



European Tertiary Education Register (ETER)

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The ETER perimeter and coverage: an in-depth analysis (2013 data collection)

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Document Information Sheet

Deliverable Title	ETER perimeter as compared with EUROSTAT
Abstract	This document presents the ETER perimeter in terms of the Higher Education Institutions included and of the coverage of tertiary education students as compared with EUROSTAT data.
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1 INTRODUCTION

As a database of information on higher education institutions (HEIs) in Europe, defining the criteria according to which HEIs are included is a core task for ETER. In principle, all institutions where students may graduate at tertiary level (levels 5 to 8 of the International Standard Classification of Educational Degrees; ISCED) may be included. However, the European higher education landscape presents institutions that differ in programme profiles, institutional mission, student and staff profiles and internal organisation, all of which impact on data availability and collection methods. This institutional diversity, therefore, necessitates the setting of a perimeter for inclusion in ETER. Here, we describe the ETER perimeter, which combines broad inclusion and feasibility of data collection. .

As EUROSTAT, the statistical office of the European Union, also provides data on tertiary level institutions, it is important to ensure comparability between data sets in ETER and EUROSTAT. Therefore, an additional goal of this document is to provide a description of the ETER coverage in terms of types of institutions included and of number of students as compared to the EUROSTAT coverage.

This comparison is based on a systematic analysis of the composition of national tertiary education, done in spring 2016 by the ETER consortium in close cooperation with National Statistical Authorities. It builds largely on a comparison between ETER coverage and the ISCED mappings of national education systems. The country ETER mappings are available on the ETER website.

Highlights

- The ETER coverage is very close to EUROSTAT national aggregates at ISCED levels 6, 7 and 8, for most countries, showing that the perimeter is largely the same.
- The coverage is more extensive than research universities, including also almost all colleges and large numbers of specialized schools like art and music schools (only 40% of the ETER HEIs have the right of awarding the PhD).
- France, Germany and Switzerland represent specific country cases where ETER coverage at ISCED level 6 is relatively low when compared with EUROSTAT, due to the existence of a large professional sector delivering degrees at ISCED levels 6 and 7.
- ETER coverage at ISCED level 5 is limited to HEIs delivering also degrees at ISCED level 6 and 7. Therefore, coverage at this level when compared with EUROSTAT varies strongly by country.

2 THE ETER PERIMETER

ETER collects data on *higher education institutions*

- which are recognised as distinct organisations. A distinct organisation has an internal organisational structure and its own budget.
- which are nationally recognised as HEIs. A HEI is nationally recognised if it is officially accredited as such by an authorized organization in a country
- whose major activity is providing education at 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

The major activity criterion excludes organizations, which deliver training at the tertiary level as a side-activity, such as professional associations that provide education in a specific economic sector, or secondary education institutions who offer preparatory classes before entering university – these specific curricula being classified at tertiary level by EUROSTAT.

- With a formal size criterion of HEIs with less than 30 FTEs of academic staff and less than 200 students being only included in exceptional cases, specifically for HEIs graduating students mostly at the ISCED8 level.

Using the above criteria, coverage is extensive in most countries, and includes not only universities, but also Universities of Applied Sciences (colleges, Hogescholen, etc.), as well as a number of specialized institutions. In many countries, the perimeter exactly matches the national-level definition of Higher Education Institutions, exceptions being HEIs, which do not conform to the ETER size criterion.

Institutions in countries which participated in EUMIDA (feasibility study of ETER) were further checked with the use of available information on websites, particularly information published by the Ministries of Education which list nationally accredited HEIs. This list was then sent to the NSA in the concerned country for validation and to decide on unclear cases; at this stage, exclusion based on size was also decided for a number of HEIs.

3 COMPARING COVERAGE BY ETER AND EUROSTAT

ISCED mappings (<http://www.uis.unesco.org/Education/ISCEDMappings/Pages/default.aspx>) were used to carry out a systematic analysis of coverage. ISCED mappings provide a fine-grained identification and classification of national educational curricula, providing information on their characteristics, classification, number of students, and level of qualification. For our purpose, the curricula in ISCED mappings were attributed to groups of HEIs and checked against curricula covered by ETER. This allowed a fine-grained correlation between the curriculum-based approach of UOE and the institution-based approach of ETER in order to better understand the sources of differences in the numbers of students and or graduates.

ETER-EUROSTAT comparisons per country are available on the ETER website together with national perimeter descriptions. An example is provided in Table 1 below.

TABLE 1. MAPPING SCHEME FOR SWITZERLAND

The number of students in the ISCED mapping might slightly diverge from EUROSTAT educational statistics.

