

## **Education at a Glance**

## **OECD Indicators 2009**

### **Annex 3: Sources, methods and technical notes**

Chapter A: The output of educational institutions and the impact of learning

Table 1: Specific notes by country in the different indicators

	A1		A2			X1	A3			
	A1.1 to A1.5	A1.6	A2.1 A2.2	A2.3	A2.4, A2.5, A2.6		A3.1 A3.2 A3.3	A3.4	A3.5 A3.6 A3.7	
	Methodology	Source	Methodology	Methodology	Methodology	Methodology	Interpretation	Classification	Methodology	
Australia					AUS		AUS	AUS		
Austria	AUT		AUT		AUT		AUT	AUT		
Belgium			BEL		BEL		BEL	BEL	BEL	BEL
Canada	CAN			CAN		CAN	CAN	CAN		
Czech Republic						CZE	CZE	CZE		
Denmark	DEN					DNK	DNK	DNK		
England										
Finland	FIN						FIN	FIN		
France	FRA		FRA					FRA	FRA	
Germany	DEU		DEU		DEU			DEU		
Greece				GRC	GRC	GRC		GRC		
Hungary	HUN		HUN	HUN	HUN		HUN	HUN		HUN
Iceland						ISL		ISL		
Ireland					IRL	IRL		IRL		IRL
Italy							ITA	ITA		
Japan	JPN							JPN		
Korea								KOR		
Luxembourg	LUX		LUX		LUX		LUX	LUX		
Mexico	MEX							MEX		
Netherlands	NLD					NLD		NLD		
New Zealand			NZL	NZL				NZL		
Norway	NOR			NOR			NOR	NOR		
Poland	POL				POL	POL		POL		
Portugal	PRT						PRT	PRT		
Scotland										
Slovak Republic						SVK		SVK		
Spain			ESP		ESP		ESP	ESP		
Sweden	SWE						SWE	SWE		SWE
Switzerland	CHE		CHE		CHE		CHE	CHE	CHE	
Turkey	TUR		TUR			TUR		TUR		
United Kingdom	UKM				UKM	UKM		UKM		
United States								USA		
Brazil			BRA				BRA			
Chile					CHL					
Estonia					EST					
Israel	ISR					ISR		ISR		
Russian Federation					RUS		RUS			
Slovenia										

Table 1 (cont.): Specific notes by country in the different indicators

	<a href="#">A4-A5</a>	<a href="#">A6</a>	<a href="#">A7</a>	<a href="#">A8</a>	A9
		<a href="#">A6.1 to A6.4</a>	<a href="#">A7.1 to A7.4</a>	<a href="#">A8.1 to A8.4</a>	
	<a href="#">Methodology</a>	<a href="#">Methodology &amp; definitions</a>	<a href="#">Methodology &amp; definitions</a>	<a href="#">Methodology &amp; definitions</a>	<a href="#">Methodology</a>
Australia					
Austria					
Belgium					
Canada					<a href="#">CAN</a>
Czech Republic					
Denmark			<a href="#">DEN</a>		
England					
Finland					
France			<a href="#">FRA</a>		
Germany					
Greece					
Hungary					
Iceland					
Ireland					
Italy					<a href="#">ITA</a>
Japan					
Korea					
Luxembourg					
Mexico					
Netherlands					
New Zealand					
Norway					<a href="#">NOR</a>
Poland					
Portugal					
Scotland					
Slovak Republic					
Spain					
Sweden					
Switzerland					
Turkey					
United Kingdom			<a href="#">UKM</a>		
United States					
Brazil					
Chile					
Estonia					
Israel					
Russian Federation					
Slovenia					

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## **CHAPTER A: THE OUTPUT OF EDUCATIONAL INSTITUTIONS AND THE IMPACT OF LEARNING**

### **INDICATOR A1: To what level have adults studied?**

- **Tables A1.1a, A1.1.b (web), A1.1.c (web), A.1.2a, A1.2.b (web), A1.2.c (web), A1.3a A1.3.b (web), A1.3.c (web), A1.4 and A1.5**

#### *Methodology*

Data on population and educational attainment are taken from OECD and EUROSTAT databases, which are compiled from national Labour Force Surveys (LFS). Tables (b for males, c for females) are available on the web.

The attainment profiles are based on the percentage of the population aged 25 to 64 years that has completed a specified level of education. The International Standard Classification of Education (ISCED-97) is used to define the levels of education. [Back to table1](#)

## Sources

Country	Statistical agency	Source	Reference period	Coverage	Primary sampling unit	Size of the sample	Overall rate of non-response	Remarks
<b>Australia</b>	Australian Bureau of Statistics	Australian Bureau of Statistics, Labour Force Survey	May 2007	Data refer to persons aged 15 to 64	Respondents within households	45,7410	5.0%	Households are selected and all non-visiting adults aged 15 to 64 are enumerated
<b>Austria</b>	Statistics Austria	Quarterly Mikrocensus	The data refer to annual averages of quarterly the Mikrocensus sample survey	Data refer to persons aged 15 and over				
<b>Belgium</b>	Statistical office	Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
<b>Canada</b>	Statistics Canada	Monthly Labour Force Survey	The annual data are averages of monthly estimates	Data refer to persons aged 15 and over	Households			
<b>Czech Republic</b>	Czech Statistical Office (CSU)	Labour Force Sample Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over	Persons	Around 24 000 households, <i>i.e.</i> approx 60 000 persons, <i>i.e.</i> approx 53 000 persons aged 15 and over	20.00%	Classification according to LFS questionnaire until 1997 used.
<b>Denmark</b>	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
<b>Finland</b>	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
<b>France</b>	INSEE	Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 to 64	Households	45.000 households and about 70.000 inhabitants per quarter	from 18% to 22% depending on the quarter in 2006	

Country	Statistical agency	Source	Reference period	Coverage	Primary sampling unit	Size of the sample	Overall rate of non-response	Remarks
Germany	Federal Statistical Office	Labour Force Survey (Microcensus)	Annual average of quarterly estimates	Data refer to persons aged 15 and over	Households	1% of households	0.0% for questions on educational attainment	
Greece	National Statistical Service of Greece	Labour force survey	2nd quarter of each reference year	Data refer to persons aged 15 and over	All members of private households	2005: 31 619 households	2005: 9.4% of the total surveyed households	
Hungary	Hungarian Central Statistical Office	Labour Force Survey	Annual averages of quarterly estimates	Data refer to persons aged 15 to 74	Households	64 000 persons	20-21%	Armed forces are not included in the data.
Iceland	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
Ireland	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over	Households			
Italy	ISTAT	Continuous Household Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over	Households (all the individuals in each sampled household are interviewed)	307 866 households	11.50%	Sample design is a two-stage sampling with stratification of the primary units
Japan	Statistics Bureau, Ministry of Public Management, Home Affairs, Posts and Telecoms	The Labour Force Survey detailed tabulation	Annual average As for the data prior to 2003, 1-28 February	Data refer to persons aged 15 and over	Households			The special survey of the Labour Force Survey was integrated into the Labour Force Survey in January 2002
Korea	National Statistical Office	Monthly economically active population survey (MEACS)	Annual average of monthly estimates	Data refer to persons aged 15 and over		33 000 households		Annual Report on the Economically Active Population Survey.



