

# How are European Higher Education Institutions funded? New evidence from ETER microdata

## European Tertiary Education Register

The ETER project, 2019

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The way resources are allocated to Higher Education Institutions (HEIs) represents a key dimension of public policies in order to secure responsiveness of higher education to societal needs and in order to ensure an efficient use of resources in a period of tight public budgets. In this respect, public policies are increasingly putting emphasis on the allocation of financial means based on measurable goals and performance criteria, as well as on gaining more resources from students and from private donors.

However, the extent to which this changing policy climate has an impact on the level of composition of resources of individual institutions is largely unknown, also for the lack of reliable micro-data on HEI revenues. This report, based on unique data from the European Tertiary Education Register, provides evidence on the level and composition of revenues for more than 1,300 HEIs in 20 European countries (referring to the year 2015), as well as on changes over the period 2011-2016.

## Key findings

### Differences in the level of revenues

- There is a large disparity between the revenues gained by Higher Education Institutions in Europe. Half of the Institutions in the ETER sample earned less than € 50 million in the year 2015, while only 150 institutions accounted for half of all revenues in the dataset.
- Only 5 universities had in 2015 revenues exceeding € 1 billion, i.e. Cambridge, Oxford, UCL, Manchester, and Imperial College, closely followed by ETH Zurich, Edinburgh and KU Leuven, which are only slightly below the 1 billion € mark. These are also at the top of international rankings, suggesting that that ranking positions are associated with large budgets.
- The highest revenues per student are found in graduate schools, top-ranked international universities, and specialized universities in technology and medicine. High revenues per student are therefore associated with research orientation.
- As a median value, public institutions have 70% more revenues per student than private ones, since private institutions usually do not receive basic state contributions; universities (PhD awarding) have 60% higher revenues per student than colleges, which do not award the doctoral degree, as the former earn more money for research.

### Revenue composition

- Despite policies to increase revenues from students and companies, a typical European Higher Education Institution still receives about two-thirds of the revenues from the basic state contribution.
- The only countries where higher education is mostly funded through student fees (partially subsidized by the state) are UK and Ireland.
- For most Higher Education Institutions in Europe, third party public and private funding accounts for a small share of total revenues; the median in the ETER sample is 7%.

### Third-party and private funds

- Professors in universities acquire nearly six times more third-party funds per capita than colleges, as associated with higher research orientation.
- Technological universities, medical schools and top-ranked international universities have a much higher share of third-party funds (up to 40% and above of total revenues). This reflects the fact that availability of such funds is larger in natural sciences, engineering and health.
- National funding systems in Europe are very different regarding the importance of third-party funding, with Belgium, Lithuania, Estonia and Denmark coming at the top and Hungary, Slovakia, Poland and Latvia and the bottom. This is clearly reflected in the ETER data.
- Despite policy efforts to increase private contributions, only 41 Higher Education Institutions in the ETER sample earned in 2015 more than 10% of their revenues from private third-party funds.

### Changes from 2011 to 2016

- Higher Education Institutions revenues in Europe increased over the period 2011-2016. The effect of the financial crisis seems to have been largely recovered in most countries.
- There are however large disparities between countries. The median increase in revenues exceeded 10% for most of the 21 countries in our sample with the exception of Italy, Malta and Lithuania, where the median revenues decreased in the period 2011-2016.
- The increase in funding in the period 2011-2016 was larger than the increase in the number of students. This also due to the fact that, for most HEIs, enrollments did not grow substantially in this period.

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**Table 1. Table of abbreviations**

EEA	European Economic Area
EFTA	European Free Trade Agreement
ETER	European Tertiary Education Register
GDP	Gross Domestic Product
HEI	Higher Education Institution
ISCED	International Standard Classification of Education Degrees
NPM	New Public Management
PPP	Purchasing Power Parities
UOE	UNESCO-OECD-EUROSTAT manual for educational statistics

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## 1. This report

The way Higher Education Institutions (HEIs) are funded has become a central issue in current higher education debates at the national and European level. As stated by the EU Agenda for Higher Education “as higher education is called on to do more, it becomes more challenging for governments and HEIs to determine the best ways to target and balance investment” (European Commission 2017). On the one hand, HEIs are under pressure because of growing numbers of students, international competition for excellence (Bonaccorsi et al., 2017) and new demands to contribute to economic innovation and societal impact. On the other hand, public budgets are under pressure, because of the economic crisis and of competing demands for government investment and, hence, the growth of public funds does not keep pace with societal demands (Jongbloed and Vossensteyn, 2016).

The debate about higher education funding concerns a number of related themes, such as austerity and the impact of the financial crisis, the design of funding systems “that encourage higher education to deliver what society needs and reconcile the objectives of effectiveness, equity and efficiency” (European Commission 2017), the introduction of performance-oriented funding (Hicks, 2012) and, finally, the possibility of increasing the contribution of students and of private donors to overcome constraints in public funds.

While there is a large number of publications and reports on the topic (see for example Zacharewicz et al., 2018), we currently lack an empirical analysis of how the amount and composition of resources for higher education changed at the institutional level, taking into account the different profiles of individual HEIs and their strategic behavior.

In this respect, this report provides novel empirical evidence by using data from the European Tertiary Education Register (ETER) on the distribution and composition of HEI revenues at the institutional level. For the first time, we are able to look into differences between HEIs within and across countries and to provide some preliminary evidence on changes over time, thanks to the availability of data for the years from 2011 to 2016.

More precisely, this report addresses the follo-

wing questions:

- What are the differences between HEIs in the level of funding, absolute and relative to the number of students? How important are country vs institutional differences?
- How are HEI revenues composed in terms of core budget, third-party and student fees? Are there differences in this respect, for example depending on the HEI legal status and on the country?
- To which extent have student and private contribution become a major source of revenues to European HEIs?
- Did funding of HEIs decrease in the recent years due to austerity and financial crisis?

We address these questions on a sample of about 1,300 HEIs in 25 European countries and for the year 2015, respectively the period 2011-2016.

This report has been prepared by Benedetto Lepori (Università della Svizzera italiana) with the support of Daniel Wagner-Schuster and Marija Breitung-Loidl.

### What is ETER?

The European Tertiary Education Register (ETER) is a database of European Higher Education Institutions (HEIs) delivering degrees at tertiary level. It provides data on descriptors and regulatory characteristics, geographical information, students and graduates, staff, HEI expenditures, research and transfer activities, as well as a set of pre-defined indicators characterizing relevant dimensions of HEI activities, like the extent of subject specialization, international mobility, gender balance.

ETER currently provides information on nearly 3,000 HEIs in 37 European countries from the year 2011 (academic year 2011/2012) to 2016 (2016/2017), including EU-28 countries, EEA-EFTA countries (Iceland, Liechtenstein, Norway and Switzerland) and candidate countries (Albania, North Macedonia, Montenegro, Serbia and Turkey). However, for some of these countries, no data (French part of Belgium, Montenegro, Romania) or very limited data (Albania, Denmark, Iceland, North Macedonia, Turkey) is available.

### What is the rationale for ETER?

Reliable information on higher education systems is key for the modernization of European higher education, as it lays the groundwork for evidence-based policies. Reliable information at the institutional level is important for HEIs and stakeholders to make informed choices, for example on potential cooperation partners, subjects offered, the quality of education, employability, and research quality.

ETER contributes to these goals in two main ways. First, it provides a reference list of HEIs in the European higher education area, including descriptive and geographical information, which can be used to describe the system and allow matching ETER with other data sources. Second, it provides a core set of statistical data on these HEIs, which are sufficiently comparable between European countries.

### Which is the coverage of ETER

In terms of HEI coverage, ETER provides a broad coverage of institutions in the tertiary sector delivering at least a diploma at the bachelor level (level 6 of the International Standard Classification of Educational degrees, ISCED<sup>1</sup>). ETER mainly excludes institutions delivering only short diplomas (ISCED 5). In terms of number of tertiary education students, coverage is above 85% for most European countries, as compared with EUROSTAT national data.

ETER HEIs can be divided in two groups: a) the institutions delivering degrees up to the doctoral level (ISCED 8), broadly labelled as 'universities' and b) the 'non-university HEIs' delivering degrees up to the bachelor (ISCED 6) or the master (ISCED 7) level. While universities are somewhat structurally similar across countries, in the sense that they pursue jointly education (up to the doctoral degree) and research, non-university institutions comprise very different types and groups of institutions, including colleges, artistic schools, educational schools etc.; non-university HEIs tend to be smaller, more specialised and, in most cases, with a limited or no research activity.

### What are ETER's uses?

ETER is a general public resource, which can be accessed free of charge and combined with other sources. The potential uses therefore cover different scholarly and policy domains, like analysing the structure of European higher education, studying the impact of HEIs in regions and cities, analysing the efficiency of HEIs and the 'best' size to inform national consolidation policies. Most ETER data are freely accessible on-line at the public ETER website ([www.eter-project.com](http://www.eter-project.com)). Part of the data is available upon registration and for research purposes only.

<sup>1</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php/International\\_Standard\\_Classification\\_of\\_Education\\_\(ISCED\)](https://ec.europa.eu/eurostat/statistics-explained/index.php/International_Standard_Classification_of_Education_(ISCED))



### **Who is leading ETER?**

ETER is a project funded by the European Commission's Directorate General for Education Youth, Sport and Culture (contracts EAC-2013-0308 and EAC-2015-280) and the Joint Research Centre (contract 934533-2017 A08-CH). It is a joint undertaking of five partners - USI, Università della Svizzera Italiana, Lugano, JOANNEUM RESEARCH, POLICIES, Graz, NIFU – Nordic Institute for Studies in Innovation, Research and Education, Oslo, University of Rome La Sapienza and University of Pisa – in close collaboration with EUROSTAT, with a network of national experts and with the National Statistical Authorities of the participating countries.