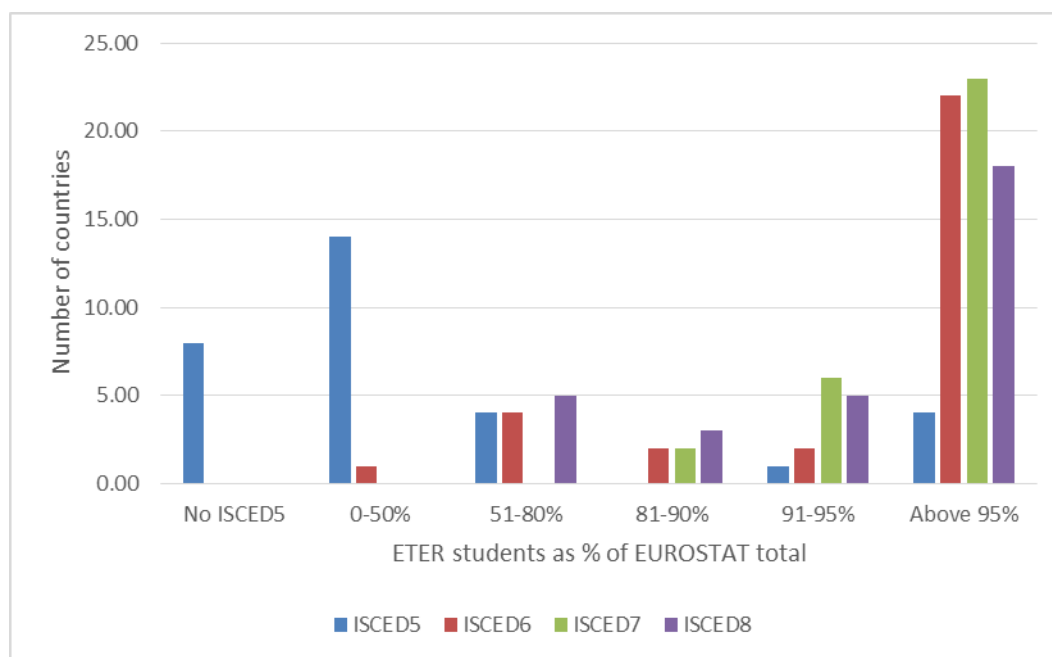
Perimeter description	The perimeter includes all institutions which are officially recognized as part of the Higher Education System by law, including universities, universities of applied sciences and teacher-training institutions; are excluded a few very small-scale HEIs. The perimeter does not include professional schools outside the higher education sector, which enrolled in 2011 about 20% of total students at the tertiary level (however with a strongly decreasing share of tertiary education in the last ten years). About half of these students are enrolled in public higher professional schools (largely full time), the rest in part-time professional courses. There are about 150 higher professional schools with an average number of students below 200; no disaggregated data are available at national level.								
	ISCED level	N. of institutions (estimated)		ETER coverage by students' numbers	Sector description	Programme (ISCED mapping) included in ETER	Programme (ISCED mapping) not included in ETER	Most relevant exclusion cases in ETER (institutions)	
Switzerland		All	Included in ETER						
University sector	6,7,8	14	13	Nearly 100%	This sector includes the 10 Cantonal universities, two federal institutes of technology as well as a small number of HEIs recognized by the law.	7.1 University diploma / 6.3 University/UAS bachelor / 7.02 University master / 8.01 University doctorate	7.03 university post-graduate	Facoltà di Teologia di Lugano, Franklin College Switzerland, Theologische Hochschule Chur, Institut Universitaire Kurt Bösch excluded because of size threshold	
Universities of applied sciences	6,7	9	8	Nearly 100%	This sector includes the seven public and the two private universities of applied sciences currently recognised by the Confederation.	6.2 university of applied science diploma / 6.04 Fachhochschule, post-graduate		UAS Les-Roches-Gruyere excluded since it is below the size threshold	
Universities of teacher Education Teacher	6,7	15	14	Nearly 100%	This sector includes the 15 teacher training universities not integrated in the UAS.	6.1 Pedagogical university diploma (bachelor included in figures for the UAS sector)		Hochschule für Logopädie Rorschach excluded since it is below the size threshold	
Federal PET Diploma examination / higher vocational education, stage I	5,6	some hundreds (estimate)	0	Not covered	Exams regulated at the federal level, no mandatory curricula, but preparatory courses offered by a large number of mostly private providers.		6.05 Federal PET Diploma examination / higher vocational education, stage I	No reliable data on students as there are not mandatory and structured curricula.	
higher vocational education, stage I (no regulation on the federal level)	5,6	some hundreds (estimate)	0	Not covered	Exams regulated at the federal level, no mandatory curricula, but preparatory courses offered by a large number of mostly private providers.		5.15 Higher vocational education, stage I (no regulation on the federal level)	No reliable data on students as there are not mandatory and structured curricula.	
PET College /technical school	6	150	0	Not covered	Cantonal schools (Höhere Fachschulen) delivering professional tertiary education degrees (duration 2-3 years). Older ISCED-1997 5B, classified at ISCED-2011 level 6.		6.06 PET College /technical school / 6.07 Postgraduate course PET college	This sector is not included in ETER since it is too fragmented and only aggregated data at regional level are available.	
Advanced Federal PET diploma examination / higher vocational education, stage II	7	some hundreds (estimate)	0	Not covered	Exams regulated at the federal level, no mandatory curricula, but preparatory courses offered by a large number of mostly private providers.		7.04 Advanced Federal PET diploma examination / 5.16 higher vocational education, stage II	No reliable data on students as there are not mandatory and structured curricula.	
<p>Source Official list of recognised institutions by the Swiss law from the Swiss rectors conference (last consulted 24.06.2016) https://www.swissuniversities.ch/en/higher-education-area/recognised-swiss-higher-education-institutions/</p>									