Country	Statistical agency	Source	Reference period	Coverage	Primary sampling unit	Size of the sample	Overall rate of non-response	Remarks
Luxembourg	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
Mexico	Secretaría del Trabajo y Previsión Social (STPS)	Encuesta Nacional de Empleo (ENE)	Biennial survey since 1991, yearly since 1995	The survey covers civilian resident population aged 12 years and over including armed forces when they are usual residents in private households	Households	In odds years the survey is representative for the state, what increases the sample significantly	Around 15%	
Netherlands	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
New Zealand	Statistics New-Zealand	Household Labour Force Survey	The annual data are averages of quarterly estimates	Data refer to civilian non-institutionalised persons aged 15 and over	Households	15 000 households per quarter	8,50%	
Norway	Statistics Norway	Labour Force Survey	annual average	Persons 15 to 74 years old	Households	24 000	12.00%	
Poland	Główny Urząd Statystyczny	Labour Force Survey	The data are averages of published quarterly figures	Data refer to persons aged 15 and over	Households	24 700 households	About 19%	
Portugal	Instituto Nacional de Estatística	Labour Force Survey		Data refer to persons aged 15 and over	Households (dwellings)			
Slovak Republic	Statistical Office of the Slovak Republic	Labour Force Sample Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over	Dwelling	Around 10250 dwellings per quarter <i>i.e.</i> approx 24 500 persons aged 15 and over	7,5%	Classifications according to LFS questionnaire until 1999 and from 2000 used

Country	Statistical agency	Source	Reference period	Coverage	Primary sampling unit	Size of the sample	Overall rate of non-response	Remarks
<b>Spain</b>	Instituto Nacional de Estadística	Active Population Survey (quarterly)	The annual data refer to the 1st quarter	Data refer to persons aged 16 and over	Enumeration area	60.000 households approx	15%	Part of the non-response is treated.
<b>Sweden</b>	Statistiska Centralbyran	Labour Force Survey	The annual average	Data refer to persons aged 16 to 64	Individuals	Based on 185 600 interviews	16,5%	
<b>Switzerland</b>	OFS	Labour Force Survey	The annual data refer to the 2nd quarter (April-June)	Data refer to persons aged 15 and over	Persons within households	48000 (of which 15000 oversampling of foreign nationals)	23.2%	The reference person within the household is selected randomly. All data refer only to the reference person (no proxy data)
<b>Turkey</b>	State Institute of Statistics (SIS)	Household Labour Force Survey	Annual average of April and October.	Data refer to persons aged 15 and over living in private households.	Civilian resident non-institutional (excludes residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks, and recreation quarters for officers).	15 000 households in each survey	10% (1 500 households in each survey)	Semi-annual survey for the period of October 1988-1999 and survey was applied in October and April within this term. Annual results refer to average of April and October. From January 2000, the HLFS is applied monthly. The results of the survey are determined as quarterly and yearly estimates.
<b>United Kingdom</b>	ONS	Labour Force Survey	Spring Labour Force Survey	Data refer to persons aged 16-64	Households	60 000	14.00%	
<b>United States</b>	Census Bureau and Bureau of Labour Statistics	March Current Population Survey (CPS)	Annual data	Data refer to persons aged 15 and over	Households	about 76 000 households and 288 000 persons	8.5% based on households	

Country	Statistical agency	Source	Reference period	Coverage	Primary sampling unit	Size of the sample	Overall rate of non-response	Remarks
Russia, Chile	UNESCO WEI <a href="http://www.uis.unesco.org/wei2005">www.uis.unesco.org/wei2005</a>							
Brazil	Brazilian Institute of Geography and Statistics (IBGE)	National Household Sample Survey (Pesquisa Nacional por Amostragem de Domicílios – PNAD)	September 29, 2007	Data refer to persons aged 15 and over	Municipalities	147.851 households and 399.964 persons		PNAD permits to produce separated statistics by Country, Great Regions (North, Northeast, Southeast, South, Mid-West), all Federation Units (26 states + Federal District) and 9 Metropolitan Areas (Belém, Fortaleza, Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo, Curitiba, Porto Alegre).
Estonia	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				
Israel	Israel's Central Bureau of Statistics	Labour Force Survey	Annual average	Permanent residents aged 15 and over	Households	Approx. 22 500 households	0.131	
Slovenia	Eurostat	European Labour Force Survey	Annual average of quarterly estimates	Data refer to persons aged 15 and over				

## Description of ISCED-97 education programmes

## Attainment levels and mappings for each country

**Table 4: Standardised ISCED-97 presentation of national codes on attainment in LFS (2007)**

	Pre-primary and primary education	Lower secondary education	below upper secondary education	Upper secondary education			Post-secondary non-tertiary education	Tertiary education			Advanced research programmes
	ISCED 0/1	ISCED 2	ISCED 3C Short	ISCED 3C Long	ISCED 3B	ISCED 3A	ISCED 4	ISCED 5B	ISCED 5A	ISCED 5A/6	ISCED 6
Australia	0/1	2				3	4	5B		5A/6	
Austria		0/1/2	3CS		3B	3A	4A, 4B	5B		5A/6	
Belgium	0,1	2		3CL		3A	4	5B	5A		6
Canada	0/1	2				3	4	5B		5A/6	
Czech Republic	0/1	2		3CL		3A/B/4				5A/B/6	
Denmark (EULFS)	1	2	3CS	3CL		3A/B	4A/B, 4C	5B	5A		6
Finland (EULFS)	1	2				3A/B	4C	5B	5A		6
France	0, 1	2		3CL, 3CM	3B	3A	4	5B	5A, 5AM, 5AS		6
Germany	1	2A		3C	3B	3A	4	5B	5A		6
Greece	0/1	2	3CS	3CL	3B	3A	4C	5B	5A		6
Hungary	1	2		3C		3A	4A	5B	5A		6
Iceland (EULFS)	1	2	3CS	3CL		3A/B	4A/B, 4C	5B	5A		6
Ireland (EULFS)	0,1	2	3CS			3A/B	4C	5B	5A		6
Italy	0/1	2	3CS	3CL		3A/B	4	5B	5A		6
Japan 2005						1/2/3		5B		5A/6	
Korea	0/1	2				3		4/5B		5A/6	
Luxembourg (EULFS)	0,1	2	3CS	3CL		3A/B	4	5B	5A		6
Mexico	0, 1	2		3CL		2/3A		5B		5A/6	6
Netherlands (EULFS)	0,1	2		3CL		3A/B	4, 4A/B, 4C	5B	5A		6
New Zealand		1/2	3CS			3A	4	5B	5A	5A/6	
Norway	0, 1A	2A		3C		3A	4A, 4C	5B	5A		6
Poland		1/2	3CS			3A	4B			5A/B/6	
Portugal	0,1	2				3	4		5A/B		6
Slovak Republic	0, 1	2		3C		3A (including 4)		5B	5A		6
Spain	0, 1	2A, 2C		3C	3B	3A	4C	5B	5A		6
Sweden	1	2				3A	4	5B	5A	5A/6A	
Switzerland	1	2	3CS	3CL	3B	3A	4	5B	5A		6
Turkey	0, 1	2			3B	3A				5A/6	
United Kingdom	0	2	3CS	3CL	3B	3A	4	5B	5A		6
United States	0/1	2				3		5B, 5AI	5A		6
Estonia (EULFS)	0,1	2		3CL		3A/B	4A/B	5B	5A		6
Israel	0,1	2				3A/3C		5B	5A		6
Slovenia (EULFS)	0,1	2		3CL		3A/B		5B	5A		6

Source: national reports (data 2007, data collection 2008, preparation of *Education at a Glance 2009*)

The cells of this table indicate, for each country, the national programme categories that are included in the international levels of education indicated by the column headings.

