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What ETER tells us about the history and demography of European HEIs

Highlights

- European higher education is formed in layers created by different historical periods and with different policy goals.

- Older universities, mostly founded before the 20th century, still enroll a large share of undergraduate students and most PhD students.

- Universities of applied science only became significant in number of HEIs and students enrolled from the 1970s.

- Mergers and consolidations into larger institutions occur rather frequently, while HEI closures are rare and usually limited to private HEIs.

By providing information on the history of nearly 2,200 higher education institutions (HEIs) in Europe, ETER makes it possible to conduct a systematic analysis of how the European higher education landscape has evolved in terms of the number of institutions, their size and the number of students enrolled.

The figure shows that, while nearly half of the HEIs in ETER were founded after 1979, half of the students are enrolled in HEIs founded before 1950. About one-third of the students are enrolled in the fewer than 400 HEIs founded before the 20th century, which also enroll more than half of the PhD students.

In other words, a large number of HEIs were founded after World War II, but the older universities still represent the core of European higher education and account for most of the research volume (as measured by the number of PhD students). Among the 21 universities with more than 50,000 students, 12 were founded before 1800, three are distance education universities and two the outcome of recent mergers (Lorraine and Aix-Marseille).
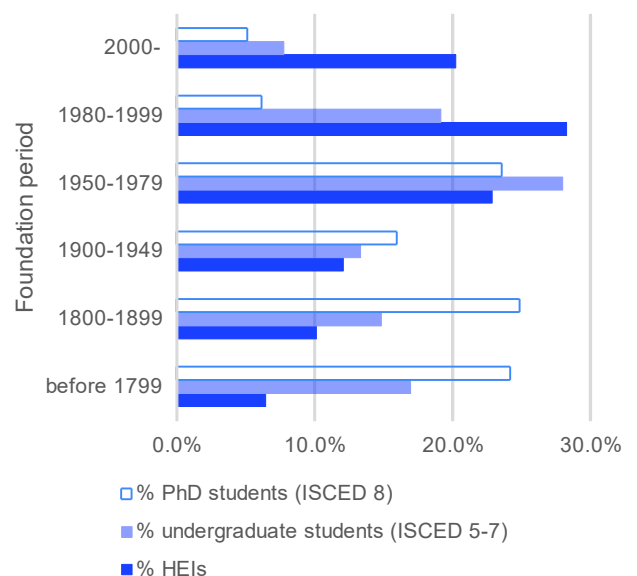

Figure 1. HEIs by foundation period in ETER (N=2173)

Foundation period	N. of HEIs	Institution Category			Legal status			PhD awarding		Undergraduate students ISCED 5-7 (mean)	PhD students ISCED 8 (mean)
		University	University of Applied Sciences	Other	Public	Private	Private government-dependent	Yes	No		
1000-1799	142	98	2	42	128	3	11	111	18	19,432	1,456
1800-1899	223	134	15	74	117	20	86	165	54	10,760	896
1900-1949	266	160	25	81	190	38	38	188	67	8,038	520
1950-1969	504	258	107	139	406	64	34	294	184	8,978	516
1970-1999	623	194	297	132	313	235	74	199	415	4,979	226
2000-	446	113	195	138	171	243	31	94	346	2,905	376

Table 1. Characteristics of HEIs by foundation period

Other HEIs include mostly specialised schools in arts, theology schools, teacher training institutions which do not have a formal status as universities or universities of applied sciences.
Private government-dependent HEIs are private HEIs which are mostly funded by the State.

Why understanding demography is important?

The EU's agenda for modernising higher education highlights the need for diversity of higher education institutions, and each institution must pursue excellence in line with its mission and strategic priorities. When considering the composition of higher education systems, policymakers normally focus on various characteristics, such as achieving a critical mass, having the right number of HEIs in terms of size and diversity, providing higher education in the different regions of a country etc. ETER provides historical evidence and comparable data on European higher education systems. ETER also shows that the current structure of higher education is largely borne by history and does not necessarily reflect a coherent design.

Governments may decide to restructure higher education, for example by merging HEIs to reduce their number to achieve critical mass or by creating new types of HEIs. However, they need to take into account that history matters: for example, the fact that most highly reputed universities are rather old might suggest that time matters and, therefore, mergers require a longer period than expected to unfold their effects. At the same time, ETER provides a good number of cases in which HEIs which went through a complex history of changes concerning their mission, legal status, subject orientation, therefore showing that change is possible or even normal over longer time periods. Understanding the history and demography of HEIs is therefore instructive of the possibilities and limits of policy reforms.