3.1.1 OVERVIEW OF COVERAGE

Table 2 shows a detailed comparison of coverage and Figure 1 compares aggregated student numbers from EUROSTAT and ETER based on the ISCED-2011 classification. At ISCED levels 6, 7 and 8, for most of the countries, the ETER coverage is very close to EUROSTAT national aggregates, showing that the perimeter is largely the same. The countries for which ETER coverage is below 91% are seven at ISCED6 level, two at ISCED7 and eight at ISCED8 level. On the contrary, coverage at ISCED level 5 is much lower than in EUROSTAT and exceeds 90% only in five countries.

Some differences in the number of students are not generated by inclusion or exclusion of HEIs, but by different counting methods between ETER and EUROSTAT, as the former adopt an institution-centred view and the latter a curriculum-centred. This is a source of some differences in counts (for example double counting in ETER of students enrolled in more than one HEI).

FIGURE 1. PERCENTAGE COVERAGE OF ETER COMPARED WITH EUROSTAT DATA, 2013/2014



In further detail,

a) The overall coverage in ETER of ISCED 5 is indeed low, since ETER includes only 1/3 of EUROSTAT students at this level.

There are however large differences between countries.

In nine countries, more than half of the ISCED 5 students are included, i.e. Croatia, Cyprus, Denmark, Hungary, Iceland, Ireland, Latvia, Malta and UK.

In 8 countries there are no ISCED 5 students both in ETER and in EUROSTAT.

In the other 10 countries for which ETER does not include ISCED students, no coverage results from the exclusion of professional colleges and/or vocational educational centres, for which the highest degree delivered is at ISCED level 5. There is very limited information available on these institutions, but it seems that this sector is highly fragmented (see Table 3) and no systematic data collection is undertaken by most NSAs.