Notes: 5AI refers to tertiary-type A intermediate degree. [#Back to table1](#)

*Notes on specific countries*

**Austria:** Due to major changes in the design of the Austrian Labour Force Survey results for 2004 are not fully comparable with those of the years before. In 2004 the continuous survey was implemented and a new interviewer organization was built up. Furthermore, a new questionnaire was elaborated. [Back to table1](#)

**Canada:** The Canadian Labour Force Survey does not allow for a clear delineation of attainment at ISCED 4 and at ISCED 5B; as a result, some credentials that should be classified as ISCED 4 cannot be identified and are therefore included in ISCED 5B; therefore, the proportion of the population with tertiary -type B education is inflated. Cells less than 1,500 have been deleted. [Back to table1](#)

**Denmark:** the new survey structure implemented including significant increase of sample size had an impact on education data in 2007. [Back to table1](#)

**Finland:** In Finland tertiary-type B programmes have been phased out and replaced by tertiary-type A polytechnic education. Therefore, the attainment level in tertiary-type B education is decreasing while the attainment level in tertiary-type A education is increasing. Time serie shows a break in 2004 (use of Eurostat data). [Back to table1](#)

**France:** There is a break in educational variables from 2003 arising from the continuing employment survey which officially replaced the annual employment survey. This led to changes in the way the survey reports the level of education and the age when surveyed (not at the end of the year). [Back to table1](#)

**Germany :** ISCED 6 for the year 2003 causes a break in the serie. [Back to table1](#)

**Hungary:** Hungarian LFS data have a break in 1998 due to changes in the weighting techniques of the Hungarian Labour Force Survey, changes in the frame of inflation/weighting and using new weighting scores (based on the 2001 census) hence they are comparable only from 2001. Between 1998 and 2000 the questionnaire offered in each year different options (items) concerning the participation in education programmes. So the data series between 1998 and 2000 can have break in each year. A specification of ISCED 4 is used and data for ISCED 3A and ISCED 4 are provided separately. ISCED 5B concerns a new type of education that can only have been completed since 2000. [Back to table1](#)

**Israel:** Although pre-academic institutions in Israel are classified under ISCED 4 in the national mapping of education, this level remains unaccounted for in this report, since the LFS does not include a specific answer category for this level, and it is reported under “other” in the LFS questionnaire. From 2007, unknown cases answers provided to the questions on last school attended and total years of schooling are taken into account. The main result of using this algorithm is a different breakdown of the primary/lower secondary disaggregation (no separate answer categories for these two). So from 2007 there is a break in the time series. [Back to table1](#)

**Japan:** The Special Survey of the LFS, which had been the source of Questionnaire III, was abolished, and the LFS is used as a source for Questionnaire III from 2002. The LFS questionnaire asks people about their education and selects appropriate answer from the following: Primary school, junior high school or senior high school (ISCED 1/2/3), Junior college (ISCED 5B), College or university, including graduate school (ISCED 5A). Therefore, the data are not distributed by ISCED 0/1/2 and 3. The distribution between the 0/1/2 and 3/4 levels of education for 2003 and 2002 was based on 2001. This distribution is

no longer applicable. Data for ISCED 0/1/2 for 2003 and 2002 as presented in the previous versions of *Education at a Glance* are no longer available. [Back to table1](#)

**Luxembourg:** The results apply to the population living in Luxembourg who have been educated in Luxembourg, as well as to those who have been educated in another country. This means the figures cannot be used to analyse the national educational system. Break in 2003 due to transition to a quarterly continuous survey (Source Eurostat). [Back to table1](#)

**Mexico:** Revised data series. There were reclassifications on two occasions. 1) For 1998/99 changes were introduced in the UOE: The *speciality studies* and the *master's degree* were reclassified in ISCED 5A, 1<sup>st</sup> degree. Also the Technical Professional was reclassified at ISCED 5B. 2) For 2002/03, the *speciality studies* and the *master's degree* were reclassified in ISCED 5A, 2<sup>nd</sup> degree in the UOE. [Back to table1](#)

**Netherlands:** 1998 refers to ISCED 1976. [Back to table1](#)

**Norway:** Since 2004, the implementation of a new classification of educational attainment to meet with international standards as well as national interests led to educational attainment reclassification. From then, compulsory education is registered as attaining this level of education, regardless of whether they pass or fail. This has led to an increase in ISCED 0/1/2, at the expense of ISCED 3/4. [Back to table1](#)

**Poland:** From 2006 onwards, previous 3CS programs for Poland have been reallocated to 3CLong, back in time from 1997, because the ISCED3CS programs mentioned (of 3 years) did not change after 2002, only reference programs of ISCED 3A were shortened. As a consequence, the OECD data and the Eurostat data will become more consistent. [Back to table1](#)

**Portugal :** Since 2004, no breakdown ISCED 5A / 5B is available. [Back to table1](#)

**Sweden:** There is two breaks in the series: when the new standard for classification of education (SUN 2000) was applied in 2001 and in April 2005, when a new EU-harmonised questionnaire was introduced leading, among others, to a breakdown of ISCED 4 and 5B into two separate variables. The latter explains the decrease in tertiary attainment. [Back to table1](#)

**Switzerland:** Trend data have been revised from 1997 to 2008 to correct an error in the original data source. Changes in ISCED categories 3CS and 3CL were carried over the time series (1997 to 2008). Before 2001, however, ISCED 3CL only partially reflects the reality. It should not be distinguished from other categories of ISCED 3. In general, before 2001, it is not possible to distinguish between the ISCED categories 1 and 2, as well as to the ISCED categories 3 and 4 or that of ISCED 5a and 6. [Back to table1](#)

**United Kingdom:** Men aged 16-64 and women aged 16-59. From 2007, a finer breakdown that separates ISCED level 3A from 3B improves comparability with data from other countries. UK LFS data have been reweighted (mid-Census population estimates) and revised (now using calendar rather than seasonal quarters) and so needed updating. In practice this has little effect on the proportions of the population reported at each education level. However, these revisions provided an opportunity to correct some long standing anomalies in older data provided by ONS (up to 2005), such as an over-estimation of the proportion holding ISCED 6 (Doctorate level). In addition, previous UK data supplied to OECD grouped ISCED 3A and 3B together and were then incorrectly reported by OECD as 3A. In OECD tables this

inflated the reported proportion of the population holding 3A and deflated the proportion reported as holding 3C long/3B. The effect on table A1.1, is essentially to move the 9% of the population reporting 3B as their highest qualification into the 3C long/3B column instead of the 3A column. [Back to table1](#)

**Turkey:** 2007 figures were adjusted according to the new census showing a decrease in total population compared to the projections. For the moment no adjustment/revision are available for the previous years. When the new population projections will be ready, series will be revised back in time, including 2007 figures again. It is not correct to compare 2007 figures with previous years. [Back to table1](#)

