **Greece** (-16%), **Serbia** (-2%) and **Slovenia** (-9%) reduced public funding for universities in 2016, despite relatively robust economic growth in Serbia and Slovenia.

Following a major decrease in funding in 2016 (-5.75% in real terms), added to previous cuts, the **Czech Republic** is providing more resources (+6.1%) in 2017. Yet this figure might still change depending on the state of the country’s economy. The sector estimates the impact of the latest funding changes on almost all activity areas as moderately or significantly negative, except for infrastructure, which is subject to some moderately positive improvements.
2.3.10 Special case: England

While overall direct public funding decreased by 2.7% in real terms in the UK in 2017, England, Northern Ireland, Scotland and Wales follow slightly different pathways when it comes to funding various activity areas.

In **England**, non-competitive public funding for research has been broadly maintained in nominal terms, representing a decrease in real terms in 2017-18. Direct grant funding for teaching has been reduced in line with announcements in the 2015 Autumn Statement, which indicated a total reduction of GBP 120m between 2015-16 and 2019-20. In 2017-18, the cap for tuition fees was raised by inflation for the first time since 2012-13 from GBP 9,000 to GBP 9,250. In 2017-18, GBP 303m of capital funding was announced for higher education institutions, a GBP 40m decrease from the previous year and a significant reduction from a peak in funding in 2009-10 of GBP 930m.

In October 2017 the Government announced that the fee cap would be frozen at GBP 9,250 in 2018-19, and the threshold at which graduates repay loans would increase. It has been estimated that this will result in an increase in the taxpayer contribution to higher education funding to GBP 7.9bn or 47% of up-front government spending on grants and loans.
The reduction in direct grant funding is the highest in **Wales** (-9.3% in 2016 in nominal terms and -22% in 2017 in real terms). Following the publication of the Diamond Review of higher education funding and student finance in 2016, the Welsh government has outlined its plans to make significant changes to higher education funding in Wales. Key proposals include the removal of the tuition fee grant provided to Welsh students and EU students studying in Wales in 2018–19; increased support for living costs for undergraduate students and fee loan support for postgraduate students.

The transition to the new student funding system, and the wider funding environment, mean that the sector in Wales is faced with considerable forecasting uncertainty. In addition to doubts related to Brexit, other factors include the lack of innovation and capital funding in Wales.
2.3.12 Special case: Scotland and Northern Ireland

Universities in **Northern Ireland** continue to face significant funding challenges and an uncertain political environment. They have had to take corrective action, primarily through reducing their undergraduate student intakes and staff numbers, to maintain the quality of their provision.

**Scotland** has faced a slow decrease in funding in the short term (-1.4% in real terms in 2016; +0.5% in 2017). In any one year the effect is moderate, but as this accumulates over a number of years, the real terms reduction in resource - against an increasing cost base - has a much more significant effect. A report, issued by **Audit Scotland** in the summer of 2016, highlighted a challenge to sustainability and competitiveness facing the sector. The cap on the number of places does not meet increasing demand.
2.3.13 *Funding massification of higher education in Turkey*

**Turkey** made a substantial investment in 2016 (18.4% in real terms) in the framework of the ongoing mission differentiation and specialisation of universities based on regional development, as well as research development, internationalisation and education.

Yet, the additional financial effort in 2017 is forecast to be lower in comparison to the previous year (8.6% in nominal terms) after the correction to a high inflation rate in Turkey (7.7% in 2015 and 2016). In Turkey, years of significant investment seem to alternate with periods of flat growth.
2.4 Impacted areas

Few distinct trends emerge in 2017 in funding per activity area. Those systems that provided data seem to follow different pathways. While some systems invested more funding in research, others opted to support teaching or staff, depending on the current political priorities.

For instance, long-term research funding is forecast to grow in Sweden by 2020 in order to provide investment for the development of the European Spallation Source based in Lund. Additional funds for research are also made available in Finland.

In Slovakia, some effort is made to improve the low level of remuneration. The country's official minimum wage has been increased (to EUR 435 per month), which also means a growth in salaries in the higher education sector.