TABLE 2. COMPARISON ETER – EUROSTAT FOR THE NUMBER OF STUDENTS, YEAR 2013/2014

	ETER					EUROSTAT				Coverage				
	ISCED5	ISCED6	ISCED7	ISCED7long	ISCED8	ISCED5	ISCED6	ISCED7	ISCED8	ISCED5	ISCED6	ISCED7	ISCED57	ISCED8
Belgium (Flanders)	-	181,705	49,043	-	11,127	24,567	191,075	53,695	8,917	0.00	0.95	0.91	0.86	1.25
Bulgaria		191,145	53,748	32,051	5,854	:	191,416	85,823	6,055		1.00	1.00	1.00	0.97
Czech Republic	-	229,064	84,941	38,817	25,165	998	256,329	136,207	25,090	0.00	0.89	0.91	0.90	1.00
Denmark	31,940	183,675	68,729	712	9,692	33,460	187,902	70,168	9,869	0.95	0.98	0.99	0.98	0.98
Germany	-	1,540,903	385,292	575,886	111,393	476	1,734,827	962,201	214,700	0.00	0.89	1.00	0.93	0.52
Estonia		40,539	12,746	3,731	2,982	:	40,539	16,477	2,982		1.00	1.00	1.00	1.00
Ireland	38,952	123,616	22,425	-	7,898	17,963	154,294	23,690	7,965	2.17	0.80	0.95	0.94	0.99
Greece	-	248,783	38,463	50,916	23,066	:	598,990	54,558	23,881		0.42	1.64	0.52	0.97
Spain	-	1,159,468	122,770	257,471		366,049	1,180,345	411,451	24,317	0.00	0.98	0.92		0.79
France	142,907	747,367	405,858	333,855	71,542	503,711	961,447	854,784	68,938	0.28	0.78	0.87	0.70	1.04
Croatia	107	101,827	34,930	24,333	3,219	107	103,168	59,567	3,219	1.00	0.99	0.99	0.99	1.00
Italy	-	1,080,162	350,796	372,162	34,119	5,201	1,090,764	724,883	33,512	0.00	0.99	1.00	0.99	1.02
Cyprus	2,101	19,028	9,468	428	929	2,957	19,779	10,009	929	0.71	0.96	0.99	0.95	1.00
Latvia	15,677	55,968	12,160	-	2,406	17,053	57,955	12,257	2,406	0.92	0.97	0.99	0.96	1.00
Lithuania		112,925	21,213	8,795	2,426	:	113,881	31,822	2,686		0.99	0.94	0.98	0.90
Luxembourg	-	3,222	1,098	-	390	329	:	:	:					
Hungary	10,769	227,390	72,878	5,310	7,283	20,100	228,535	73,473	7,347	0.54	0.99	1.06	0.98	0.99
Malta	2,189	6,793	2,487	896	95	2,162	6,933	3,420	95	1.01	0.98	0.99	0.99	1.00
Netherlands	3,212	583,427	105,979	-	8,702	:	:	:	13,849					0.63
Austria	8,913	179,062	65,708	73,725	24,576	77,542	179,406	139,697	24,579	0.11	1.00	1.00	0.83	1.00
Poland	-	1,087,734	369,916	160,979	40,232	5,803	1,172,637	540,868	43,358	0.00	0.93	0.98	0.94	0.93
Portugal		217,776	57,997	62,454	20,245	:	220,859	121,096	20,245		0.99	0.99	0.99	1.00
Romania							377,136	181,578	19,992					
Slovenia						13,251	51,092	23,263	3,016					
Slovakia	-	120,633	62,482	10,410	10,953	2,872	120,806	74,912	10,953	0.00	1.00	0.97	0.97	1.00
Finland	-	223,519	57,087	5,170	20,283	21	223,519	62,257	20,283	0.00	1.00	1.00	1.00	1.00
Sweden	5,141	297,180	59,175	85,107	21,621	25,465	247,169	135,220	21,590	0.20	1.20	1.07	1.10	1.00
United Kingdom	222,930	1,433,710	425,985	88,355	111,345	285,343	1,532,677	423,518	111,395	0.78	0.94	1.21	0.97	1.00
Iceland	321	13,740	4,124	297	472	452	13,768	4,407	470	0.71	1.00	1.00	0.99	1.00
Liechtenstein		468	243	-	21		468	243	119		1.00	1.00	1.00	0.18
Norway	-	179,085	38,952	27,436	9,436	9,758	186,971	60,151	7,327	0.00	0.96	1.10	0.96	1.29
Switzerland	-	145,998	56,447	3,279	23,237	9,538	193,479	63,316	23,237	0.00	0.75	0.94	0.77	1.00
Former Yugoslav Republic of Macedonia		54,750	3,314	-	456		56,906	3,550	226		0.96	0.93	0.96	2.02
Serbia		146,952	33,603	-	7,712		200,658	34,469	7,721		0.73	0.97	0.77	1.00
Turkey														
ETER countries	485,159	10,937,614	3,090,057	2,222,575	618,877	1,411,927	11,467,502	5,248,189	723,943	0.34	0.95	1.01	0.92	0.85

b) The coverage of ISCED6 is generally very good in most countries, the aggregated coverage being 91%. In seven countries the coverage of ISCED6 students is below 90%. In some cases, these differences are related to data issues, in other cases to structural characteristics of higher education:

- For Greece, the country with the largest difference, the reason is a divergence in definition of students, ETER including only “active” students, while EUROSTAT covers all enrolments. This is due to recent changes in the legal framework for higher education in the country.
- For Germany and Switzerland, the difference is due to a large vocational educational sector with curricula classified at ISCED level 6. See further analysis in next section.
- For France, the under-coverage is due to two reasons: the exclusion based on size, of many smaller (mainly private) HEIs outside the university sector (but delivering programmes and qualifications at ISCED levels 6 and 7) and the exclusion of some curricula, particularly preparatory curricula to the Grandes Ecoles, where the curriculum is classified at level ISCED 6, but it is offered by schools mostly active at the secondary level (lycées). See further analysis in next section.
- For Poland, the difference seems to be due to comparability problems with data, which will be addressed in the future with the NSA.
- For Serbia, difference is due to the exclusion of a large number of vocational colleges, mostly delivering degree at ISCED level 6.
- For Ireland, the difference is mostly due to different classification of students adopted by the National Statistical Authority for ETER with respect to EUROSTAT, since the number of ISCED5 students is larger in ETER than in EUROSTAT, while the ISCED 6 students is lower.

c) There are only two countries for which coverage of master level is slightly below 91%; for France reasons are similar to above, for the Czech Republic need to be investigated, but might be due to the exclusion from ETER data of some curricula.

d) Institutional coverage at ISCED level 8 (PhDs) is complete in all countries. Differences are due to data problems, like in the case of Germany (no complete data on PhD students at institutional level), Netherlands (data currently available in ETER refer to contractual FTEs) and Spain (no data delivered). The coverage of ISCED8 is expected to reach 100% once these issues are solved.