A system composed of historical layers

Information on the HEI foundation year from ETER shows that today's higher education is composed of historical layers, largely reflecting past contingencies. As shown in table 1, the majority of HEIs in ETER are quite young - half were founded after 1979. There are only 142 HEIs founded before the year 1800 and only one-quarter of the HEIs pre-date the Second World War. This reflects the huge expansion of the higher education system which began in the 1960s and the 1970s.

The table also highlights several distinct historical layers in terms of organisational characteristics and activity profiles: old HEIs are mostly public universities, with the right to award doctorate degrees. They are generalists supplying teaching and research for many subject fields and research oriented, as shown by the high number of PhD students. This partially reflects their foundation, partially historical evolution; some HEIs were founded as specialised colleges and have been transformed into generalist institutions at a later stage. The 18th and first half of the 19th century was characterised by a more mixed specialisation profile of new foundations, where many technical universities and specialised schools in arts date back to this period.

Institution	Country	History
Vienna University of Technology	AT	Founded in 1815 as the Imperial-Royal Polytechnic Institute, recognised in 1872 as university
XIOS University College Limburg	BE	Founded in 1995 from the merger between several university colleges, the older one Rijksmijnbouwschool founded in 1947
University of Lucerne	CH	Official recognition as University in 2000, theological school exists since 1600
University of Trier	DE	The University of Trier was first founded in 1473, but it was closed by Napoleon in 1798 and reopened only in 1970
National University of Ireland, Maynooth	IE	Established as a religious seminary in 1795, in 1896 became Pontifical University and changed its name to St. Patrick's College; in 1910 became a recognised college of National University of Ireland
Molde University College	NO	Founded in 1994 as a merger of pre-existing schools (the older one Molde college of nursing founded in 1958), accredited in 2010 as specialised university institution
Göteborg University	SE	Founded as Göteborgs högskola in 1891, became university in 1954 with the merger with Medicinska högskolan
Leeds Metropolitan University	UK	Founded as Leeds Mechanics Institute in 1924, became Leeds Polytechnic in 1970 and was awarded university status in 1992

Table 2. Selected HEI histories from ETER

Type	Number in ETER	Average N. of students merged HEI	Goal	Sector	Predecessor HEIs	Examples
University merger	5	24,980	Achieve critical mass and international reputation	University	Fairly large and research oriented	Aalto University (FI), University of Bordeau
College merger	12	10,331	Merge colleges (UAS) in neighbouring areas to achieve critical mass	College	Small/medium	Oslo and Akershus university college of applied sciences
Regional consolidation	9	19,702	Merge most schools in a local/regional area into a single HEI	Mixed (mosty university status as an outcome)	Different	University of Tromsø - Norway's Arctic University
Specialised school consolidation	12	4,906	Consolidate specialised schools in neighbouring disciplines, possibly giving them university status	Other	Small and specialised	Stockholm University of the Arts, National University of Public Service (Budapest)
Take-over of specialised school	21	12,246	Consolidate small specialised HEIs into larger generalist universities	University (taking-over), other (taken-over)	Large and generalist (taking-over), small and specialist (taken-over)	Turku School of Economics; Architecture schools in Belgium

Table 3. Types of mergers and take-overs from ETER data

After 1970, we observe a structural change for what concerns the type of HEIs founded: alongside public universities, Universities of Applied Sciences entered the higher education system (largely as an upgrade of vocational schools), while after 2000 most of the new institutions are private HEIs. Accordingly, the profile of the more recent HEIs is more diverse, including both specialised and generalist HEIs, research and education oriented.

Table 2 provides some examples of how the history of HEIs can be quite complex and how some of the today's universities were born as specialised schools and expanded successively to more generalist institutions. Many HEIs in the non-university sector were also created by merging pre-existing professional schools.

Short-term changes are less frequent

From 2008 onwards, ETER provides more detailed information on demographic events, like mergers, take-overs, new foundations and closures. Over such a short period, demographic changes are relatively rare and much less frequent than, for example, for private companies. For the whole period 2008-2013, such events affected only about 5% of the ETER HEIs. This is partially due to the fact that system-level reforms, like the restructuring of higher education in Denmark in 2006-2007 or of the college sector in Flanders in 1995 did not occur in the period considered.

These events include a number of new institutions (33) and HEI closures (42), as well as a number of mergers (29) and take-overs (40); other events like the split of an HEI or the spin-out, i.e. a part of an HEI becoming independent are less frequent. As expected, events like foundations and closures concern mostly small HEIs in the private sector. The pattern is very different for mergers and take-overs where at least one involved HEI tends to be fairly large and such events mostly take place in the public sector, thus obeying the rationale of consolidating higher education in the public sector.