### **How is ETER related to EUROSTAT educational statistics**

ETER is a voluntary data collection promoted by the European Commission and is not part of the European Statistical Infrastructure. However, to a very large extent, ETER follows the UOE manual definitions and practices, particularly for students and graduates. Most data sources are the same as collected for EUROSTAT by National Statistical Authorities, which deliver them in disaggregated form to ETER.

The main difference with UOE data collection is that the reference unit is the higher education institution (HEIs) rather than a higher education system/country. Furthermore, ETER provides additional institutional-level data including HEI characteristics, financial and academic staff data obtained mostly from National Statistical Authorities.

## 2. What we know about higher education funding<sup>2</sup>

Higher education funding is a complex and multifaceted issue, which is related to a diverse set of objectives and functions, including education, research and third-mission activities, as well as to different funders including the state, students and families, private donors and companies.

The policy and scholarly debate was mostly concerned with the design of public funding policies, as, in the European context, the state provides most of the resources for the sector. This is in sharp contrast with the US, where families and private donors play an increasingly important role in funding higher education (Cohen, 2007; Goksu and Goksu, 2015). Key issues in this respect are how to provide sufficient funding to higher education in periods of economic austerity and how to efficiently allocate financial means in order to obtain maximum benefits from the available resources.

The broader policy context has been a change in the underlying beliefs for higher education policies and funding, from a policy framework where higher education was considered as a public good towards increasing marketization (Lepori and Jongbloed, 2018) and the move towards so-called 'academic capitalism' (Slaughter and Rhoades, 2004). While market orientation always characterized the US higher education system, these ideas were introduced in the European context with the emergence of New Public Management in the 1980s and 1990s (Ferlie et al., 2008), albeit with large differences between countries in the extent of the reforms (Paradeise et al., 2009). The analysis of funding has therefore become an integral part of the evaluation of national higher education systems, as emphasized by the OECD project on Benchmarking Higher Education Systems Performance (OECD 2017).

While the policy side and related changes in the allocation of funds have been extensively discussed (see for example Jongbloed and Vossensteyn, 2016; Zacharewicz et al., 2018), the interaction between funding policies and the resourcing strategies of individual institutions has been much less investigated in the Europe-

an context, largely because of the lack of data at the institutional level<sup>3</sup>. This is in sharp contrast with the US, where a number of studies have been published using the IPEDS data (<https://nces.ed.gov/ipeds/>; see for example Weerts and Ronca, 2012). Yet, the large institutional diversity of European HEIs and the differentiation of the 'market' positioning and strategic profile of the HEIs themselves (Deiaco et al., 2012) require a more differentiated approach examining how funding policies impact on HEIs depending on their institutional mandate, activity profile and subject domain (European University Association 2015).

This report aims at addressing this kind of questions thanks to the use of the ETER data.

### 2.1. HEI funding: a primer

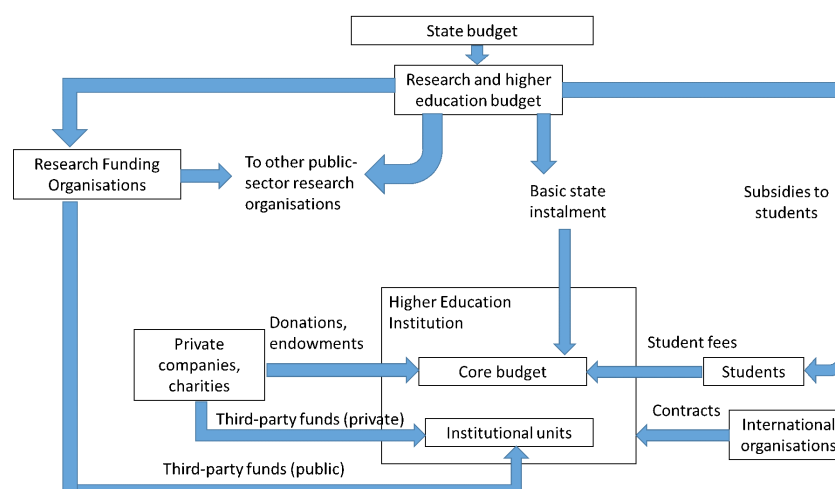
Figure 1 provides an overview of the HEIs funding environment, which also forms the basis for the analysis in chapter 4. It connects the funding streams with the sources of funds, identifies the main funding channels and shows the levels of decision-making concerning the distribution of resources (Jongbloed and Lepori, 2015).

HEI revenues, i.e. the money acquired by an HEI for its functioning, can be disaggregated according to two dimensions, i.e. the source of funds (public vs. private) and the stream. For the latter, we draw a distinction between the university core budget, i.e. the funds for the 'regular' functioning of the institutions and managed at the institutional level, third-party funding dedicated to specific activities and allocated directly to research groups (Lepori, van den Besselaar, Dinges, van der Meulen et al., 2007) and fees paid by students (and their families) for educational programs (Johnstone, 2004).

<sup>2</sup> This chapter is based on Jongbloed and Lepori, 2015, Lepori and Jongbloed, 2018.

<sup>3</sup> An exception are the data for European universities collected yearly by the European University Association Funding Observatory (European University Association 2018).

Figure 1. The funding environment of higher education institutions



Source: Lepori and Jongbloed, 2018

In most countries, the basic state contribution represents the largest part of the HEI budget (Lepori, van den Besselaar, Dinges, Poti et al., 2007). This is a yearly contribution from the state (national, as well as regional), which is attributed for the day-to-day operations of HEIs, such as payment of staff, infrastructure and maintenance. Whereas in the past these funds were attributed for specific activities and items, today in most cases these funds are attributed as a block grant, leaving the HEI free to decide on their usage within the institution (Jongbloed, 2004). Usually, only HEIs in the public sector have access to these resources.

Additionally, a share of the institutional core budget is composed by own resources of the HEI (such as the revenues from endowments) and from donations of foundations, alumni and companies. While such funds represent a large share of the revenues of US research universities, they played a limited role in the European context until now (Lepori, Geuna et al., 2018).

Third-party funds refer to revenues acquired for specific activities, such as research projects, services and postgraduate education; these funds are usually limited in time and allocated to specific institutional units. The main component of third-party funds are public research grants attributed by national and international funding agencies based on the competitive evaluation of proposals (Reale et al., 2017). A share of third-party funds is provided by com-

panies in exchange for research and for services (David et al., 2000). There are important complementarities between the core budget and third-party funds as the former provides the basic infrastructure to apply for third-party funding and, specifically, senior positions such as professors (Lepori et al., 2016).

Finally, student funding is funding provided by students and their families in order to participate in educational programs (Johnstone, 2004).

## 2.2. Funding levels. Austerity and country differences

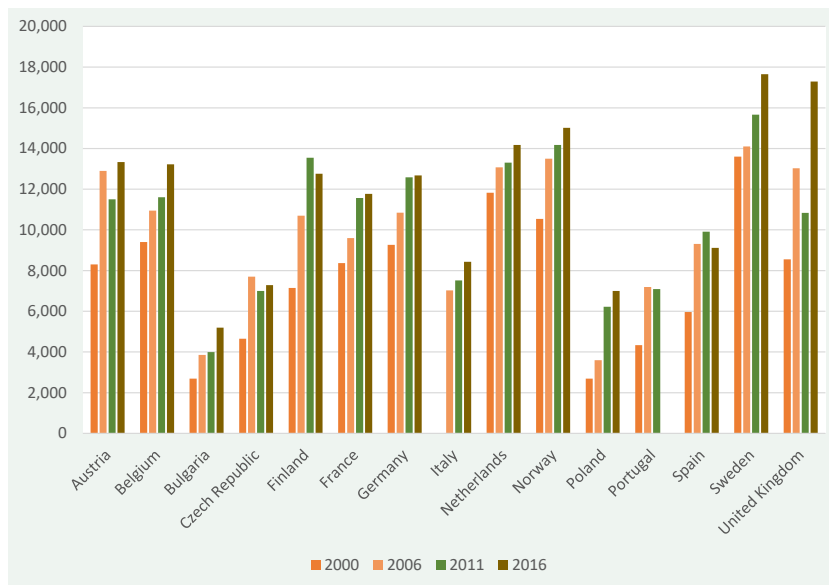
A first dimension of the “new funding climate” in European higher education may be described by the term austerity (Geuna, 2001). While in previous decades higher education usually received constant and predictable budget increments, the more recent funding regime is characterized by budget cuts and volatility in terms of resources. This posed difficult challenges for organizations such as HEIs, which were confronted with fluctuating resources, despite an important share of their expenditures is bound to long-term positions of academic staff.

At least for the period after 2000, for which there are systematic statistical data, there is limited support for the austerity thesis. Statistical data from Eurostat reveal that from the year 2000, public expenditures per student were in-

creasing in most European countries, including countries like the UK where severe budget cuts were made in the 1980s and 1990s. For the EU-28 countries, public tertiary education expenditures increased from 1.12% of GDP in 2000 to 1.29% in 2013 and remained fairly constant in terms of the share of total public expenditures. Expenditures per student at the tertiary level increased by some 20% in current prices over the same period, more or less in line with the overall increase in prices (Figure 2). This relatively

stable environment should also be understood against the background of substantial stagnation of the enrolments in tertiary education after the year 2000. Data from the European University Association Funding Observatory also reveal mixed patterns, with some countries having sustained increase of the investment in higher education, while other hardly recovering the funding levels before the 2012 financial crisis in 2017 (European University Association 2018).