## ■ Table A1.6

### *Source*

Data originate from a special data collection by the Supply of Skills working group of INES Network on Labour Market, Economic and Social Outcomes of Learning (formerly called INES Network B). The information is based on a data collection of ISCO (International Standard Classification of Occupations) and on information on ISCED from OECD countries. The ISCO system is maintained by the International Labour Organisation (ILO). The current version, ISCO-88, is being updated for release in 2008. The ISCO system facilitates international communication about jobs, makes international comparisons possible, and serves as a model for the development of national occupation classification systems. In the ISCO system, an occupation is classified into one of nine major groups, and then further into sub-groups. [Back to table1](#)

## **INDICATOR A2: How many students finish secondary education and access tertiary education?**

### ■ Table A2.1. and Table A2.2 Upper secondary graduation rates

#### *Methodology*

In order to calculate gross graduation rates, countries identified the age at which graduation typically occurs. The graduates themselves, however, could be of any age. To estimate gross graduation rates, the number of graduates is divided by the population at the typical graduation age (Annex 1). In many countries, defining a typical age of graduation is difficult because ages of graduates vary. Typical ages of graduation and graduation rate calculation methods are shown in Annex 1. [Back to table1](#)

The *unduplicated count of all ISCED 3 graduates* gives the number of persons who graduate in the reference period from any ISCED 3 programme **for the first time**, *i.e.* students who have not obtained an ISCED 3 (A, B or C) qualification in **previous** reference periods. For example, students who graduated from ISCED 3A programmes in the period of reference but obtained a short ISCED 3C graduation in an earlier year should (correctly) be reported as ISCED 3A graduates, but must be excluded from the unduplicated count of graduates in column 1 of Table A2.1. Similar cases may occur in the reporting of vocational and general programmes.

Upper secondary graduation rates for general or for pre-vocational/ vocational programmes are based on all graduates, not first-time graduates. [Back to table1](#)

*Notes on specific countries*

**Austria:** In 2007, figures for ISCED 3B, 3C are partly based on estimates. Graduation rates from programmes designed to prepare students for tertiary-type A education are the sum of graduation rates from ISCED 3A programmes and ISCED 4A programmes. ISCED 4A programmes (*Berufsbildende Höhere Schule*) span ISCED levels 3A and 4A. Graduates of these programmes were not counted as ISCED 3A graduates before, thus no double counting occurs. [Back to table1](#)

**Belgium:** Data on the German-speaking Community are not integrated in the data for Belgium in the UOE data collection.

**Belgium (Flemish Community):** Data are not available for the following types of education: special education and part-time offshore fishing secondary education. These types of education only concern a small percentage of the population enrolled in secondary education. Most data on first-time graduates are missing. [Back to table1](#)

**Brazil:** Includes Youth and Adult Education Programmes (EJA) and Special Programmes. Data on special education are now collected by sex and single age for ISCEDs 0-3. Distance learning programmes (youth and adult education and higher education programmes), which were not included last year, are now reported. For ISCED 3, only the total number of graduates has been provided given that the classification (fields of education) adopted by Brazil is not aligned with ISCED 97. Data on ISCED 3 are now disaggregated for 3A and 3B. [Back to table1](#)

**Germany:** The upper secondary graduation rate is likely overestimated. This is partly due to the fact that a lot of graduates are aged 25 and older. [Back to table1](#)

**France:** From UOE 2007 data collection, students who graduated at ISCED 3 pre-vocational programmes are counted with ISCED 3 general programmes. In France, all – or almost all – ISCED 3B students are already ISCED 3C graduates. [Back to table1](#)

**Hungary:** First-time graduates are estimated. The main reason for the decrease in the number of vocational programmes' graduates in 2007 is an increase from one to two years in the duration of vocational programmes in a lot of professions, which explains why there are no graduates in these professions for this particular year. It is a temporary phenomenon and as of the following year, the number of vocational programmes' graduates will be similar to previous year. The increase in upper secondary graduation rates for ISCED 3 general programmes and the decrease of graduation rates for ISCED 3 pre-vocational/vocational programmes in 2004 are due to the change in the ISCED classification of the vocational secondary school programmes. Formerly, they were classified as ISCED 3A pre-vocational programmes, but the proportion of vocational subjects has dropped below 25% in recent years. Therefore, these programmes have been reclassified as ISCED 3A general programmes in the revised UOE questionnaire. At the same time, in Grades 9 and 10 of the vocational school, the proportion of vocational (or rather pre-vocational) subjects was raised somewhat above 25% of the total instruction time. Therefore, this programme (formerly classified as 3C general) was reclassified as ISCED 3C pre-vocational. [Back to table1](#)



**Luxembourg:** A significant proportion of the youth cohort study in neighbouring countries at the ISCED 3 level.[Back to table1](#)

**New Zealand:** Graduates consist of those at secondary school level and those from post-school programmes at ISCED 3 level. Unduplicated counts are achieved by excluding from ISCED 3 post-school graduates students who have attained prior ISCED 3 qualifications either at school or post-school, then adding ISCED 3 graduates from school. As the latter can be measured only when the student leaves school rather than the year in which the qualification is attained there is a mismatch in the timing of measurement of graduates. This is not considered significant. A new system of national qualifications has been introduced and the measure of attainment associated with graduation is higher than the one used in 1995.[Back to table1](#)

**Slovak Republic:** The lower level of graduation rates at ISCED 3 level between 2001 and 2003 has been caused by gradual transfer of 8-years' basic schools to 9-years' from the school year 1997/98 (the transition lasted 3 years).[Back to table1](#)

**Spain:** The break in series in the 2003 school year is due to the revision of the national population data. The break in series in 2005 is due to the inclusion of the programme Occupational Training (one semester and more) classified as ISCED 3C (short programme).[Back to table1](#)

**Switzerland:** Changes in graduations from ISCED 4 are due to changes in the educational system: programmes in ISCED 4 have been replaced by either programmes in ISCED 3 or 5B. The increase in ISCED 3 is partially due to the aforementioned change in educational systems, but partially also due to a change in methodology.[Back to table1](#)

**Turkey:** Open education is excluded.[Back to table1](#)

### ■ Table A2.3. Post secondary non-tertiary graduation rates

#### *Methodology*

Please see notes to Table A2.1.[Back to table1](#)

Typical ages of graduation and graduation rate calculation methods are shown in Annex 1.[Back to table1](#)

#### *Notes on specific countries*

**Canada:** Data for ISCED 4C may not reflect all graduates at this level. They represent graduates who have received an apprenticeship certificate whether or not they have gone through an apprenticeship programme.[Back to table1](#)

**Greece:** Data for ISCED 4 are estimates.[Back to table1](#)

**Hungary:** The decrease in the post-secondary graduation rates from 2004 is due to the fact that ISCED 4A programmes (general programmes designed for students who have graduated with a 3C vocational qualification but want to pass a maturity examination) were abolished in 2003. Students can now enrol in

secondary vocational programmes preparing for maturity examinations at grade 10 or 11, depending on their study achievements. Graduation rates in post-secondary non-tertiary education now refer only to students enrolled in ISCED 4C vocational programmes. [Back to table1](#)

**New Zealand:** All ISCED 4 graduates from independent private institutions are missing. [Back to table1](#)

**Norway:** There is a steep increase in the number of female enrolments in ISCED 4 and 4C in particular in the 2007 UOE data collection. The reason is that certain educational programmes were classified as ISCED 3C programmes in 2004/05, but changed to 4C in 2005/06 as an ISCED 3C qualification was a necessity for eligibility to these programmes. Most of these programmes are female-dominated at national level; this influences female enrolment patterns in ISCED 4. [Back to table1](#)

## ■ Tables A2.4, A2.5 and A2.6 (Web only) Entry rates to tertiary education

### *Methodology*

#### • Calculation of net entry rates

The net entry rates given in Table A2.4 represent the proportion of persons of a synthetic age cohort who enter a certain level of tertiary education at one point during their lives. The net entry rate is defined as the sum of net entry rates for single ages. The total net entry rate is therefore the sum of the proportions of new entrants to tertiary-type A and B aged  $i$  to the total population aged  $i$ , at all ages. Since data by single year are only available for ages 15 to 29, the net entry rates for older students are estimated from data for five-year age bands.