TABLE 3. DIFFERENCES IN COVERAGE BY ISCED LEVEL AND COUNTRY

	ETER coverage				General remarks	Reasons for undercoverage			
	ISCED5	ISCED6	ISCED7	ISCED8		ISCED 5	ISCED 6	ISCED 7	ISCED 8
Austria	0.11	1.00	1.00	1.00		About 600 colleges and higher vocational schools offer the bulk of ISCED5 curricula, some courses are also offered by HEIs graduating at level 6, these are also covered by ETER but are only a minority of ISCED5	Full coverage (with few exceptions)	Full coverage (with few exceptions)	Full coverage
Belgium (Flemish)	0.00	0.50	0.53	0.71		Vocational education at intermediary level between secondary and bachelor offered by centers of adult education and by secondary higher education insitutions. Not covered by ETER.	Full coverage (with few missing curricula within the HEIs included)	Full coverage (with few missing curricula)	Full coverage, but differences in counting methods
Bulgaria		1.00	1.00	0.97		No ISCED5 students.	Full coverage	Full coverage	Full coverage
Croatia	1.00	0.99	0.99	1.00		No ISCED5 students.	Full coverage	Full coverage	Full coverage
Cyprus	0.71	0.96	0.99	1.00		Five public institutes of tertiary education (only Cyprus Police Academy meets ETER criteria in academic year 2011-2012) and thirty private (thirteen of them do not meet ETER criteria in academic year 2011-2012). Difference due to not-included institutions.	Full coverage	Full coverage	Full coverage
Czech Republic	0.00	0.89	0.91	1.00		18 conservatoires not included in ETER	174 Higher technical schools not included in ETER (about 30'000 students)	Full coverage	Full coverage
Denmark	0.95	0.98	0.99	0.98		Full coverage except few maritime insitutions	Full coverage	Full coverage	Full coverage
Estonia		1.00	1.00	1.00		No ISCED5 students.	Full coverage	Full coverage	Full coverage
Finland		1.00	1.00	1.00		No ISCED5 students.	Full coverage	Full coverage	Full coverage
Former Yugoslav Republic of Macedonia		0.96	0.93	2.02		No ISCED5 students.	Situation unclear as ETER data have been elaborated by the consortium, but very large coverage.		
France	0.28	0.78	0.87	1.04		Only ISCED5 diplomas delivered by universities are covered. Preparatory classes and higher professional schools are not covered.	Undercoverage due to exclusion because of size of most business schools and high professional schools, as well as of preparatory classes to grandes écoles. Additionally, data by ISCED level missing for many art schools.	Undercoverage due to exclusion because of size of most business schools and high professional schools	
Germany	0.00	0.89	1.00	0.52		Almost no tertiary education curricula are classified at level 5	Professional education institutions at level 6 not included (vocational academies, etc.)	Full coverage	Data at the institutional level are not complete
Greece		0.42	1.64	0.97		No ISCED5 students.	Most of the difference due to inclusion in EUROSTAT of data on non-active students, few institutions excluded because of size		Full coverage
Hungary	0.54	0.99	1.06	0.99		Undercoverage due to exclusion of ISCED5 diplomas in secondary schools and missing numbers in universities and colleges (to be checked).	Full coverage	Full coverage	Full coverage
Iceland	0.71	1.00	1.00	1.00		Full coverage	Full coverage	Full coverage	Full coverage
Ireland	2.17	0.80	0.95	0.99		Full coverage; ISCED5 diplomas offered in HEIs delivering also ISCED6.	Full coverage	Reasons of difference to be checked	Full coverage
Italy	0.00	0.99	1.00	1.02		Higher Technical education schools excluded (62 schools)	Full coverage	Full coverage	Full coverage
Latvia	0.92	0.97	0.99	1.00		Full coverage (only few exclusion cases)	Full coverage (only few exclusion cases)	Full coverage	Full coverage
Liechtenstein		1.00	1.00	0.18		No ISCED5 students.	Full coverage	Full coverage	Full coverage
Lithuania		0.99	0.94	0.90		No ISCED5 students.	Full coverage	Full coverage	Full coverage
Luxembourg						About 20 secondary schools (lyceum) offer tertiary education professional diplomas (ISCED 5); these are excluded from the perimeter since this is only a side activity to secondary education and the number of students are quite low. Not included in ETER.	Full coverage	Difference due to non-inclusion of second masters in ETER (to be revised)	Full coverage
Malta	1.01	0.98	0.99	1.00		Only ISCED5 at the university included. Two colleges and few smaller HEIs not included.	Full coverage	Full coverage	Full coverage
Netherlands				0.63		10,000 more ISCED5 students studying in private institutions not covered by ETER. However, the Dutch NSA does not collect data on this directly from these private institutions. Its estimate is based on a labour force survey.	Full coverage	Full coverage	Full coverage, but data currently in contractual FTEs, hence lower figures
Norway	0.00	0.96	1.10	1.29		No ISCED5 students	Vocational schools not included	Full coverage	Full coverage
Poland	0.00	0.93	0.98	0.93		ISCED5 degrees in teacher training colleges, foreign language colleges and colleges of social work, not included in ETER.	Differences due to comparability problems		
Portugal		0.99	0.99	1.00		No ISCED5 students	Full coverage (some exclusions due to size threshold)	Full coverage	Full coverage
Serbia		0.73	0.97	1.00		No ISCED5 students	Colleges of applied sciences and colleges of academic studies are excluded	Full coverage	Full coverage
Slovakia	0.00	1.00	0.97	1.00		Higher professional education provided by secondary schools, not covered by ETER.	Full coverage	Full coverage	Full coverage
Spain	0.00	0.98	0.92			Vocational educational centers, not covered by ETER	Full coverage (except the helath specialist diploma)	Difference due to different definitions, will be aligned in the next round of data collection	No ISCED8 data in ETER
Sweden	0.20	1.20	1.07	1.00		Only ISCED5 in universities and colleges included, specialized providers excluded	Difference to be checked	Difference to be checked	Full coverage
Switzerland	0.00	0.75	0.94	1.00		Professional diplomas not included (some hundreds of providers).	Professional colleges (150 HEIs) and some professional exams excluded from ETER (some hundreds of institutions).		Full coverage
United Kingdom	0.78	0.94	1.21	1.00		Reasons for undercoverage to be checked.	Full coverage	Difference to be checked	Full coverage