Figure 2. Expenditures in public and private institutions per student



Source: Eurostat. Annual expenditure in public and private educational institutions per student in Purchasing Power Parities (PPPs), at tertiary level of education (ISCED 5-8), based on full-time equivalent student numbers.

UK: break in series in 2012 with the inclusion of student aid.

However, the fact that resources for higher education increased in the last 15 years does not exclude that many people in higher education feel that they are living in an age of austerity (Jongbloed and Vossensteyn, 2016). A first reason for this is that the new funding environment includes a stronger emphasis on accountability and the need to justify investment in the field. Accordingly, the perception of uncertainty and risk might be stronger. Second, European higher education largely bears the imprinting of an unprecedented massification after the Second World War and, therefore, institutional structure

are not necessarily adapted to a period of lower growth in revenues. Moreover, stable funding came along increasing societal demands to higher education, for example in terms of its contribution to economy and society.

Third, as shown by Figure 2, differences between countries in the level of resources continue to be very large, with some of the Nordic countries spending three to four times more in terms of the amount per student compared to Eastern European countries. The same pattern is repeated at the level of individual HEIs, with resources per student varying by a factor

of ten between the top-European research universities and the education-only HEIs in some countries (Lepori et al., 2017). In some parts of the European HE landscape – in particular in the research universities in the better-off countries – HEIs are experiencing a relative abundance of resources, while many institutions in other countries are experiencing a relative scarcity despite the fact that their absolute level of resources may not be decreasing. This last remark highlights that the distribution of resources within a system and between the activities carried out by HEIs may be as important as the aggregate level of resourcing. This is exactly one of the main dimensions to which ETER is providing empirical evidence.

### 2.3. Introducing performance-based-allocation

A major dimension of funding reforms in European countries, as emphasized also by the EU Agenda for Higher Education (European Commission 2017), is the allocation of financial means based on measurable goals and observed performance. This follows the New Public Management (NPM) belief that, rather than governing higher education by command and control, steering at distance by creating economic incentives to HEIs would be preferable (Ferlie et al., 2008). On the one hand, such a model would allocate resources to more efficient HEIs; on the other hand, in order to acquire more funds, HEIs would start competing and would become more efficient over time (Deiaco et al., 2012).

In terms of the allocation models for public funding, changes mostly concerned how the basic state contribution is attributed to HEIs. The general tendency has been to replace historical allocation, in which HEIs receive more or less automatically an increase in funding every year independently of their performance, with more performance-oriented models, either based on quantitative indicators or on the stipulation of performance contracts between the state and HEIs (Jongbloed, 2011). At the same time, HEIs have usually been given greater autonomy on how to use funds internally in order to reach their goals.

In most countries, the basic state contribution is nowadays divided into an allocation for education and an allocation for research using distinct criteria. The educational part is largely computed based on the number of students,

usually adopting different rates by subject fields (Jongbloed and Vossensteyn, 2016). The research component still includes in most countries an historical component, which ensures stability of resources, alongside a performance-based component calculated using indicators such as bibliometric output or the results of evaluation of research quality (Hicks, 2012). The relative importance of the historical and performance component displays large variations by country (Zacharewicz et al., 2018). Situations like the UK, where the whole research component of the basic state contribution is performance-based, are exceptional in Europe.

Further, it is generally believed that, as far as research funding is concerned, there has been a shift towards project funding, allocated competitively to individual researchers or research groups based on an evaluation of research proposals (Lepori, van den Besselaar, Dinges, Poti et al., 2007). From an NPM perspective, this is a means to introduce more competition and to target the high-performing researchers and research groups within universities, thus raising quality and performance throughout the research system. However, criticism has been raised concerning the risk of supporting a closed circle of researchers who were excellent in the past, of favoring quick wins and short-term thinking (Laudel, 2006) and of reducing the strategic ability of universities to steer their research (Bleiklie, Enders, Lepori and Musselin 2011).

Available data suggest, however, a more complex picture, where European countries can be classified into three broad groups: a) countries where project funding is marginal, b) countries where project funding amounts to 20-30% of total public research funding and is therefore complementary and c) countries where project funding amounts to 40-50% of total research funding (Lepori, Reale et al., 2018). The first group is composed of countries like France, Italy and Spain, where university research was less developed; France moved to the second group after the year 2000 with the creation of a research council and the launch of a large national program to support research investments. The second group consists of most other Continental European countries, typical examples being Germany, the Netherlands and Switzerland. The third group in the 1990s included only Anglo-Saxon countries (UK and Ireland), but in the last two decades some Nordic countries (Finland and Norway) and Eastern European coun-

tries (Czech Republic and Poland) joined this group.

While general country patterns are well documented, the impact on individual HEIs remains poorly understood. Evidence from the UK seems to show that the new competitive regime did not result in a redistribution of resources, but rather keeping budgetary privileges of the top-international universities, despite the enlargement of the higher education system (Stiles, 2002). In this respect, ETER makes it possible to compare the level and composition of funds across HEIs with different characteristics, such as the legal status, the institutional mission (colleges vs. universities) and the research orientation of individual HEIs.

#### **2.4. The promise of private and student funding**

A major goal of higher education policies has been to reduce the dependency of HEIs from public funds for two reasons (European Commission 2017): on the one hand, to acquire additional resources in times of austerity, on the other hand to link funding more directly to services provided to students and to private companies (Estermann and Pruvot, 2011).

While European countries share a tradition of higher education as a public good delivered for free, since the 1980s public policies increasingly have put emphasis on cost sharing by students in order to get additional resources and to motivate students to engage in higher education (Johnstone, 2004). Cost sharing is considered as equitable, as private gains from higher education are substantial, but also to enhance efficiency as HEIs would be pushed to become more attractive to students and to be more responsive to educational needs in order to maintain their resource basis.

Yet, the effective role of fees widely differs between countries, with most Continental European countries still having low fees, while fees have become a major source of income for HEIs in the UK (Jongbloed and Vossensteyn, 2016). Importantly, in countries with high fees such as the US and the UK, student funding also represents an alternative way to allocate public funding to HEIs by providing state subsidies to low-income students (Cohen, 2007).

Similar remarks apply for what concerns fun-

ding from private donors. Increasing these resources is considered a way to overcome public funding limitations, but also to increase responsiveness to economic needs and favor transfer to economy of research results. Yet, it is debated whether private funding creates also adverse effects, such as the privatization of public knowledge and the neglect of basic research (David et al., 2000). Overall, a moderate increase of private funding is thought to complement public funds and to increase scientific and technological production, while a high dependency would generate adverse effects (Muscio et al., 2013; Payne, 2001). Private funding is however more heterogeneous than frequently assumed and it includes basically two components: donations to the whole HEIs from foundations, private donors and alumni on the one hand, and contract research on the other hand. Donations constitute a large share of revenues of the top-ranked US universities (Lepori, Geuna et al., 2018). Available data on European HEIs refer only to contract research and show that this source of funds plays a limited role and is below 10% of the total revenues for most HEIs (European University Association 2015).

### 3. The ETER data

The main focus of this report is on how HEIs are funded and, more specifically, on the level and composition of their revenues. When compared with data on tertiary education investment from EUROSTAT<sup>4</sup>, these data provide two advances. First, they are disaggregated by institution and, therefore, allow analyzing differences between HEIs, for example associated with their legal status, profile of activities and country. Second, they provide for more fine-grained breakdown of university revenues in three main streams, i.e. core funding, third-party funding and student fees (Jongbloed and Lepori, 2015). Such

<sup>4</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php/Educational\\_expenditure\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php/Educational_expenditure_statistics)

a breakdown is important to understand HEI funding strategies, but also the impact of public policies.

#### Variables

**Total current revenues.** This variable measures the amount of money received by the HEI in the reference period, excluding non-recurring revenues, such as state contributions for investment, which are recorded separately. Both education and research revenues are included; revenues from ancillary activities and subsidiaries are excluded, as well as revenues of university hospitals.

Revenues are further broken down as in Table 2.

Table 2. Revenues breakdown

Total revenue	Government	Private	Students and families	Abroad
Core funding	Basic state contribution	Other revenues (donations, interests, etc.)		
Third-party funding	Public third-party funds (mostly to support research activities)	Private funds (contracts and payments for education)		Third-party funds from abroad
Student fees			Fees (students only)	

Core funding is defined as funding available for the operations of the whole institution, which are not earmarked to specific activities. In most institutions, the main component of core budget is the basic state contribution (either from a national or regional government). Other components are financial revenues, donations at the institutional level, as well as income from the rent of premises and other income like sales from commercial activities and paid services to students.

Third party funding is funding earmarked for specific activities and institutional units, in most cases it is also limited in time (Lepori, van den Besselaar, Dinges, van der Meulen et al., 2007). Most of these funds come from public sources, but they constitute a different stream than core funding. Third party funding specifically includes (Lepori and Reale, 2019):

- Public third-party funding provided by public

entities, like government bodies, research funding organizations, etc. It includes for example funding from national research councils, public administration contracts, grants from national sources.

- funding by private entities on contract research and contract education, including private businesses and non-profit organizations, business and labor associations, as well as households.
- funding from abroad, including EU funding, funding from international research programs and from companies abroad.
- Student fees funding. The amount of money the HEI receives from student fees paid by households and students for participation in educational programs.

In ETER, all monetary amounts are available

in national currency, in € and in € purchasing power parities (PPPs), i.e. monetary amount corrected for the price level within the country (<https://ec.europa.eu/eurostat/web/purchasing-power-parities/overview>). In this report, we use amounts in PPPs as they allow for more sensible comparisons between countries.

**Data sources.** Financial data in ETER are provided by National Statistical Authorities or Ministries of Higher Education based on national administrative data; mapping schemes to the ETER definitions have been defined.