#### • Calculation of gross entry rates

When no data on new entrants by age were provided, gross entry rates are calculated. Gross entry rates are the ratio of all entrants, regardless of their age, to the size of the population at the typical age of entry. Gross entry rates are more easily influenced by differences in the size of population by single year of age. Taking into account the effect of changing cohort sizes, all gross rates presented here were tested for possible error. The error is well below five percentage points.

#### • Calculation of age at the 25th, 50th and 75th percentiles

The ages given for the 25th, 50th and 75th percentiles are linear approximations from data by single year of age. The  $i$ -th percentile is calculated as follows: let age  $k$  be the age at which less than  $i\%$  of new entrants are younger than  $k$  years of age and equal or more than  $i\%$  are younger than  $k+1$ . If  $P(<k)$  is the percentage of new entrants aged less than  $k$  and  $P(k)$  the percentage of new entrants aged  $k$ , then the age at the  $i$ -th percentile is  $k + (i - P(<k)) / (P(k))$ . [Back to Table1](#)

*Notes on specific countries*

**Australia:** Data are not available for ISCED 5B programmes corresponding to VET institutions. [Back to Table1](#)

**Austria:** Most students who were enrolled on ISCED 5A in a previous year and started in the year of reference an ISCED 6 programme for the first time are not counted as new entrants for technical reasons. [Back to Table1](#)

**Belgium:** Data on the German-speaking Community are not integrated in the data for Belgium in the UOE data collection. The entrants in social advancement higher education are not included in the entrants at ISCED 5B. [Back to Table1](#)

**Chile:** Break series between 2004 and 2005 due to some reclassification of ISCED 5A and 5B programmes. Entry rate may be overestimated as it includes some re-entrant and continuing students. [Back to Table1](#)

**Estonia:** Entry rate may be overestimated as it includes some re-entrants. [Back to Table1](#)

**Finland:** Entry rate at ISCED 6 is missing as the data systems register ISCED 6 entrants as new entrants only if they change university rather than when they graduate from a master's degree programme. If they continue studies in the same university after graduation from a master's degree programme they are not registered as new entrants. Thus the number in the system register covers only students who change university when entering into advanced research studies. This number clearly underestimates new entrants to ISCED 6 so it is not reported in the UOE data collection.. [Back to Table1](#)

**Germany:** Entry rates into tertiary education for ISCED 5B are calculated as a gross ratio because information on the age structure of entrants is available only for the *Verwaltungsfachhochschulen* (colleges of public administration). New entrants at ISCED 6 are missing as students in doctoral studies, as a rule, are not obliged to register at the university [Back to Table1](#)

**Greece:** ISCED B excludes master's programmes operating in co-operation with tertiary institutions overseas. [Back to Table1](#)

**Hungary:** The male-female distribution of new entrants by field of education is not available. The distribution in this table deviates from the male-female distribution in ENRL2 (it contains the real distribution of the total) because of the method of estimation. [Back to Table1](#)

**Ireland:** Re-entrants are included with new entrants, which may overestimate the entry rate. From the 2006 UOE data collection, a more robust methodology was used that led to an apparent decrease in the number of ISCED 5A entrants and an apparent difference in the age breakdown. [Back to Table1](#)

**Luxembourg:** A significant proportion of the youth cohort study in neighbouring countries at the ISCED 5 and 6 levels. [Back to Table1](#)

**Poland:** Entry rate for tertiary-type A programmes are calculated as gross entry rates for 1995, 2000-03. At ISCED 5B there are programmes that prepare students for the labour market. According to the law these programmes do not belong to the higher education system but it is possible to do a bachelor's

degree after meeting specific conditions. During the last semester students in 5B programmes may attend 5A courses at the same time and, after graduating from 5B programmes, they may pass an examination (*licencjat*) at 5A level and get their bachelor diploma in the same year. [Back to Table1](#)

**Portugal:** The observed increase of entry rate between 2006 and 2007 is due to the entry in force of the Law 64/2006, in the scholar year 2006/2007, allowing the admission to tertiary education of individuals that, having not secondary education or equivalent (ISCED 3), prove their ability to attend higher education by doing a specially appropriate proof/exam. [Back to Table1](#)

**Spain:** Break in series in the 2003 school year due to the revision of the national population data. Break in series in 2005 due to inclusion of the programme Occupational Training (one semester and more) classified as ISCED 3C. [Back to Table1](#)

**Slovak Republic:** The interest in tertiary education has been increased because of the better employment on labour market, mainly in areas with high unemployment. The locations for studies were widened with creation of new schools (8 schools have started up from 2000 to 2006) and because of new educational workstations, which are nearer to students' accommodations, so it facilitated studying of wider range of students. [Back to Table1](#)

**Switzerland:** Re-entrants at ISCED 5B level are included with new entrants, which may overestimate the entry rate. [Back to Table1](#)

**Russian Federation:** Data on new entrants at ISCED 5B level include ISCED 3B programmes. [Back to Table1](#)

**United Kingdom:** A problem with data submitted by the Open University (an institution providing distance learning, mainly for part-time learners) in 2004/05 meant that some of their students were not reported as first year, although they were included in the all years figure. The error affected data only for the 2004/05 academic year and was corrected for 2005/06. However as a result, the increase in first year enrolments between 2004/05 and 2005/06 appears greater than in reality, particularly in respect of ISCED 5A, and to a lesser extent ISCED 5B. ISCED 6 was not affected. Re-entrants at ISCED 6 are included with new entrants, which may slightly overestimate the entry rate. [Back to Table1](#)

■ **Tables X1.1a, X1.1b, X1.3 Typical age, graduation rate calculation and summary of upper secondary (ISCED 3) programme completion requirements**

*Notes on specific countries*

**Canada (Québec) :** 3A and 3B

**Czech Republic :** 3 A- Certificates at the end of each year are based on current checking. Final exam named *maturita* is a comprehensive one.

3 B- Certificates at the end of each year are based on current checking. Final exam named *absolutorium* is a comprehensive one.

