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*Executive Summary*

*Contract EAC 2015-0280*

*Brussels, 2017*

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Luxembourg: Publications Office of the European Union, 2017

ISBN 978-92-79-71760-4

doi: 10.2766/869836

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## Abstract

This report presents the main elements of the European Tertiary Education Register (ETER). ETER is a project funded by the European Commission, Directorate General Education Youth, Sport and Culture for the years 2013-2017, which has established a comprehensive register of educational institutions delivering degrees at ISCED levels 6 (bachelor), 7 (master) and 8 (PhD). ETER provides data on more than 2,500 higher education institutions (HEIs) in 36 European countries for the years 2011-2014, covering more than 22 million undergraduate students. Data at the level of individual HEIs include organizational characteristics and geographical information, staff, revenues and expenditures, students, graduates, research activities and can be downloaded from the public ETER website ([www.eter-project.com](http://www.eter-project.com)).

This report presents the conceptual foundation of the ETER database and its methodological elements, the infrastructure which was developed to collect, validate and publish the ETER data, the main results in terms of coverage of HEI systems, of data availability and quality and data usage, some highlights on the structure of European higher education derived from ETER and, finally, a number of recommendations on the future development of the ETER system.

## Executive summary

### What is the European Tertiary Education Register?

The European Tertiary Education Register (ETER) is a database that provides a core set of data on Higher Education Institutions (HEIs) delivering degrees at the tertiary level in Europe.

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). The project began in August 2013 and ended in July 2017. It was 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.

ETER currently provides information on nearly 3,000 HEIs in 36 European Research Area countries from the year 2011 (academic year 2011/2012) to 2014 (2014/2015), including EU-28 countries, EEA-EFTA countries and candidate countries. For a few countries, only descriptive and geographical information is available – these are the French part of Belgium, Montenegro, Slovenia and Romania.

Most ETER data can be freely downloaded from the project website ([www.eter-project.com](http://www.eter-project.com)) and reused for analytical purposes, making ETER a truly common resource for policy-makers, administrators and scholars. A small part of ETER data is available only for research purposes under the signature of a non-disclosure agreement.

### What is the rationale for ETER?

ETER represents an important contribution to the strategy for the modernization of European higher education, as a fundamental component of the Europe 2020 strategy. In this respect, higher education is facing fundamental challenges, like increasing the number of graduates, reaching international excellence, and contributing to economic development.

Reliable information is key for this process as it lays the groundwork for evidence-based policies: for example concerning the promotion of excellence, differentiation of higher education institutions, and the design of competitive funding policies. Information at the institutional level is also important to allow stakeholders to make sensible choices, for example concerning the selection of study locations, by comparing HEIs across dimensions of interest, like the type of subjects offered, quality of education, employability, and research quality.

ETER contributes to these goals in two main ways. First, it provides for the first time 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.

### What are the key principles of ETER?

The key principle of ETER is to consider that Higher Education Institutions represent a meaningful unit of analysis. This implies for example that HEIs can be compared (albeit with some limitations) and that questions concerning their way of working, productivity and strategy can be answered. In methodological terms, this also means that HEI-level data (for example number of staff or counts of degrees) can be produced and analysed in a meaningful way.

ETER is therefore largely complementary with educational and R&D statistics provided by EUROSTAT, which focuses on the country or the region as unit of analysis. Therefore, ETER complements EUROSTAT data by providing a view of the diversity between

individual HEIs within countries and regions. Such a focus on Higher Education Institutions and their consideration as independent units in terms of quality of services (for example by students) is fully aligned with the idea of a European Higher Education Area, in which HEIs compete for students, researchers and funds in a market-like setting which is less and less regulated by national states (European Commission, 2011). Such an idea also informs the launch of projects like ETER – with the aim of providing comparable data on European HEIs – and U-MULTIRANK – with the aim of allowing students and stakeholders to compare systematically HEIs on different grounds.

More precisely, ETER focuses on providing HEI-level data on three dimensions:

- The inputs on HEI activities, specifically the amount and composition of financial resources, staffing and the enrolled students.
- The output of HEIs' educational activities, research and third-mission.
- A set of regulatory and institutional characteristics, like the legal status, the age of the institution and its geographical location, which are expected to influence its activities.

### Which institutions are included in ETER?

ETER collects data on higher education institutions, defined as entities, which are recognisable as distinct organisations, which are nationally recognised as HEIs, and whose major activity is providing education at the tertiary level (ISCED 2011 level 5, 6, 7 and/or 8). R&D activities might be present, but are not a necessary condition for inclusion in the perimeter. Furthermore, HEIs covered by ETER should have at least 30 FTEs of staff or at least 200 enrolled students.

In practice, ETER provides a very complete coverage of HEIs graduating at least at the bachelor level (ISCED level 6) – in terms of enrolment, ETER coverage exceeds 90% of the EUROSTAT figures in most countries. At the European level, ETER included 95% of the students in 2013/2014 (ISCED 6), respectively 100% (ISCED 7) and 85% (ISCED 8). The coverage of institutions delivering only short degrees below the bachelor level (ISCED level 5) is much lower (34% of the student enrolments) due to the fragmented nature of this type of tertiary education, which is sometimes delivered by secondary education institutions or professional associations, and data is not readily available from the National Statistical Authorities.