**Data availability.** Data on current revenues are available in ETER for 1,210 out of 2,991 observations for the year 2015; adding two countries for which data are available in the former years, i.e. France (2014) and Denmark (2013), data are available for 1,342 HEIs, i.e. slightly less than half of the ETER perimeter. This is the sample we will use for the analysis of funding patterns. Coverage is significantly higher in terms of students and staff, since in countries such as Italy, France and Poland, data are available only for the largest HEIs. Out of 37 countries in ETER, 12 did not provide any financial data; these are Albania, Bulgaria, Croatia, Greece, Iceland, Montenegro, North Macedonia, Romania, Serbia, Slovenia, Spain and Turkey. Availability of the breakdowns tends to be lower, particularly for the breakdown of the core budget between basic state contribution and (private) core budget, which is available only for about 800 HEIs.

Longitudinal data for the whole period 2011-2016 are available for 1,105 HEIs in 21 European countries.

**Comparability problems and limitations.** ETER undertook a substantial effort to improve comparability of financial data across countries through common definitions and mapping schemes from national data to ETER variables. Moreover, ETER undertakes every year systematic checks of the data, including the analysis of yearly fluctuations and ratios of different variables, such as revenues per staff or student. Despite this effort, a number of comparability issues remain, related to different HEI accounting systems (cash vs. accrual based), the inclusion of ancillary services and, more importantly, how income for long-term investment is recorded in accounts. A further issue which may impact comparability is the inclusion of university hospitals, owing to different legal situations by country. To inform about these issues, ETER

includes extensive annotation and metadata at the institutional and country level.

### HEI characteristics

An important dimension of this report is to analyze how HEI revenues are associated with different institutional characteristics in order to understand strategic differentiation of resourcing behavior.

We consider in this respect the following main dimensions, which can be measured through ETER variables and indicators:

- The legal status of the HEI, as private HEIs tend to be excluded from most public resources and, therefore, have to turn to private sources and student fees. Following EUROSTAT definitions, we distinguish in this respect between HEIs controlled by the public sector and private HEIs, the former also includes private HEIs which receive most of their resources from the state, mostly HEIs controlled by foundations such as KU Leuven.
- The research mandate attributed by the state, since HEIs with a research mandate usually receive additional resources, for example as a supplement to student funding. We use the legal right of awarding a PhD as a simple proxy. While a number of colleges not awarding PhD perform some research, their contribution to the overall research volume is quite small.
- The subject composition, which can be observed through the distribution of the number of students by the ten educational fields of educational statistics.



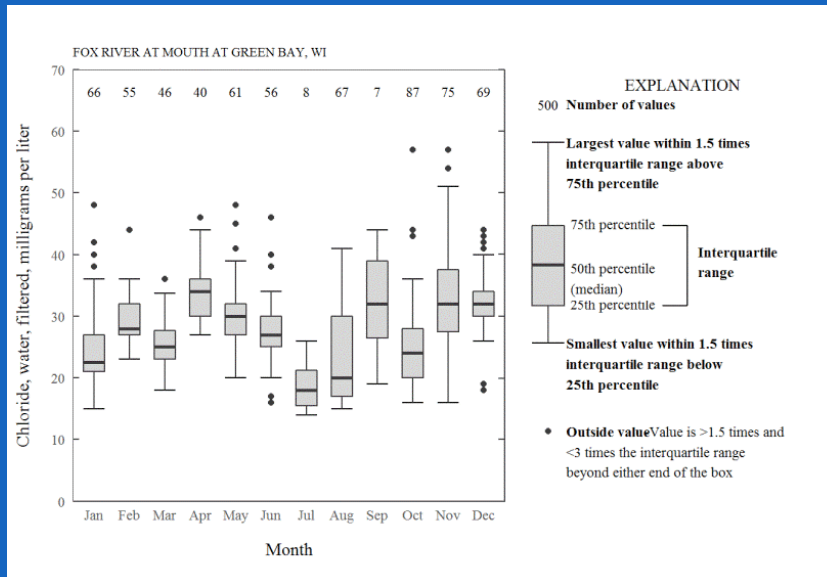
## Boxplots

We frequently use boxplots in this report as a convenient way of representing the distribution of a variable, such as revenues per student, within a group of institutions. They are particularly helpful for comparing distributions across groups, when group averages might be misleading, and to analyze whether variation within groups is larger or smaller than variation between groups (for example HEIs within countries).

In boxplots, the grey box includes exactly half of the observations and is divided by the median; half of the cases are above that line, half are below. The upper and lower extremes identify cases within 1.5 times the interquartile range, while individual dots show observations outside that range, so-called outliers.

When comparing groups through boxplots, one can compare the group medians, but also the distributions. For example in Figure 3, data for January and February are clearly distinct, while for August and September, despite different medians, there is a fair amount of overlap for what concerns the individual data.

### Boxplot explanation



Source: <https://paulvanderlaken.com/2018/08/29/add-a-self-explanatory-legend-to-your-ggplot2-boxplots/>

## 4. Main findings

### 4.1. Funding levels and differences between HEIs

European higher education is characterized by huge differences in levels of funding in both absolute and relative values (e.g. to the number of students). ETER data allow investigating how such differences are associated with the HEI profile in terms of activities and subject composition, as well as the importance of country differences.

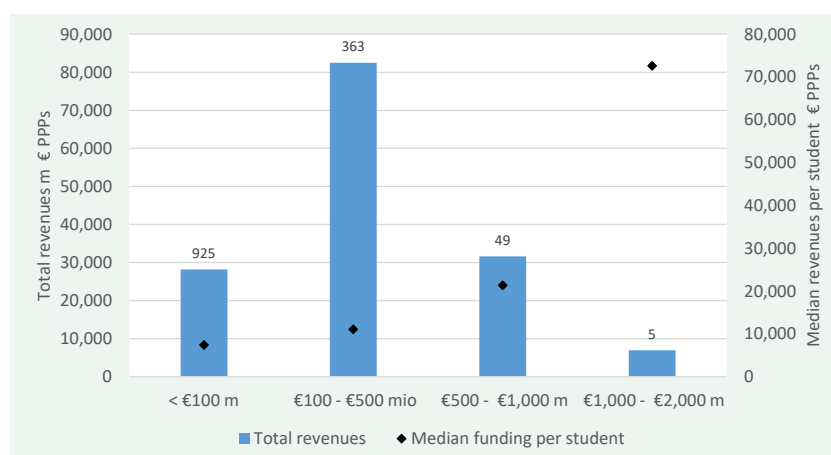
As shown by Figure 3, most European HEIs, i.e. 925 of the 1342 HEIs for which we have data, have revenues below € 100 million PPPs; these include a large number of colleges and many small-sized universities<sup>5</sup>. The largest part of the

<sup>5</sup> In this and the next section, our sample is composed of 1,342 HEIs in 25 countries and refers to the year 2015, 2013 for Denmark and 2014 for France.

revenues is acquired by the group of 363 middle-sized HEIs between € 100 million and € 500 million; even discounting that we do not have data for a number of countries. This shows that funds are heavily concentrated in a few hundred universities (out of over 3,000 HEIs in ETER). At the top of the pile, 49 universities received between € 500 million and € 1,000 million in 2015, while only 5 HEIs exceeded € 1 billion, all of them in the UK. These are Cambridge, Oxford, UCL, University of Manchester, and Imperial College, closely followed by ETH Zurich, Edinburgh and KU Leuven, which are only slightly below the 1 billion € mark.

The figure on funding per student also shows that, in general, HEI revenues are roughly proportional to the number of enrolled students. However, this does not apply for the richest universities: what characterizes universities such as Cambridge or ETH Zurich is a level of revenues per student much higher than 'average' European HEIs.

Figure 3. Distribution of HEI revenues



Data for 2015, 2014 for France and 2013 for Denmark.

The list of the top-50 European universities by level of revenues (see in the annex) is dominated by the top-ranked international universities, most of them with middle-sized levels of enrolments between 20,000 and 40,000 students. The list also includes a few large universities, such as Rome La Sapienza, Bologna and Vienna, whose large budget is associated with a

very large number of students.

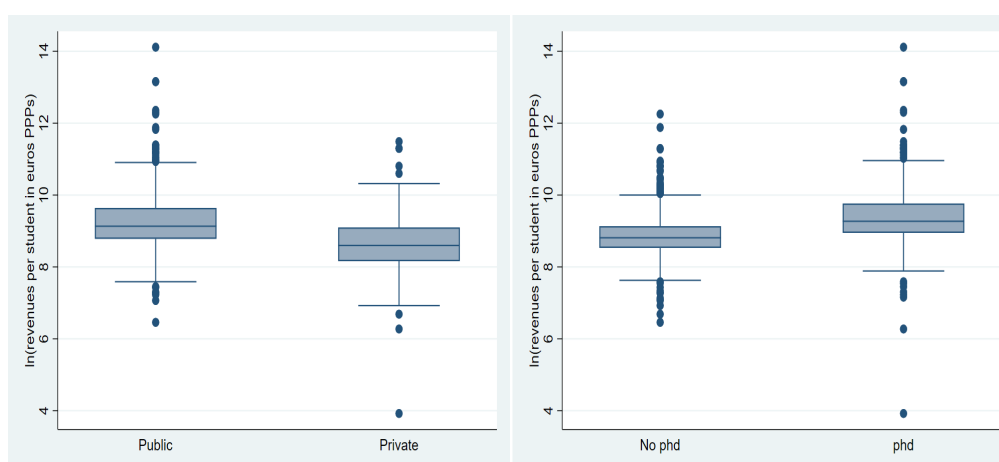
The list of top-50 institutions by funding per student is more heterogeneous (see in the annex). It includes some small research centers and graduate schools with few students and large research volume, such as Sant'Anna in Italy and the Paris Observatory. The list also includes a number of medical schools, such

as Karolinska in Sweden and Semmelweis University in Hungary, as well as some business, technical and even art schools, showing how high revenues per student are frequently associated with specific subject specialization. Finally, this list also includes some of the top-ranked international universities.