3.1.2 SPECIFIC COUNTRY CASES

In this section, we provide more in-depth analysis of three countries - France, Germany and Switzerland - where coverage at ISCED level 6 is relatively low. Student numbers in these tables are based on data from ISCED mappings, which do not correspond exactly to EUROSTAT statistics. The analysis illustrates issues related to the classification of curricula by the ISCED-2011 levels.

a) **France** (see Table 1). The French system is characterized by a high level of complexity; the correspondence with ISCED-2011 is made more difficult because, outside the university sector, the curricula structure is different, with a large share of long degrees leading directly to a master degree. Overall, there are about 4,000 institutions delivering degrees at tertiary level, of which only 316 (8%) are included in ETER, comprising however 71% of the total students at tertiary level (Table 4).

France has a large number of ISCED5 students (1/3 of the European total) largely enrolled in about 2,500 professional schools and institutes of technology (IUT); only ISCED5 students in universities are currently covered by ETER and they represent about 1/3 of the total in the EUROSTAT data collection.

Lower coverage at ISCED6 (ETER covers only 78% of the EUROSTAT students) is due to two reasons: the exclusion of professional tertiary education (nurses, applied arts, etc.; about 500 institutions) and the non-inclusion of the students enrolled to preparatory classes for the French Grandes Ecoles, which are offered within secondary schools and classified at ISCED level 6 (450 institutions). Lower coverage at level 7 is mostly due to the exclusion of business schools: there are more than 200 such private schools, including about 130'000 students.

TABLE 4. HEIS IN FRANCE

Source: French research ministry.

	Students			Institutions		
	in ETER	not in ETER	Total	Institutions in ETER	Institutions not in ETER	Total
Class preparing for admission to Grandes Ecoles (CPGE)	0%	83'678	83'678		454	454
Higher technical sections (STS)	144 0%	256'747	256'891	1 0%	2'351	2352
University	1'427'394 100%		1'427'394	77 100%		77
Grand établissement (GE)	92'267 100%		92'267	15 100%		15
University of Technology	9'344 100%		9'344	3 100%		3
National Polytechnical Institute (INP)	3'617 100%		3'617	1 100%		1
National School for Teaching and Education (ESPE)	26'815 100%		26'815	30 100%		30
École normale supérieure (ENS)	5'208 100%		5'208	4 100%		4
Other Engineering courses	92'077 99%	1'237	93'314	109 89%	14	123
Private university (EPEU)	31'004 99%	337	31'341	9 75%	3	12
Lawyers schools (excluding universities)	7'240 81%	1'745	8'985	18 43%	24	42
Business, management and accountancy schools (excluding higher technical certificates - BTS)	1'051 1%	133'240	134'291	1 1%	195	196
Art schools	29'235 39%	45'152	74'387	50 17%	247	297
Paramedic and social care schools	25 0%	135'096	135'121	1 0%	514	515
Other institutions and courses	15'929 27%	42'369	58'298	77 15%	432	509
Total	1'741'350 71%	699'601	2'440'951	316 8%	3'644	3959