### Which data are provided by ETER?

ETER provides data on the following dimensions of HEIs:

- *Descriptors and regulatory characteristics*, like the foundation year, the institutional website, legal status, institutional type. These characteristics are informative of the HEI's position in the system.
- *Geographical information*, including the city, postcode, geographical coordinates of the main campus, the presence of branch campuses in other cities. This information is highly valuable to combine ETER with regional or city-level data.
- *Students and graduates* divided by level of study (diploma, bachelor, master), field of education, gender, nationality and mobility. This information fully characterizes the educational profile of the HEI. Additionally, data on Erasmus students are covered.
- *Staff*, divided between academic and non-academic. For the former, breakdowns by gender, nationality and field of education are provided, as well as the number of full professors. Staff data are informative of the human resources available to the HEI.
- *HEI expenditures*, divided between personnel, non-personnel and capital, and *revenues*, divided by stream (core funding, third-party, tuition fees) and source (public, private, international). These data characterize the financial resources used for activities and their origin.

- *Research and transfer activities*, including the number of PhD students and graduates and R&D expenditures. While data on research are less complete in ETER, they are readily available from international databases on scientific publications, European projects and patents, which can be easily combined with ETER.
- Finally, ETER includes a set of pre-defined indicators characterizing relevant dimensions of HEI activities, like the extent of subject specialization, international mobility, gender balance.

### **How has ETER data been collected? Is the data complete?**

ETER is mostly a secondary data collection: with the exception of descriptors and geographical information, which have been partially collected from public sources, most data come from National Statistical Authorities in the participating countries and have been collected either in the framework of international education statistics, or for national statistical purposes.

ETER has developed for each variable standardized definitions and guidelines on how to harmonize national data, building extensively on the EUROSTAT definition in educational and R&D statistics, but extending them in areas not fully covered by EUROSTAT, particularly HEI finances and staff.

ETER has also developed a full data collection infrastructure, which allows collecting the data on a yearly basis from the National Statistical Authorities (NSA), validating and checking them and integrated in a relational database, which allows for safe storage of the data. The ETER database is also the basis for the ETER website, which allows users to select countries, HEIs and variables and download their data in a variety of formats.

On average, ETER data are 78% complete (data collection 2014). This average however conceals large differences between variables: descriptors and geographical information is nearly complete, in addition to nearly 90% completeness for student and graduate data, and only slightly lower for staff data. On the contrary, financial data are available only for about half of the HEIs in the database.

### **How is the data quality checked?**

ETER data are subject to a systematic data validation and quality check, which begins from the moment the data is collected, and is organized into different stages. These checks focus on the internal quality of data, including their *format*, *accuracy* and the *consistency* between connected variables, but also performance of statistical checks on outlying data (for example costs per students) and on changes between years (for example in total revenues). Potentially suspect cases are then checked together with the NSAs and, in case, corrected. Deviant values, which are due to some substantive reasons, are annotated in the database to inform users.

Furthermore, ETER systematically collects metadata on deviations from standard definitions, on national specificities, as well on the mapping between national categories and ETER categories. These metadata are also available to users through the on-line interface.

### **What are ETER's uses?**

ETER has been designed as a general public resource, which can be accessed free of charge and also be combined with other sources in order to analyse relevant problems. The potential uses therefore cover different scholarly and policy domains, like analysing the structure of European higher education (compared for example with the US), studying the impact of HEIs in regions and cities, analysing the efficiency of HEIs and the 'best' size to inform national consolidation policies.

Four main types of usages can be distinguished: (1) the direct usage of ETER data for policy analysis and reports, (2) their usage by scholars in order to analyse relevant problems in higher education, with potentially an indirect impact on policy-making, (3)

ETER as a reference list of HEIs for other studies (for example surveys) and (4) ETER as a direct source of data for other projects at the European and national level, which provide on-line visualizations and indicators on higher education.

### **What can we learn from ETER?**

The main lesson of ETER is that the European higher education system is characterized by a high level of internal diversity, in terms of institutional characteristics, size, activities, resources, which broadly ranges from the research-intensive international universities to small-scale focused educational providers in domains like arts or humanities. In the simplest way, this diversity can be described in terms of two dimensions: the legal status of HEIs (public vs. private) and the right to award degrees, distinguishing between HEIs delivering only diplomas, those delivering at least masters and bachelors and those with the legal right to award the PhD. Despite this level of diversity, the core of European higher education is still a rather small number of universities, covering most subject domains: slightly more than 1,000 HEIs award doctorate degrees (over more than 2,700 HEIs in ETER) and account for 70% of total student enrolment.

Such diversity is of high policy relevance, as it implies that 'no size fits all', i.e. that there is not a single best model for European HEIs. On the contrary, public policies must be tailored and differentiated by HEI type and characteristics, while a major goal should be to maintain this diversity and to respond to diverse societal needs.

### **What is the future of ETER?**

The main outcome of the two ETER contracts has been to develop a fully operational system, through which HEI data can be routinely collected on a yearly basis, validated and corrected, safely stored and made publicly available to a broader audience for further usage through a web interface. As documented in this report, the use of ETER is also growing rapidly, for both policy and scholarly purposes.

The main recommendation is therefore that the dataset should be maintained and updated through regular data collection. At the same time, there is room for further improvement in five critical areas, namely (1) extending coverage of the HEI system, (2) improving data completeness and data quality, (3) introducing additional variables, (4) making it easier to use ETER and (5) increasing visibility of ETER through targeted dissemination and communication activities. The report also provides recommendations on how these issues could be addressed in the future.



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