3 C- Current checking rather than exams. Certificates at the end of each year are based on the current checking. Final exam is a comprehensive one. [Back to Table1](#)

**Denmark:** 3 C The main course in vocational training is normally completed with a "journeyman's test" or a similar examination testing. The test may be taken after the school period as an actual journey man's test performed in the business. [Back to Table1](#)

**Greece:** 3 A- Students are examined twice/at the end of each year after compulsory attendance;  
3 C-Students are examined at the end of each year after compulsory attendance. [Back to Table1](#)

**Ireland:** 3 A- To be a candidate for the exam a student must either have completed the 2 year LC programme or have attained the age of 17 years.

3 C- The Leaving Certificate Applied assessment takes place over the two years under three headings: Satisfactory Completion of Modules, Performance of Student Tasks and Performance in the Terminal Examinations. The two-year programme consists of four half-year blocks called Sessions and achievements are credited in each of these Sessions. At the end of each Session a student is credited on satisfactory completion of the appropriate modules. Student Tasks are assessed by external examiners appointed by the Department of Education and Science. These Tasks may be in a variety of formats-written, audio, video, artefact etc. Each student is also required to produce a report on the process of completing the Task. This report may be incorporated in the evidence of task performance. Terminal Examinations are provided in the following areas: English and Communication, Two Vocational Socialisms, Mathematical Applications, Language (Gaeilge Chumarsaideach & Modern European Languages) and Social Education. [Back to Table1](#)

**Israel:** In Israel, students who complete 12th grade, are considered as upper secondary graduates. Matriculation exams are used as an extra indicator for the completion but not the only one. Number of hours per student in upper secondary education to complete the programme is 110 hours within three years of studying (10th to 12th grade). [Back to Table1](#)

**The Netherlands:** 3 A- Each course can be finalised by an exam. Together with the result of the final exam the results of these exams determine the final result for the respective study subject. Since 1999 The Netherlands introduced a new second phase of secondary education. This means that pupils are encouraged and taught to study independently. The number of course hours prescribed by the government now describe the number of hours that a 'normal' pupil is expected to need to get familiar with the contents of the course. For each course this number is given by the government. The total number of these 'course hours' amounts 1600 / year. 1000 hours of them are taken care of during school time as part of the educational programme. For the remaining hours pupils are expected to study themselves. Minimum entrance requirement is ISCED2.

3 C- *Minimum entrance requirement is ISCED2.* [Back to Table1](#)

**Poland:** "The *Świadectwo maturalne* certificate, which gives access to tertiary education, is awarded on the basis of a final examination and the grades obtained in the final year. Those pupils who do not wish to take the matura examination are awarded the secondary school leaving certificate, which is based solely on the grades and work over the year.

Except for the *Świadectwo maturalne* certificate students of technical secondary schools can be awarded diploma confirming vocational qualifications at the technical level after passing the final examination.

Students of basic vocational schools who do not wish to take examination (confirming obtaining of vocational qualifications at the basic vocational level) are awarded the basic vocational school leaving certificate, which is based solely on the grades and work over the year". [Back to Table1](#)

**Slovak Republic:** 3 A- practical training in grade 2 and 3 per 2 weeks in some cases up to 4 Weeks for all grades e.g. in Veterinary Medicine. Or typical apprenticeship programme with one third of practical training. (certificate on apprenticeship) extended by increased portion of general subjects which are also included in final examination (matura examination) and also giving access to higher education.

3 C- training for children with special needs, two thirds of which represent practical training, final examination consists only from vocational subjects, including a practical part; or final examination consists only of vocational subjects, including practical part; or typical apprenticeship programme with one third of practical training. [Back to Table1](#)

**Turkey:** 3 C- Obligatory vocational training of at least 8 hours per week. Candidates have to pass the assistant mastership exam after 3 years of study or 5 years of work experience. [Back to Table1](#)

**United Kingdom:** For the majority of general 3A (such as A levels and Scottish Highers) and 3C programmes (such as GCSEs and Scottish Standards) there are modular examinations at intervals during the programme as well as at the end. For most subjects, assessed coursework also contributes to the grade. For each separate subject within the programme, there is a range of possible attainment grades. For vocational 3A/B programmes such as NVQs there may be some formal tests but the pass criterion is demonstrable competence in the workplace (or simulated workplace). Evidence for the assessment is gathered mainly by direct observation of the candidate performing in a workplace setting, often supplemented by a portfolio of documentary evidence relating to work task undertaken by the candidate.

There are typical course hours especially for general 3A and 3C programmes (less so for vocational programmes), but these are not strictly mandatory and for most programmes it is possible to register for the assessment whether or not the candidate is enrolled in the regular education system.

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### **INDICATOR A3: Who graduates from tertiary education and in which fields of education?**

#### ■ **Table A3.1 and A3.2. Graduation rates in tertiary education**

##### *Methodology*

- **Calculation of the country mean for medium and long tertiary-type A programmes**

Countries which included the graduates of medium tertiary-type A programmes among the graduates of long programmes (*x*-code for short programmes) are counted as zero in the calculation of the country mean for medium programmes. Similarly, the countries using an *x*-code for long programmes, caused by inclusion of long programmes in the category for short programmes, are counted as zero in the country average for long programmes. This is necessary in order to ensure that the country averages for short programmes and long programmes add up to the correct country average for all first-stage university programmes.

- **Duration categories**

Tertiary-type A programmes can be sub-classified by the theoretical cumulative duration of programmes. For initial programmes at tertiary level, the cumulative theoretical duration is simply the theoretical full-time equivalent duration of those programmes from the beginning of ISCED level 5. For second programmes, cumulative duration is calculated by adding the minimum entrance requirements of the programme (*i.e.* full-time equivalent years of prerequisite tertiary education) to the full-time equivalent duration of the programme. For degrees or qualifications for which the full-time equivalent duration is unknown (*i.e.* courses of study designed explicitly for flexible or part-time study), cumulative duration is calculated on the basis of the duration of more traditional degree or qualification programmes with a similar level of educational content. The following duration categories are included in ISCED-97:

- Short: 2 to less than 3 years.
- Medium: 3 to less than 5 years.
- Long: 5 to 6 years.
- Very long: more than 6 years.

As “short” programmes would not meet the minimum duration requirement for classification at ISCED 5A, this category is only appropriate for intermediate programmes in the national qualification and degree structure (see below). That is, programmes of less than three years’ duration must be a component or a stage of a longer programme in order to be classified at level 5A. Individuals who complete these short programmes would not be counted as 5A graduates, however.

Typical ages of graduation and graduation rate calculation methods are shown in Annex 1. [Back to table1](#)

*Notes on specific countries*

**Australia:** The growth in the number of foreign students in Australia is definitely a contributing factor in the rise of this indicator over the past few years. [Back to table1](#)

**Austria:** In 2007, figures for ISCED 5B are partly based on estimates. [Back to table1](#)

**Belgium (Flemish Community):** Data are not available for the following institutions: K.M.S. (Royal Military Academy), the Protestant Faculty and the Vlerick Management School. Second degree non-university education (ISCED 5A and 5B second qualifications) is not integrated in the data collection. These types of higher education only concern a very small percentage of the total population enrolled in tertiary education. This leads to the conclusion that the exclusion of these degrees has only a small impact on this indicator. Most data on first-time graduates are missing. The colleges of higher education and the universities are gradually introducing the bachelor-master structure from the 2004/05 academic year. The following degrees have been awarded for the first time at the end of the academic year 2005-2006:

- Master (ISCED 5A second).
- Master na master (ISCED 5A second).
- Master after professional bachelor (ISCED 5A second).