ETER data also display systematic differences

in levels of revenues by type of institution (Figure 4). Public HEIs have more revenues per student than private HEIs, thanks to access to public core funding, while universities (PhD awarding) have more revenues per student than colleges (non-PhD awarding), given that a substantial part of their activities and revenues are associated with research activities.

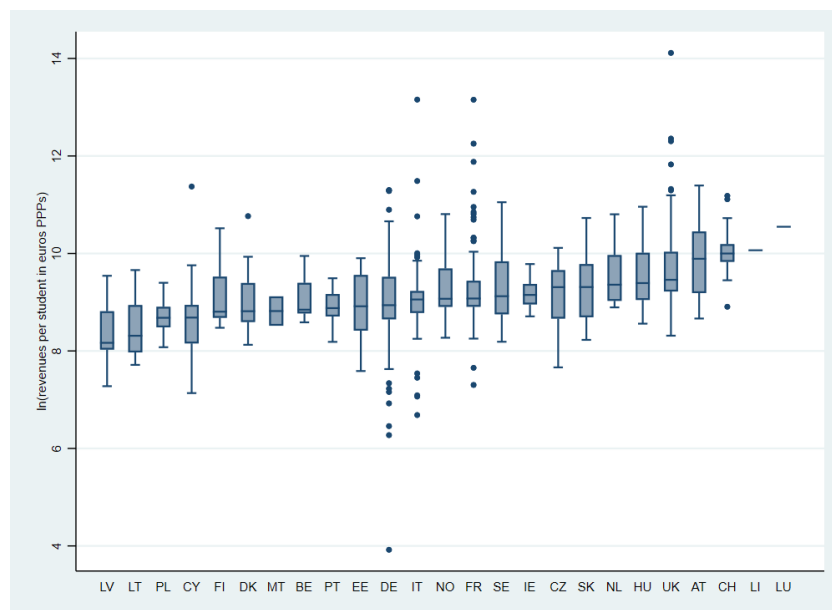
Figure 4. Funding per student by type of institution



Finally, even if correcting for price levels using Purchasing Power Parities, there are systematic differences in the level of revenues per student by country in ETER (see Figure 5), with HEIs in Western European countries having the highest levels and HEIs in the Southern and Eastern part of the continent the lowest levels. This largely corresponds to differences in the level of public investment in tertiary education per inhabitant as measured by EUROSTAT<sup>6</sup>.

<sup>6</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Total\\_general\\_government\\_expenditure\\_on\\_education,\\_2017\\_\(%25\\_of\\_GDP\\_%25\\_of\\_total\\_expenditure\).png](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Total_general_government_expenditure_on_education,_2017_(%25_of_GDP_%25_of_total_expenditure).png)

Figure 5. Country differences in revenues per student



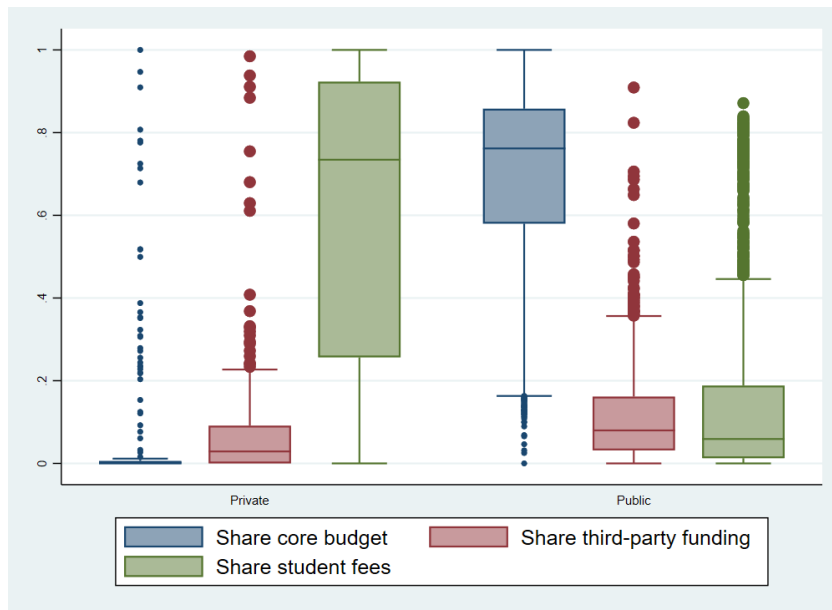
- There is a large disparity between the revenues gained by HEIs in Europe. Half of the HEIs in the ETER sample earned less than € 50 million in the year 2015, while only 150 HEIs accounted for half of the total revenues and exceptionally 5 HEIs in Europe obtained revenues exceeding € 1 billion.
- High revenues per student are associated with high research activity and specialization in some fields, particularly medicine and technology.
- Public HEIs acquire more revenues per student than private ones; universities (PhD awarding) have higher revenues per student than colleges, which do not award the doctoral degree.
- There are large country differences, with HEIs in Western Europe having more revenues per student than in Southern and Eastern Europe.

## 4.2. Changing composition of funding

Faced with constraints in public budgets, national and European policies have pushed towards the differentiation of HEI funding sources and, particularly, the acquisition of more resources from private contracts and from students and their families (Jongbloed, 2004). A more differentiated funding environment would also respond to the need of strategic differentiation of HEIs and bring the European system nearer to the situation in the US (Lepori, Geuna et al., 2018).

ETER data show, however, that this process has been more gradual than revolutionary and that most European public HEIs have a funding model where the core budget (essentially from the state) represents about 2/3 of the revenues, while third-party funds and student fees are complementary sources of revenues (Figure 6). On the contrary, private HEIs are essentially funded through student fees, since these are usually excluded from the basic state contribution and, in the European context, perform little research.

Figure 6. Composition of revenues for public and private HEIs



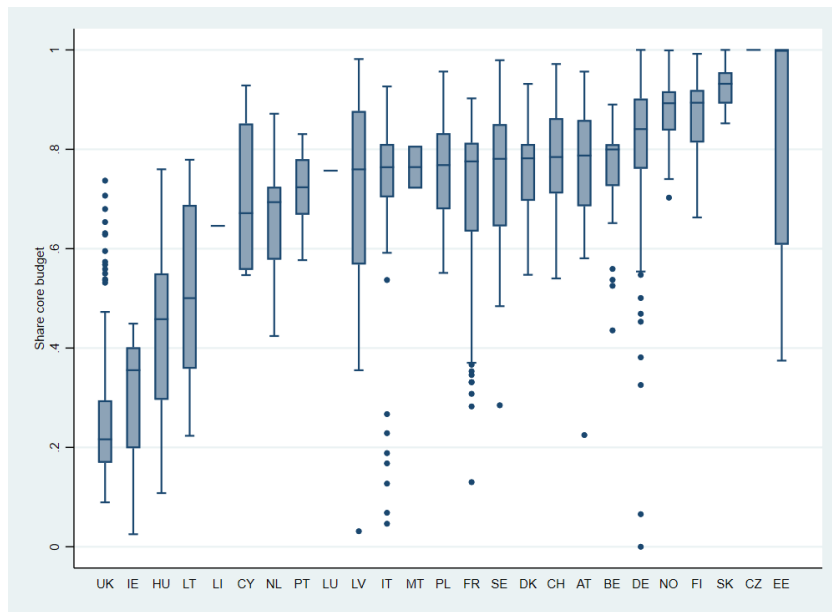
A closer view by country displays that this model is shared by most continental European countries, with limited variation in the importance of core governmental allocation by institution. The exception is represented by UK and Ireland, which have switched to a model where student fees are the main source of revenues (Figure 7 and Figure 8).

Indeed, out of 1,221 HEIs for which we have data, only 215 are mostly financed by student fees. 99 of them are private, while among the

116 public HEIs, 99 are in the UK, 7 in Ireland and 5 in Italy. We notice that in the UK, student fees are to a large extent subsidized by the state and, therefore, also represent an alternative way to allocate public funds (as well as generating revenues from overseas students).

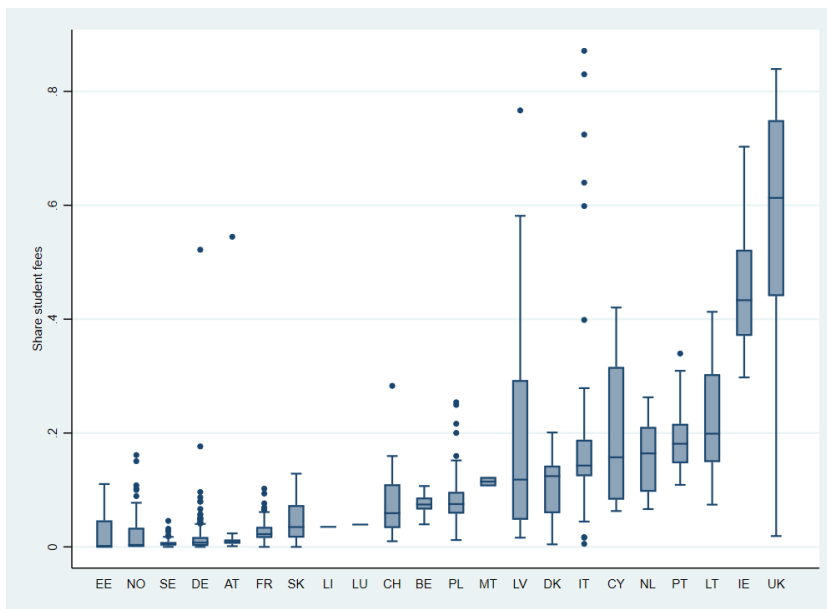
On the contrary, there are only 21 HEIs, which are mostly funded by third-party funds. These are mostly small institutions with the exception of the University of Cambridge and of a few universities in the Baltic countries (Vilnius, Tartu).