b) **Germany** (see Table 5). The difference for Germany is entirely due to the vocational education schools (Berufsakademien und Höhere Fachschulen). These schools offer two-years education, but additionally one-year of working practice is required, and therefore have been classified at ISCED level 6, as their duration is considered three years (the minimum requirement for classification at ISCED6 level). There is no reliable information on the number and size of these HEIs, as there is no systematic data collection on this sector, but their total number is probably in the range of some hundreds.

TABLE 5. MAPPING SHEET FOR GERMANY

Perimeter Description		<p>In Germany, higher education are offered at three types of Higher Education Institutions. "Universities (Universitäten)" offer the whole range of academic disciplines, focusing in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components; "Universities of Applied Sciences (Fachhochschulen)" concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas; "Universities of Art/Music (Kunst- und Musikhochschulen)" offer studies for artistic careers in fine arts, performing arts and music.</p> <p>Besides these three main types, which may be either state institutions or private institutions recognised by the State, some special categories exist, like church-maintained colleges, universities of cooperative education (Berufsakademien), colleges of education or colleges of public administration. In their operations, including the organisation of studies and the designation and award of degrees, all types are subject to higher education legislation.</p> <p>German higher education used to be offered in integrated "long" (one-tier) programmes leading to Diplom- or Magister Artium degrees or completed by a Staatsprüfung (State Examination).</p>					
Germany	N. of Institutions		ETER coverage by students' numbers	Sector description	Programme (ISCED mapping) included in ETER	Programme (ISCED mapping) not included in ETER	Exclusion cases in ETER (institutions)
	All	Included in ETER					
University sector		165	nearly 100% for ISCED 6+7, but ISCED 8 students cover 54% of UOE doctoral students since ETER includes matriculated students and UOE data base on sample survey	Universities (Universitäten) These institutions offer the whole range of academic disciplines. In the German tradition, universities focus in particular on basic research so that advanced stages of study have mainly theoretical orientation and research-oriented components.	6.08, 6.05 (diploma, bachelor), 7.05, 7.02 (master), 8.01 (doctoral studies)		all institutions delivered, institutions not reaching ETER thresholds have been excluded at a later stage at request of NSA
Universities of applied sciences		181	nearly 100%	Universities of Applied Sciences (Fachhochschulen) These institutions concentrate their study programmes in engineering and other technical disciplines, business-related studies, social work, and design areas. The common mission of applied research and development implies a distinct application-oriented focus and professional character of studies, which include integrated and supervised work assignments in industry, enterprises or other relevant institutions.	6.07 (bachelor, diploma), 7.04 (master)		
university of applied sciences of public administration		28	nearly 100%	special category of higher education sector	6.06 (bachelor, diploma), 7.03 (master)		
vocational academies		0	not covered	Tertiary dual programmes (2 or 3 years) which comprise both science-oriented and practice-related vocational education at academies and training enterprises. Students must already hold a university entrance qualification. Designed for direct labour market entry.	6.04 (bachelor, diploma), 7.01 (master)		
Master Craftsmen programmes at trade and technical schools		0	not covered	Advanced vocational programme. Attended after completion of the Dual System and several years of work experience to obtain Master Craftsmen's qualifications. *Duration of 2 up to more than 3 years including required vocational practice of at least 1 year. Aims at direct labour market entry. No access to higher educational level.		5.01 (Master Craftsmen programmes at trade and technical schools (short)), 6.01 (Master Craftsmen programmes at trade and technical schools (long))	
Trade and technical schools (technicians and for example economics, IT, domestic science)		0	not covered	Advanced vocational programme. Attended after completion of the Dual System and several years of work experience to obtain technician's qualifications. *Duration of 3 years including required vocational practice of at least 1 year. Aims at direct labour market entry. No access to higher educational level.		6.01 (Trade and technical schools (technicians and for example economics, IT, domestic science))	
Kindergarten teacher programmes at trade and technical schools, at vocational academies and at specialised vocational schools.		0	not covered	Advanced vocational programme. *Duration of 3 years including required practical experience of at least 1 year. Aims at direct labour market entry. No access to higher educational level.		6.01, 6.02, 6.03 (Kindergarten Teacher programme)	
Programmes predominantly for translators, opticians and domestic economy management at vocational academies.		0	not covered	Requires both the intermediate school certificate and completion of the Dual System or practical experience which served the occupation. *Duration of 3 years including required vocational experience of at least 1 year. No access to higher educational level.		6.02 (Programmes predominantly for translators, opticians and domestic economy management at vocational academies.)	
<p>Source Higher education institutions in Germany: http://www.hochschulkompass.de/en/higher-education-institutions/search-for-a-higher-education-institution/search/1.html?tx_szhsearch_pi1[pointer]=0&tx_szhsearch_pi1[results_at_a_time]=100</p>							