- Academic bachelor programmes (ISCED 5A first).

The number of graduates in these degrees will gradually increase during subsequent academic years. This will also affect the outcome of a number of indicators based upon graduate data.

For the academic year 2005/06 a number of degrees have been awarded under the BAMA structure (master, advanced master and master na professionele master). In the Flemish Community, these degrees are not classified by duration but by ECTS credits (60 ECTS credits = 1 year). For the first time in 2006, these degrees have been integrated into the graduate data collection. This may result in a change in the cumulative number of graduates in ISCED 5A second. [Back to table1](#)

**Belgium (French Community):** The gradual implementation of the Bologna process affects the number of graduates taken into account at the ISCED 5A level. In 2007, following the introduction of the BAMA structure, Bachelors' degrees (obtained at the end of a 3-year programme) were granted for the first time and considered as first degrees at this level. Previously, at least 4 years were necessary at the 5A level to obtain a 1st degree. As the Bologna process is being implemented progressively, the first degrees of the old system are still being counted as first degrees. Next year, with the arrival of the first Masters' graduates (2nd degree at the ISCED 5A level), the data will be more balanced. However, in this transition period, the data cannot be compared from one year to the next.

**Brazil:** Master degree programmes, which were classified as ISCED 6 previous years, are now classified as ISCED 5, according to ISCED 97. The Higher Education Census (ISCED 5) does not collect data on first and second qualifications separately. As Inep (Higher Education Census) does not collect data on graduates by age group, the Census Pnad (%) is used to distribute graduates by age and sex. Pnad collects the date of birth (day/month/year). [Back to table1](#)

**Canada:** Tertiary-type A results are for publicly funded institutions. The reference year is 2006. [Back to table1](#)

**Czech Republic:** All bachelor's programmes are now classified as ISCED 5A instead of 5B (according to Czech law), hence the increase in the number of ISCED 5A graduates. [Back to table1](#)

**Denmark:** From the 2005 UOE data collection, some parts of adult education (part-time) have been included according to the revised tables and the UOE manual. This explains the large increase in the tertiary-type B entry rates compared to last year and the changes in the distribution of fields of education. [Back to table1](#)

**Finland:** Due to a structural change in the tertiary education system, ISCED 5B programmes (vocational college) are being phased out. At the same time, the volume of polytechnic education (ISCED 5A) has increased, hence the increase in ISCED 5A graduates. The long master's degrees are reported as first degrees. In the UOE 2007 collection (year 2006 data), data on graduates who are non-citizens of reporting country are based on annual individual data-based qualification and degree register data. Previously data on graduates who are non-citizens of the reporting country were based on the Register of Completed Education and Degrees. [Back to table1](#)

**Hungary:** Tertiary-type B programmes are relatively new. There is also an increasing number of students who enrol in tertiary-type B programmes. [Back to table1](#)



**Italy:** ISCED 5A second degree graduates partially refer to 2005. ISCED 6 graduates refer to the 2005 calendar year. The number of students graduated from three to five year programmes decreased owing to a reclassification of the old programmes. [Back to table1](#)

**Luxembourg:** A significant proportion of the youth cohort studies in neighbouring countries at the ISCED 5 and 6 levels. [Back to table1](#)

**Norway:** As the bachelor–master system has been introduced, some educational programmes have changed from ISCED 5B to ISCED 5A. This causes a decrease in the number of graduates from ISCED 5B programmes and a corresponding increase in graduates in 5A programmes. [Back to table1](#)

**Portugal:** Data exclude Post Doctorate degrees. [Back to table1](#)

**Spain:** Break in series in the 2003 school year is due to the revision of the national population data. From the UOE 2007 data collection, the graduation age reported refers to the beginning of the school year to be consistent with population data, which results in a decrease of the graduation rate. [Back to table1](#)

**Sweden:** There are few students and only five kinds of degrees defined as “second degree” in the Swedish tertiary-type A education system, four of which are dominated by female students. [Back to table1](#)

**Switzerland:** First-time graduates ISCED 5B are estimated using labour force survey data. The rapid increase of graduation rates at tertiary-type B level in Switzerland between 2006 and 2007 is due to a better coverage of the data and to the upgrading of a number of programmes in the field of "health and welfare" to the tertiary level. This had led to an increase in the number of female graduates in tertiary-type B. [Back to table1](#)

**Russian Federation:** Data on advanced research programmes include only data on public institutions. [Back to table1](#)

### *Classification of tertiary programmes*

Tertiary graduates are those who obtain a tertiary qualification in the specified *reference year* (graduation at the end of the academic year 2006/07). This indicator distinguishes among different categories of tertiary qualifications: *i*) tertiary-type B qualifications (ISCED 5B); *ii*) tertiary-type A qualifications (ISCED 5A); and *iii*) advanced research degree of doctorate standard (ISCED 6). For some countries, data are not available for the categories requested. In such cases, the OECD has assigned graduates to the most appropriate category. Programmes included at the tertiary levels are listed below for each country.

#### **Australia:**

<b>ISCED 5A</b>	
First	“Bachelor’s” (Degree) (3-4 years); “Bachelor's” (Degree with Honours) (4-5 years); Bachelor of Dentistry (5 years); Bachelor of Veterinary Science (5 years); Bachelor of Medicine and Surgery (7 years)
Second	Graduate Diplomas (1.5 years); Master’s Degree (2 years) (by coursework or research); Doctorate (by course work) (3 years)
<b>ISCED 5B</b>	
First	Vocational Education and Training Institutions – Diplomas, Advanced Diplomas (2 years); Universities – Undergraduate Diplomas (2 years); Associate Degree (2 years)
Second	a
<b>ISCED 6</b>	Doctorates (3 years)

[Back to table1](#)

**Austria:**

<b>ISCED 5A</b>	
First	University “Bakkalaureat” (3 years); University “Fachhochschulstudium – Magister (FH)/ Diplomingenieur (FH)” (4 years); University “Magister/ Diplomingenieur/ Doktor (1 <sup>st</sup> )” (4-6 years)
Second	University “Magisterstudium – Magister/ Diplomingenieur” (2 years); Post-graduate studies “MBA, MAS” (2 years)
<b>ISCED 5B</b>	
First	Master craftsmen/ foreman courses “Meisterprüfung/ Werkmeisterprüfung” (2 years); Technical and vocational education colleges “Diplomprüfung” (2 years); Post-secondary colleges for teacher training, medical services, social work “Lehramtsprüfung/ Diplom”(3 years)
Second	Post-secondary colleges for teacher training “Aufbaustudium – Lehramtsprüfung” (1 year)
<b>ISCED 6</b>	
	Doctorate “Doktor”(2 years), Doctorate Ph.D. (3 years)

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**Belgium (Flemish Community)**