Figure 7. Share of core budget in HEI revenues by country, public HEIs



The low share of core budget in Hungary is due to a high proportion of unclassified revenues.

Figure 8. Share of student fees, public HEIs only



- Most public European HEIs have a funding model based on the basic state contribution.
- In the UK and in Ireland, student fees have become the main source of revenues.
- Private HEIs in Europe are mostly funded by student fees.
- Third-party funds are a complementary source of revenues for almost all HEIs.

### 4.3. Third-party public and private funding

Third-party funding is mostly attributed by public agencies, and to a more limited extent by private companies in order to support research activities. For most HEIs, they account for a small share of total revenues, the median in our sample being only 7%. There are, however, lar-

ge differences associated with the type of HEIs, the research orientation and the subject specialization.

First, public HEIs receive on average more third-party public and private funds than private ones (8% against 3%; see ) and universities (PhD-awarding) more than colleges, which do not award doctoral degrees (10% against 4%). These differences become even more visible when computing the amount of third-party funding per head of full professor as these funds are applied for in most cases individually by professors. With an average of € 95,000 PPPs per professor, the amount in universities is nearly six times the amount in colleges. These results are expected since, in the European context, research is strongly concentrated in universities.

Table 3. Funding composition by type of institution. Medians by group

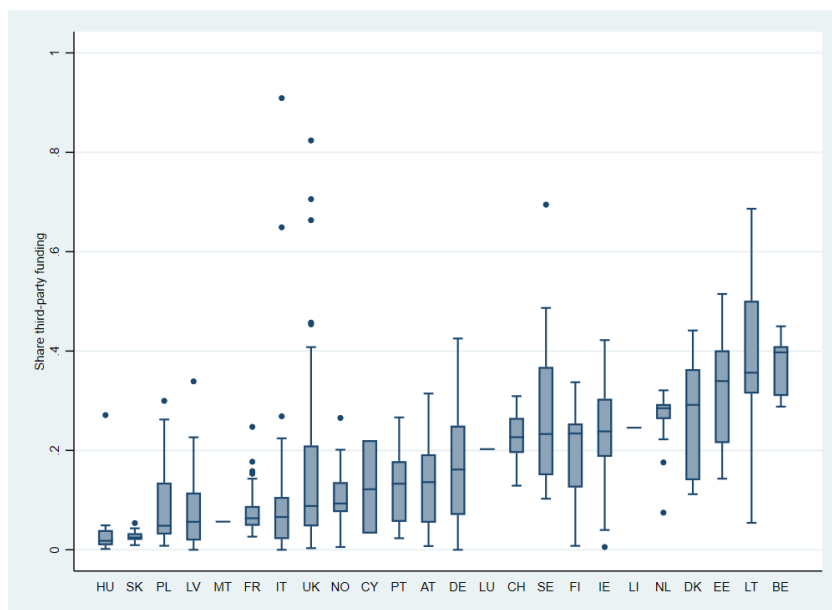
	Public	Private	PhD awarding	Non PhD awarding
% core budget	76%	0%	71%	78%
% student fees	6%	73%	7%	8%
% third-party funding	8%	3%	10%	4%
third-party funding per professor (euros PPPs)	58,808	7,626	95,437	16,525

The list of the top-50 institutions by the share of third-party funding in the annex ( provides a more fine-grained view. Leaving aside the special cases of private HEIs largely funded by private foundations and some HEIs funded by regional government (Trento and Bolzano), the list is populated by technological universities (Aleksandras Stulginskis University, Chalmers, TU Denmark), medical schools (Karolinska, Campus Biomedico) and some top-ranked international universities (Cambridge, KU Leuven). Specialization in technology and/or medicine as well as high research intensity are, therefore, the main drivers for the acquisition of third-party funds.

Finally, ETER data highlight systematic differences in the importance of third-party funding by country, which corresponds to different ori-

entations of national funding systems (Zacharewicz et al., 2018). The share is particularly high in some Northern (Lithuania, Estonia and Denmark) and Western European countries (Belgium, Netherlands), while it tends to be lower in France, Italy and the UK, as well as in Eastern European countries. Notably, differences across countries tend to be larger than between individual institutions, highlighting the differences between national funding systems in Europe. These patterns broadly correspond to the orientation of national funding systems described in section 2.3. Exceptions are the UK (due probably to strong concentration in a few HEIs of third-party funding) and Poland (due probably to data issues).

Figure 9. Share of third-party funding in university revenues. Public universities only



Finally, ETER data show that the goal of increasing the level of private third-party funding has been achieved only to a limited extent in Europe. In the ETER dataset, only 41 HEIs received more than 10% of their revenues from private third-party funding and only 18 more than 15% (see in the annex). Expectedly, private third-party funds are heavily concentrated in technological (KU Leuven, Chalmers) and medical schools (Karolinska). This data is, however, underestimated since it excludes donations as these are usually included in the core budget. Only when more detailed data on the core budget is available, it will be possible to get a fuller view on the extent of private contributions.

- For most HEIs in Europe, third party public and private funding accounts for a small share of total revenues; the median in ETER is 7%.
- Public HEIs receive on average more third-party funds than private ones (8% against 3%) and universities (PhD-awarding) more than colleges, which do not award doctoral degrees (10% against 4%).
- Specialization in technology and/or medicine, as well as high research intensity are the main drivers for the acquisition of third-party funds.
- National funding systems in Europe are very different regarding their importance for third-party funds.
- The level of private third-party funds is low for most European HEIs.



#### 4.4. Change over time

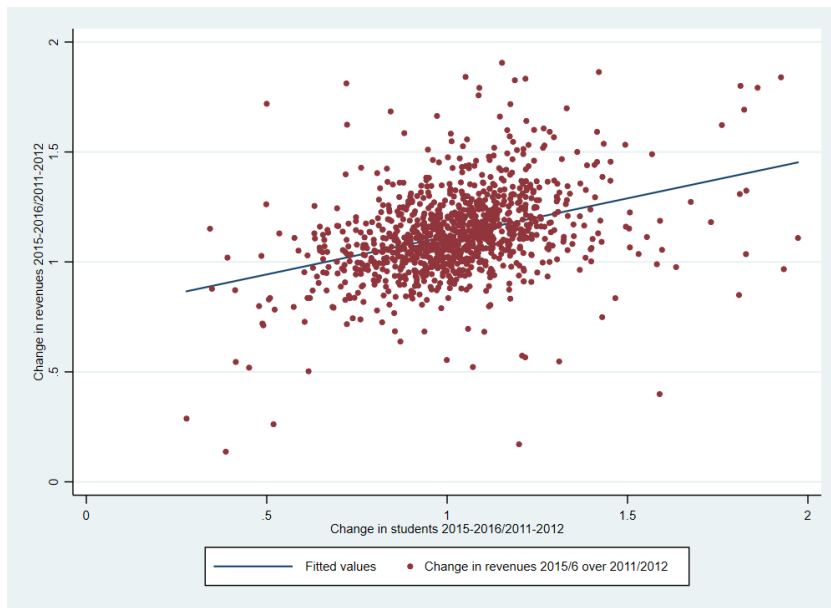
The availability of data for the period 2011-2016 allows some preliminary analysis of changes in the level of funding in order to test the widespread assumption of austerity and impact of the financial crisis. To this aim, we compute the ratio between funding in 2015/2016 (average over the two years) over 2011/2012 (average of the two years) and we compare it with the change in the number of students over the same period. The use of averages reduces noise generated by fluctuations in the data to a certain extent. Data is available for 1,105 HEIs in 21 European countries.

Results show a general increase in the level of funding: nearly three-quarters of the HEIs in our

sample had an increase, the median value being 11%. 75 HEIs had an increase of more than 50% over the considered years, most of them are very small institutions, but there are exceptions such as UCL (+53% in revenues and +49% in the number of students). Overall, the increase in funding was larger than the one in the number of students, which increased by only 1% for the median HEI in the sample.

As it would be expected, there is some association between the increase in revenues and growth in the number of students, with, however, a very large dispersion (Figure 10). Such differences might be related to the HEI profile and the country, but also to data issues, and would need to be investigated with more refined statistical models.