Analyzing mergers and take-overs

The 62 mergers recorded in ETER are distributed over 20 countries, with Belgium having 12 events (table 3). These cases can be analysed by combining ETER information on the characteristics of the merged HEIs, like their size, institutional type, subject specialization and geographical location, with descriptive information, like the one provided by the merger observatory of the European University Association (http://www.university-mergers.eu/). Therefore, despite the limited number of cases, ETER is the first dataset to allow for a comprehensive and systematic analysis of such events, which enables specific categories to be identified.

University mergers are mostly aimed to create large players in international competition, by merging relatively large and research intensive HEIs in order to create critical mass. Typical examples are Aalto (Finland), Bordeaux (France) and Lisbon (Portugal). The merged HEIs tend to be quite large.

The four other types of mergers aim to consolidate regional players mostly in the college sector to achieve a sufficient size and reduce duplications. Regional consolidation – like the University of Tromsø in Norway - implies that all HEIs in a region are merged into a single institution, which achieves university status, therefore creating a sufficiently large and visible institution also in less central regions. College sector consolidation implements the merger of neighboring colleges (Universities of Applied Sciences) in a region, where a university is also present, to create a strong actor in the non-university sector; an example is represented by the merger between the two colleges in the Oslo region.

Consolidation of specialised schools involves merging small schools located in the same city, to achieve critical mass in fields with low enrolments, like arts, design and music. Stockholm University of the Arts and the National Public Service University in Hungary, merging defense, police and public administration are examples. Finally, the integration of specialised schools in a neighboring generalist college or university aims to reduce the fragmentation of the higher education system. An example was the integration in 2010 of the French-speaking architecture schools in Belgium inside the existing universties.

ETER in a nutshell

The European Tertiary Education Register (ETER) database provides a core set of data on a subset of educational institutions delivering degrees at the tertiary level. ETER is a project funded by the European Commission's Directorate General for Education and Culture in close collaboration with EUROSTAT and with the National Statistical Authorities in the participating countries.

ETER provides information on more than 2,465 HEIs in 32 countries for the years 2011 to 2013; data are available for all EU-28 countries, except the French-speaking part of Belgium, Slovenia and Romania, plus the former Yugoslav Republic of Macedonia, Iceland, Liechtenstein, Norway, Serbia and Switzerland. ETER provides the following information on HEIs:

- Descriptors identify the HEIs and their official status and provide information on foundation and history.

- Geographical information localizes HEIs in terms of region, city and geographical coordinates and provides information on multi-location campuses.

- Staff data categorizes HEI personnel by academic and non-academic; for academic staff, information is provided on gender, nationality, scientific field, and the number of full professors.

- Numbers of students and graduates broken down by educational level (diploma, bachelor, master), field, gender, nationality and mobility.

- Financial data includes total revenues and their breakdown between core and third party funding, as well as student fees and the composition of expenditures.

- R&D activities include the number of PhD students and graduates, as well as the volume of R&D expenditures.

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

HEI history and demography in ETER

For each HEI, ETER includes the *foundation year* (when the HEI first existed in its current form), the *ancestor year* (the oldest component which can be traced back) and the *legal status* year (when the HEI acquired its current status). This information is highly informative of HEIs' past history. For example, the University of Paris Sorbonne was founded in 1971 (year of the split of the old Paris university), but its ancestor dates back to 1257. Many colleges in the UK (the '1992 universities') and in Norway were awarded the legal status of university at later stage, as noted by the legal status year. Remarks are also informative of the foundation of colleges through mergers of pre-existing schools.

Starting with the year 2008, ETER records HEI demography. ETER is based on the assignment of a unique ID, which does not change except if the HEI is subject to a *demographic event*. This approach makes a clear distinction between *demographic events*, where the continuity of the organization is affected, and *organizational changes*, like changes in legal status, name or even location.

ETER includes eight types of events: *entries* (code=1) and *exits* (code=2), for example because the HEI reached the ETER size threshold; *foundations* (code=3) and *closures* (code = 4 of HEIs); *mergers* (code = 5) and *split* of HEIs (code =6); finally, *take-over* (code = 7) and *spin-out* (code = 8). They are associated with specific rules for handling IDs: for example, in the case of a merger, in the year before the IDs of the parent HEIs are present, whereas in the year after a new ID is attributed to the merged HEI. Demographic events are important for longitudinal analysis and might provide explanation of sudden changes to some variables (for example an increase in size due to a take-over). Such cases are marked in the database with a "be" flag (break in series due to demographic event).

Key references

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