c) Switzerland (see Table 1). The situation in Switzerland is similar to the German one, but with a few nuances. Professional education is composed by three distinct subsectors.

- PET Professional Education and Training (PET) colleges and technical schools are public and private schools organized on a regional basis, which offer full-time professional programs with a duration of 2-3 years. The organization of studies and diplomas are regulated at the national level, while most of the schools are either cantonal or private. To some extent, the diplomas of these schools are overlapping with Universities of Applied Sciences – many PET colleges have been merged into UAS in the past. The association of PET colleges lists about 150 member schools (<http://www.k-hf.ch/>), for an average size of less than 200 students. All these schools have been classified at ISCED level 6. A few schools exceed the ETER size threshold, but very limited data is available.
- Federal PET diplomas are vocational educational diplomas where the exam is regulated at the national level, but where there is no formal mandatory curriculum. Students can follow preparatory courses offered by educational institutions and professional organizations on an irregular basis (no structured curriculum). Diploma statistics at

national and regional level are reasonably complete and consistent over time (including breakdowns by gender, nationality and field), while student statistics are much less reliable. No information is available on expenditures and school personnel, as these courses are mostly offered by private providers. For this kind of curricula, the entire notion of HEIs is questionable, as there is no close correspondence between curricula and degrees. These exams have been classified at ISCED level 6 or 7 depending on the qualification level.

- Higher vocational education that is not regulated is similar to the Federal PET diplomas in its organization, but there is no State regulation of diplomas and, therefore, the sector is essentially market-oriented. These diplomas have been classified at ISCED level 5.

Therefore, for Switzerland, most of professional education is currently classified at ISCED level 6. Its non-inclusion in ETER explains the rather low coverage at ISCED6 level (75%). Available information suggests that most institutions in this sector would be below the ETER size threshold.

4 COMPARING COVERAGE BY ETER AND EUROSTAT

The in-depth analysis of coverage and the matching between ISCED mappings and ETER provides useful information both to improve the data quality in ETER and for the users of the systems. Main conclusions are as follows.

a) First, when aggregated at national level, ETER data are generally well aligned with the EUROSTAT totals. A number of differences due to classification and data quality issues have been detected, some have been already solved, others will be addressed in the next round of data collection. This comparison is helpful as an instrument to improve data quality and to align ETER with EUROSTAT statistics. While the overall outcome of the comparison is satisfactory, there are a few differences, which will be addressed in the future, as these are probably due to different definitions applied in ETER with respect to EUROSTAT; this seems to be the case for Ireland, Luxembourg and Poland.

b) Second, in cases with significant lower coverage, these are explained by the exclusion of specific types of schools and/or curricula, particularly in the professional sector. The information collected shows that, in general, the professional sector is more fragmented than higher education, but that it includes probably some institutions exceeding the ETER size threshold.

c) Third, differences in the coverage of the ISCED5 level is essentially determined by differences in the organization of this sector by country. Where such diplomas are delivered in higher education institutions that offer bachelor level degrees, they are included. This is consistent with the institution-based approach of ETER, where whole HEIs are included or excluded (and not programs).

d) Fourth, there are only three countries where the exclusion of vocational education results in a significantly low coverage of students at ISCED level 6, i.e. France, Germany and Switzerland.

There are different reasons for exclusion by NSAs: first, in general, data collection for professional education is less complete and structured than for higher education, which is usually subject to more policy attention; second, professional education is organized on a regional basis, particularly in federal countries like Germany and Switzerland, and therefore data availability at national level is more problematic; third, the average size of institutions in the professional sector is much smaller and, therefore, data collection is more problematic when compared with higher education. For France, there is additionally a specific issue of ISCED6 curricula offered by schools situated at the secondary level. The number of institutions in the professional sector exceeds in all three countries the number of institutions currently included in ETER, but nevertheless coverage in terms of students remains rather high.