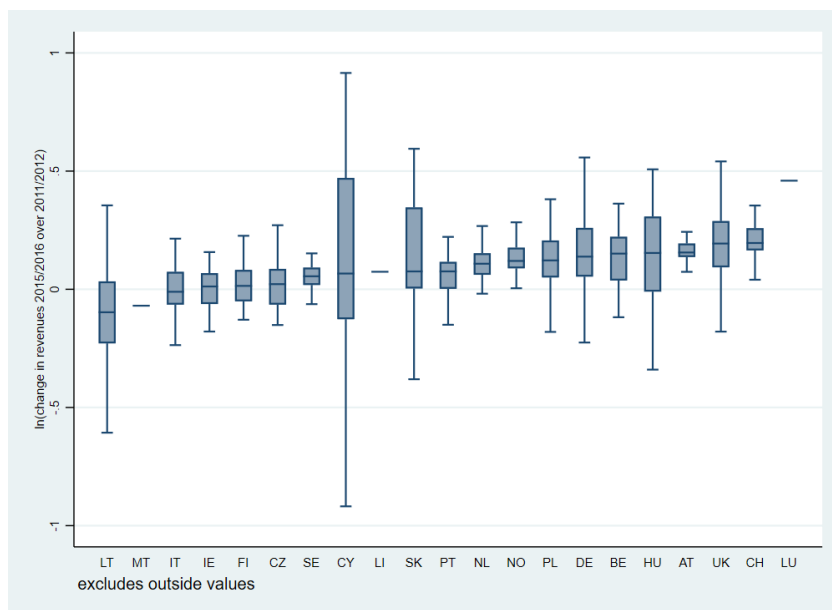
Figure 10. Change in students and in revenues by HEIs



Finally, the overall growth of HEI revenues conceals large differences between countries (Figure 11), even if data need to be treated with caution because of the short period of time and of possible methodological changes. For eight countries in our sample (Austria, Belgium, Switzerland, Germany, Hungary, Netherlands,

Norway and Poland), the median increase in revenues exceeded 10%, while for three countries (Italy, Malta and Lithuania) the median revenues even decreased during the considered period. This might hint to different impacts of the financial crisis across Europe.

Figure 11. Changes in revenues per country, 2015-2016 over 2011-2012



- HEI revenues in Europe increased over the period 2011-2016.
- The median increase in revenues exceeded 10% for most of the 21 countries in our sample with the exception of Italy, Malta and Lithuania, where the median revenues decreased in the period 2011-2016.
- The increase in HEI funding in the period 2011-2016 was larger than the increase in the number of students and is weakly associated with increasing enrolments.

## 5. Conclusions

This report provided a nuanced view on how European Higher Education Institutions are funded, focusing on differences between individual institutions within and across European countries. In this respect, it demonstrates the value of an institutional-level database such as ETER for a fine-grained analysis of HEI funding, beyond comparisons at the country level.

The report displays both commonalities and differences between HEIs in funding patterns. Unlike in the US, European HEIs are still largely dependent on the basic state contribution and have a low share of private funding (Lepori, Geuna et al., 2018). The promise of increasing private and student funding has been met only to a limited extent, with the exception of the UK, which is however a very peculiar context because of the large market of overseas students. While it is foreseeable that private funding will be of increasing importance in the future, it is likely that the process will be slow in the European context, where higher education is largely considered as a public good (Hazelkorn and Gibson, 2018). The US experience shows that, while private capital might indeed provide large amounts of funds, it also involves risks in terms of hierarchisation of higher education and neglect of educational delivery in peripheral regions (Labaree, 2018). How to strike a sustainable balance between public and private will therefore be a core issue for European higher education policies in the coming years.

ETER data also show that there are large differences in the levels of funding (absolute and per student) between HEIs. On the one hand, a large share of differences is accounted for by different levels of national investment in tertiary education, with a number of Southern and Eastern European countries having much lower levels than the European average and having difficulties in overcoming the consequences of the financial crisis. Increasing public investment should be therefore a priority in this respect. On the other hand, within systems, funding levels by HEIs are very different between public and private institutions, respectively between universities and colleges. In that respect, the statement that there is limited differentiation in European higher education is not fully correct when looking beyond research universities (Bonaccorsi and Daraio, 2009) and, indeed, ETER data display that resources are heavily concentrated

in a few hundreds of universities. At the same time, with the exception of the UK and, partially, of Switzerland, there are few mechanisms that allow concentrating funding in research-intensive institutions without a parallel increase in the number of students (Lepori, Geuna et al., 2018). The share of public funding which is performance-based remains low in many European countries, with the exception of the UK (Zacharewicz et al., 2018), while so-called 'excellence' initiatives account for a small share of public investment (Möller et al., 2016).

Increasing public investment, particularly in the Southern and Eastern European countries, mobilizing private resources as complementary sources and striking the balance between securing a broad delivery of higher education on the one hand, enabling international excellence on the other hand, remain therefore the main policy challenges for higher education finance in Europe. A database such as ETER allows policy-makers to observe the institutional implications of such policies and, therefore, to steer this process in a more appropriate way.

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## 7. Annex. Additional tables

Table 4. Top 50 HEIs by budget

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Funding per student (euros PPPs)
The University of Cambridge	UK	1,961,341,150	14,650	133,880
The University of Oxford	UK	1,468,842,269	19,570	75,056
University College London	UK	1,394,559,000	32,190	43,323
The University of Manchester	UK	1,058,323,395	36,860	28,712
Imperial College London	UK	1,039,535,720	13,550	76,719
Federal Institute of Technology Zurich	CH	1,001,422,122	15,300	65,452
The University of Edinburgh	UK	974,256,103	28,535	34,142
KU Leuven	BE	916,995,900	44,362	20,671
Sapienza University of Rome	IT	854,457,943	102,227	8,358
University of Copenhagen	DK	827,961,193	40,221	20,585
King's College London	UK	816,191,888	28,155	28,989
University of Zurich	CH	808,069,285	20,983	38,511
Università Cattolica del Sacro Cuore	IT	807,462,466	38,835	20,792
Technical University of Munich	DE	773,466,712	37,110	20,843
Aachen University	DE	754,814,763	39,843	18,945
Utrecht University	NL	732,193,213	30,893	23,701
The University of Leeds	UK	707,913,123	30,805	22,980
University of Bologna	IT	699,977,725	79,580	8,796
University of Amsterdam	NL	681,006,815	31,698	21,484
University of Nottingham	UK	677,755,506	29,570	22,920
University of Birmingham	UK	672,850,908	32,205	20,893
Lund University	SE	657,856,077	33,228	19,798
The University of Sheffield	UK	654,047,500	26,130	25,031
The University of Bristol	UK	637,771,911	21,530	29,622
The University of Glasgow	UK	637,558,987	26,320	24,223
The University of Warwick	UK	619,804,466	23,375	26,516
The University of Southampton	UK	617,936,398	22,725	27,192
Aarhus University	DK	614,905,479	38,768	15,861
University of Groningen	NL	596,021,600	28,931	20,601
University of Debrecen	HU	593,264,936	26,782	22,152
Ludwig Maximilian University of Munich	DE	590,855,379	47,496	12,440
University of Naples Federico II	IT	589,266,196	76,678	7,685
Ghent University	BE	584,458,377	35,261	16,575
Delft University of Technology	NL	580,925,679	22,387	25,949
University of Oslo	NO	579,895,423	27,886	20,795

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Funding per student (euros PPPs)
Aix-Marseille University	FR	578,166,604	56,150	10,297
Federal Institute of Technology Lausanne	CH	559,852,652	8,212	68,175
The University of Liverpool	UK	548,664,714	25,035	21,916
University of Helsinki	FI	547,536,482	27,354	20,017
Charles University	CZ	544,606,882	39,786	13,688
University of Padova	IT	544,113,606	59,598	9,130
Leiden University	NL	541,541,957	27,077	20,000
Karolinska Institutet	SE	540,551,610	8,610	62,782
Uppsala University	SE	538,632,368	35,819	15,038
Erasmus University Rotterdam	NL	531,715,409	24,953	21,309
University of Milano	IT	530,263,865	60,364	8,784
Cardiff University	UK	529,817,252	29,740	17,815
University of Vienna	AT	520,868,430	74,011	7,038
University of Warsaw	PL	513,955,346	47,600	10,797
Newcastle University	UK	511,730,234	22,920	22,327



Table 5. Top 50 HEIs by revenues per student

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Funding per student (euros PPPs)
The Institute of Cancer Research	UK	175,300,000.00	130	1,348,155.0
Sant'Anna School for Advanced Studies	IT	57,410,730.00	111	517,213.8
National museum of natural history	FR	103,200,000.00	200	516,045.8
Liverpool School of Tropical Medicine	UK	84,848,708.00	365	232,462.2
London School of Hygiene and Tropical Medicine	UK	181,700,000.00	825	220,206.8
École nationale supérieure de chimie de Paris	FR	67,514,007.00	322	209,670.8
Observatoire de Paris	FR	14,724,663.00	102	144,359.4
The University of Cambridge	UK	1,948,000,000.00	14,240	136,814.0
Campus Bio-Medico University	IT	184,100,000.00	1,890	97,414.2
Medical University of Vienna	AT	489,400,000.00	5,512	88,788.3
Medical University of Innsbruck	AT	214,200,000.00	2,420	88,524.3
Cyprus University of Technology	CY	46,686,612.00	537	86,939.7
London Business School	UK	164,700,000.00	1,995	82,561.7
Jacobs University Bremen	DE	58,220,601.00	720	80,862.0
European School of Management and Technology, Berlin	DE	20,692,717.00	257	80,516.4
Imperial College London	UK	1,049,000,000.00	13,040	80,406.6
FH der Polizei Brandenburg (VerwFH) in Oranienburg	DE	34,402,510.00	434	79,268.5
École normale supérieure de Paris	FR	94,503,028.00	1,212	77,972.8
The University of Oxford	UK	1,431,000,000.00	19,710	72,606.0
Medical University of Graz	AT	236,200,000.00	3,273	72,150.3
Federal Institute of Technology Lausanne	CH	564,400,000.00	7,850	71,896.6
University of Veterinary Medicine Vienna	AT	124,600,000.00	1,740	71,626.1
Federal Institute of Technology Zurich	CH	985,800,000.00	14,723	66,958.7
Karolinska Institutet	SE	546,300,000.00	8,669	63,017.8
Cranfield University	UK	190,800,000.00	3,115	61,256.1
Liszt Ferenc Academy of Music (University)	HU	48,243,511.00	840	57,432.8
École normale supérieure de Cachan	FR	86,657,645.00	1,516	57,162.0
Swedish University of Agricultural Sciences	SE	274,100,000.00	4,814	56,935.6
The National Film and Television School	UK	13,590,734.00	240	56,628.1
Swedish Defence University	SE	42,167,640.00	753	55,999.5
Scotland's Rural College – SRUC	UK	86,080,784.00	1,580	54,481.5
University of Veterinary Medicine Hannover	DE	87,835,429.00	1,626	54,019.3
École pratique des hautes études	FR	32,737,765.00	636	51,474.5
École normale supérieure de Rennes	FR	16,236,717.00	328	49,502.2
Sámi University College	NO	7,803,879.00	158	49,391.6