The Welsh government no longer provides matched infrastructure funding to support business engagement, commercialisation and leverage of other innovation funding sources. This puts Wales at odds with other parts of the UK (GBP 160 million was allocated through the higher education innovation fund in England in 2015–16). Furthermore, following the removal of Welsh government capital funding in 2012, universities now need to borrow to make capital investments in order to remain competitive and provide the level of experience that students now demand and that is on offer elsewhere in the UK.
2.5 Links between national and EU-level funding

The EUA member consultation on the Horizon 2020 mid-term review, conducted in 2016, revealed that when national funding opportunities decrease, universities tend to be more attracted by the Framework Programme, but less successful in their proposals.

With almost 90% of all proposals and nearly 75% of high quality proposals left unfunded, the expanding attractiveness of Horizon 2020 creates more competition than the EU system can sustain with the current levels of funding and thus greatly reduces the efficiency of public investment.

Basic calculations show that between 30 and 50% of the funding that countries receive from Horizon 2020 goes to cover the costs of the total number of applications, successful or not. National funders can only get a realistic view of the return on investment in national participation in Horizon 2020 if they integrate all these additional costs.

Therefore, national strategies that aim to compensate for the public funding cuts to universities through EU-level funding not only lack sustainability in the national context, but also undermine the entire EU funding landscape.
2.6 Better synergies through ambitious funding for FP9

EUA has been calling for a significant increase in the budget of the future Framework Programme for Research and Innovation (FP9) in its campaign "EU funding for universities" and in the position paper on EU funding for research. Additional resources are needed to sufficiently fund a significantly larger number of excellent, collaborative and multidisciplinary research and innovation projects (all top-rated proposals).

This can be carried out through a strategic reallocation within the EU’s Multiannual Financial Framework (MFF) with a view to ensure better synergies and complementarity of national and European funding mechanisms. Research and innovation are the first step in the pipeline of societal and economic growth and development. Allocating more funding to the budget of FP9 is thus a critical investment in Europe’s future.
3 Key messages

• In the last eight years, the divide between the higher education systems that increase public funding for universities, and those that reduce investment in universities, is getting wider.

• 2012 was the year of deepest crisis for universities in Europe, with the largest number of systems cutting funding.

• A certain degree of recovery since then can be detected, as more countries started to re-invest in their universities after 2012. However, recovery remains slow and fragile. Only 14 systems had higher funding in 2016 than in 2008 and eight of those have a faster growth in student populations compared to the increase in funding. 19 systems still had lower levels of direct public funding in 2016 than in 2008.

• Once cuts are implemented, it takes a long time for the systems to catch up, mitigate the negative impact on activity areas and sustain a long-term positive trend.

• The analysis of short-term trends reveals four categories of developments: systems with higher fluctuations in funding patterns, systems with positive signs of reinvestment after stagnation or decline, consistently investing systems, and systems that have continued cutting public funding to universities.
3 Key messages

• Changes in public funding need to be considered in the light of other developments, such as the evolving student numbers and the dynamic economic contexts. **Only Austria, Norway and Luxembourg follow a more sustainable funding pathway**, where increases match both developments in student numbers and GDP growth. Assuming there will be robust economic growth in Europe, other systems could improve their investment effort.

• The impact of cuts on activity areas varies across countries and can affect teaching, research, infrastructure or staff.

• **Strong links exist between national funding for universities and EU-level funding for research and innovation.** While the overall success rate in the current EU Framework Programme for Research and Innovation dropped to ca. 10% due to oversubscription, universities from countries that increase public funding adequately tend to have better chances for success.

• **More funding is needed at the EU level** to improve the efficiency of the Framework Programme and at the national level to build the capacity of universities to compete and remain attractive for international networks.
### Higher education systems - codes

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Resources

- EUA Public Funding Observatory online tool
- EUA Public Funding Observatory country sheets 2017
- EUA Public Funding Observatory methodological note

All available here:
www.eua.eu/publicfundingobservatory

For additional information, please contact:

Governance, Funding and Public Policy Development Unit
Thomas Estermann
Enora Bennetot Pruvot
Veronika Kupriyanova

funding@eua.eu
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 their activities.

The Association provides a unique expertise in higher education and research, as well as a forum for exchange of ideas and good practice among universities. The results of EUA’s work are made available to members and stakeholders through conferences, seminars, websites and publications.

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