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Funding per student (euros PPPs)
Protestant Theological University	NL	10,724,138.00	218	49,193.3
Oslo National Academy of the Arts	NO	26,057,573.00	533	48,888.5
Technical University of Denmark	DK	470,500,000.00	9,931	47,373.0
Institute for Advanced Study - IUSS of Pavia	IT	6,270,329.30	133	47,145.3
University College London	UK	1,471,000,000.00	31,255	47,075.4
School for advanced studies in the social sciences	FR	57,215,158.00	1,234	46,365.6
Armed Forces Academy of General Milan Rastislav Štefánik in Liptovský Mikuláš	SK	15,368,324.00	337	45,603.3
University of Basel	CH	488,000,000.00	10,730	45,477.5
Courtauld Institute of Art	UK	19,772,770.00	440	44,938.1
Semmelweis University	HU	463,800,000.00	10,465	44,322.4
Pető András College	HU	11,693,352.00	265	44,125.9
École nationale des Chartes	FR	4,451,150.30	101	44,070.8
Helmut Schmidt University of the Federal Armed Forces Hamburg	DE	97,859,026.00	2,298	42,584.4
Bundeswehr University Munich	DE	123,400,000.00	2,938	42,006.1
Glasgow School of Art	UK	83,706,493.00	2,015	41,541.7

Table 6. Top-50 institutions by the share of third-party funding

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Share third-party funding
Rheinische Fachhochschule Cologne	DE	6,258,336	6,162,432	0.98
Catholic University of Eichstätt-Ingolstadt	DE	6,686,171	6,272,146	0.94
Evangelische Hochschule Nürnberg (FH)	DE	5,900,923	5,374,683	0.91
Free University of Bozen-Bolzano	IT	62,734,040	57,032,063	0.91
Philosophisch-Theologische Hochschule Frankfurt a.M. (rk)	DE	1,520,757	1,344,844	0.88
Liverpool School of Tropical Medicine	UK	84,848,708	69,900,308	0.82
The Branch of the University of Białystok "Faculty of Economics and Informatics"	LT	1,105,306	834,209	0.75
London School of Hygiene and Tropical Medicine	UK	181,670,644	128,225,810	0.71
Stockholm School of Economics	SE	33,177,208	23,047,690	0.69
Vilnius University	LT	239,959,141	164,694,008	0.69
Campus Bio-Medico University	IT	184,112,766	125,235,863	0.68
The University of Cambridge	UK	1,948,231,137	1,292,293,351	0.66
University of Trento	IT	179,990,397	116,809,842	0.65
Munich School of Philosophy	DE	3,052,623	1,921,600	0.63
College of Philosophy and Theology, Val-lendar	DE	1,324,831	809,249	0.61
University of Applied Labour Studies of the Federal Employment Agency	DE	786,931	456,648	0.58
Lithuanian University of Health Sciences	LT	104,252,712	55,887,695	0.54
Swedish Defence University	SE	42,167,640	21,746,178	0.52
University of Tartu	EE	218,164,309	112,329,852	0.51
Aleksandras Stulginskis University	LT	39,812,780	19,977,496	0.50
Kaunas University of Technology	LT	92,176,991	46,198,317	0.50
Klaipeda University	LT	40,691,187	20,042,782	0.49
Karolinska Institutet	SE	546,301,428	265,895,660	0.49
The University of Oxford	UK	1,431,063,267	654,347,346	0.46
University College London	UK	1,471,341,772	667,551,567	0.45
KU Leuven	BE	931,027,010	418,753,636	0.45
Chalmers University of Technology	SE	303,528,384	136,426,727	0.45
Technical University of Denmark	DK	470,461,268	207,643,029	0.44
Technische Universität Dresden	DE	501,220,875	213,139,005	0.43
Waterford Institute of Technology	IE	89,146,170	37,616,264	0.42
Ghent University	BE	602,324,982	246,766,160	0.41
Dublin City University	IE	133,320,634	54,475,428	0.41
Università Cattolica del Sacro Cuore	IT	807,462,466	329,480,909	0.41
Imperial College London	UK	1,048,501,371	427,625,795	0.41

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Share third-party funding
KTH Royal Institute of Technology	SE	367,171,690	149,454,673	0.41
Royal Veterinary College	UK	85,891,317	34,946,365	0.41
University College Cork	IE	261,957,239	105,575,120	0.40
Estonian University of Life Sciences	EE	43,520,593	17,463,387	0.40
Technical University of Applied Sciences Wildau	DE	27,427,238	10,988,380	0.40
The Vrije Universiteit Brussel	BE	218,640,023	86,862,233	0.40
Tallinn University of Technology	EE	120,290,725	47,370,529	0.39
Lund University	SE	632,920,112	247,113,976	0.39
Aachen University	DE	741,202,173	287,707,828	0.39
Trinity College Dublin	IE	257,767,536	99,049,442	0.38
The Institute of Cancer Research	UK	175,260,165	66,790,885	0.38
Södertörn University	SE	61,422,002	23,321,830	0.38
Technical University of Berlin	DE	447,896,767	169,806,107	0.38
Swedish University of Agricultural Sciences	SE	274,087,971	102,852,526	0.38
University of Copenhagen	DK	827,961,193	307,074,808	0.37
The University of Dundee	UK	258,896,285	95,451,278	0.37

Table 7. Top-50 institutions by share of private funding

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Share private third-party funding
Stockholm School of Economics	SE	33,177,208	1,726	0.61
Philosophisch-Theologische Hochschule Frankfurt a.M. (rk)	DE	1,520,757	310	0.57
Catholic University of Eichstätt-Ingolstadt	DE	6,686,171	5,203	0.43
Munich School of Philosophy	DE	3,052,623	321	0.26
The Institute of Cancer Research	UK	175,260,165	130	0.25
University of Applied Languages Munich	DE	1,900,672	376	0.24
City University of Applied Sciences Bremen	DE	52,124,809	9,231	0.23
Ersta Sköndal Bräcke University College	SE	13,629,215	1,313	0.21
Sophiahemmet University	SE	7,964,747	869	0.19
KU Leuven	BE	931,027,010	45,583	0.19
Bucerius Law School	DE	8,555,061	656	0.18
College of Philosophy and Theology, Vallendar	DE	1,324,831	242	0.17
École nationale supérieure d'arts et métiers	FR	48,517,774	5,449	0.17
Karolinska Institutet	SE	546,301,428	8,669	0.17
Maria Grzegorzewska Academy of Pedagogy Special	PL	28,115,270	7,857	0.17
University College London	UK	1,471,341,772	31,255	0.16
Delft University of Technology	NL	568,053,393	21,603	0.15
Poznań University of Life Sciences	PL	108,959,937	10,501	0.14
Maastricht University	NL	377,890,248	16,126	0.13
University of Applied Sciences of Eastern Switzerland	CH	122,520,454	5,610	0.13
HHL Leipzig Graduate School of Management	DE	8,990,084	535	0.13
The University of Oxford	UK	1,431,063,267	19,710	0.13
Technical University of Denmark	DK	470,461,268	9,931	0.12
University of Applied Sciences and Arts Northwestern Switzerland	CH	238,119,298	12,527	0.12
University of Sankt Gallen	CH	135,830,313	8,081	0.12
German Sport University Cologne	DE	57,723,733	5,237	0.12
Leiden University	NL	544,586,578	26,039	0.12
Clausthal University of Technology	DE	105,275,338	4,444	0.11
Lund University	SE	632,920,112	33,761	0.11
The University of Dundee	UK	258,896,285	14,285	0.11
University of Applied Sciences and Arts of Southern Switzerland	CH	79,276,015	4,918	0.11
London School of Hygiene and Tropical Medicine	UK	181,670,644	825	0.11
Radboud University Nijmegen	NL	512,741,935	19,427	0.10
Antwerp maritime academy	BE	6,861,187	680	0.10

Name of the institution	Country	Total current revenues (euros PPPs)	Students enrolled ISCED 5-7	Share private third-party funding
Chalmers University of Technology	SE	303,528,384	9,608	0.10
Institut supérieur de mécanique de Paris	FR	4,980,482	671	0.10
Liverpool School of Tropical Medicine	UK	84,848,708	365	0.10
State Higher Vocational School in Włocławek	PL	6,564,100	1,033	0.10
Utrecht University	NL	758,015,387	30,737	0.10
Aachen University	DE	741,202,173	38,973	0.10
Erasmus University Rotterdam	NL	513,626,251	23,659	0.10
Lucerne University of Applied Sciences and Arts	CH	133,291,687	6,927	0.09
University of Basel	CH	487,973,966	10,730	0.09
Evangelische Hochschule Ludwigsburg	DE	4,102,387	1,173	0.09
University of Gothenburg	SE	503,110,719	35,933	0.09
European School of Management and Technology, Berlin	DE	20,692,717	257	0.09
Technische Universität Bergakademie Freiberg	DE	130,729,619	4,365	0.09
Imperial College London	UK	1,048,501,371	13,040	0.09
Grisons University of Teacher Education	CH	11,879,125	445	0.09
Uppsala University	SE	549,498,042	35,758	0.09

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