<b>ISCED 5A</b>	
First	Two-cycle higher education provided by colleges of higher education: Hogescholenonderwijs van 2 cycli (4-5 years); Basic academic education, two cycles: Basisopleidingen aan de universiteiten (4-7 years); Basic academic education, Open University: Basisopleidingen, Open Universiteit; Basic academic education, Protestant Theological Faculty: Basisopleidingen aan de Universitaire Faculteit voor Protestantse Godsgeleerdheid (4 years); Royal Military Academy : Koninklijke Militaire School (4.5 years); Academic bachelor's programmes: academisch gerichte bacheloropleidingen;
Second	Academic degree in the supplementary studies: Gediplomeerde in de aanvullende studies (1+ years); Academic degree in specialist studies: Gediplomeerde in de gespecialiseerde studies (1+ years); Academic teacher training: Academische initiële lerarenopleiding (1 year); Advanced studies at the Institute for Tropical Science: Voortgezette opleidingen aan het Instituut voor Tropische Geneeskunde; Advanced studies after 2-cycle higher education provided by "hogescholen": Gediplomeerde in de voortgezette studie volgend op hogescholenonderwijs van 2 cycli (1+ years); Academic teacher training provided by 'hogescholen': Initiële lerarenopleiding van academisch niveau (1 year); Doctoral training: Doctoraatsopleiding; Advanced master's programmes: master-na-masteropleiding
<b>ISCED 5B</b>	
First	1-cycle higher education provided by colleges of higher education: Hogescholenonderwijs van 1 cyclus (3 years); Social advancement higher education: Hoger onderwijs voor sociale promotie
Second	Advanced studies after 1-cycle higher education provided by colleges of higher education: Gediplomeerde in de voortgezette studie volgend op hogescholenonderwijs van 1 cyclus (1+ years); Specific teacher training: voortgezette lerarenopleiding (0.5-1 year)
<b>ISCED 6</b>	
Doctorate, Universities: Doctoraat, universiteiten; Doctorate at the Institute for Tropical Science: Doctoraat aan het Instituut voor Tropische Geneeskunde; Doctoraat aan de Universitaire Faculteit voor Protestantse Godsgeleerdheid	

**Belgium (French Community):**

<b>ISCED 5A</b>	
First	Enseignement supérieur de promotion sociale de type long; Enseignement supérieur de type long (4-5 years); Enseignement universitaire (1er et 2e cycle) (4, 5, 6 or 7 years); Ecole Royale Militaire (4-5 years); Faculté de théologie protestante
Second	Agrégation de l'enseignement secondaire supérieur (2 years); Enseignement supérieur de type long: année complémentaire (1 year); Enseignement universitaire: année complémentaire et 3e cycle (1+ years)
<b>ISCED 5B</b>	
First	Enseignement supérieur de promotion sociale de type court; Enseignement supérieur de type court (3 years); Enseignement artistique supérieur (musique et arts plastiques) (3 years)
Second	Enseignement supérieur de type court complémentaire (1 year)
<b>ISCED 6</b>	Doctorat et Agrégation de l'enseignement supérieur

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**Canada:**

<b>ISCED 5A</b>	
First	Bachelor's degree; First professional degree; Applied degree; Collaborative degree program; College or CEGEP university transfer program (except Quebec); Licenced undergraduate; Licentiate or testamur; Internship (post-M.D.); Not applicable or non-program (taking non-credit courses)
Second	Master's degree; Master's qualifying year; University graduate level certificate or diploma; Residency (medical, dental, veterinary); Ph.D qualifying year or probationary
<b>ISCED 5B</b>	
First	College or CEGEP post-secondary technical program; Undergraduate level certificate or diploma
Second	College post-diploma program
<b>ISCED 6</b>	Ph.D.; Equivalent earned doctorate; Post-doctoral program;

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**The Czech Republic:**

<b>ISCED 5A</b>	
First	Bachelor University study “bakalář” (3 years and 3-4 years); Teacher training for primary education Master’s “Magistr” (4 years) University Master “magistr umění/ inženýr (architekt)” (5-6 years); University Master in (Veterinary) Medicine “doktor (veterinární) medicíny” (6 years)
Second	Post-graduate Pedagogical Certificate “osvědčení” (1 year); Post-graduate Certificate “osvědčení”(2 years); University Master “magistr umění/ inženýr” (2-3 years)
<b>ISCED 5B</b>	
First	Higher Technical School for technicians, hotel managers, bank clerks, nurses “Vyšší odborná škola” (2-2.5 years and 3-3.5 years); Performing Arts and Dance Conservatoire Absolutorium (6 years and 8 years)
Second	a
<b>ISCED 6</b>	University Doctoral Study “Doktor” (3 years)

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**Denmark:**

<b>ISCED 5A</b>	
First	Tertiary education medium cycle “Diplomingeniør, maskin- mester, sygeplejerske, folke- skolelærer m.fl.” (3-5 years); Bachelor’s degree (3 years); Tertiary education long cycle, museum conservator, <i>e.g.</i> from Music Academy “Konservator, konservatorieuddannelserne” (5-7 years)
Second	Tertiary education long cycle “Cand. Mag., cand. Scient., cand. Polyt., etc.” (2 years)
<b>ISCED 5B</b>	
First	Tertiary education short cycle, including technician qualification “Datamatiker/ byggetekniker/ Maskintekniker” (2-3 years)
Second	a
<b>ISCED 6</b>	Doctoral Programmes Ph.D. (3 years); Doctorate “Doktorgrad” (5-10 years)

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**Finland:**

<b>ISCED 5A</b>	
First	Lower University Programmes (Bachelor's degree, 3 years); Polytechnic Bachelor's Degree Programmes (3.5-4.5 years); Higher University Programmes (Master's Degree, 5-6-years); Polytechnic Master's Degree Programmes (1-1.5 years after graduation from Polytechnic Bachelor's Degree Programme)
Second	Specialists in Medicine/Dentistry/Veterinary Medicine (5-6 years)
<b>ISCED 5B</b>	
First	Data on international students do not include those enrolled at tertiary-type B level. Therefore, their distribution by level and type of tertiary education reflects this partial coverage. However tertiary-type B programmes are being phased out. Thus the number of students in tertiary-type B education is at the moment negligible.
Second	a
<b>ISCED 6</b>	
	Doctorate programmes – “Licentiate” (2 years); “Doctor” (4 years)

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**France:**

<b>ISCED 5A</b>	
First	First university diploma (First cycle 2 years “DEUG” + Second cycle 1 year “Licence”) (3 years); Higher engineering school diploma “Diplôme d’ingénieur” (3-4 years) and Higher business school diploma “Diplôme d’ingénieur commercial” (3 years) including ‘ les Classes préparatoires aux grandes écoles (CPGE)” (2 years); Specialised higher schools diverse professional diplomas including in architecture, veterinary surgery, art etc “Diplômes professionnels divers (notaire, architecte, vétérinaire, journaliste, etc.)” (3-4 years); University pharmacy diploma “Diplôme de pharmacien” (5 years); University Diploma in Medicine/ Dentistry “Docteur en médecine/ Diplôme de dentiste” (7 years)
Second	University education 2 <sup>nd</sup> cycle 2 year “Maîtrise” (1 year); Teaching in university institute of training Master (IUFM) “CAPES, Professeur des écoles, etc.” (2 years); Special diploma in health “Diplôme d’études spécialisées” (3 years)
Third	University education 3 <sup>rd</sup> cycle “Diplôme d’études supérieures spécialisées (DESS)” (1 year)
<b>ISCED 5B</b>	
First	Specific vocational training diploma “Diplôme universitaire de technologie (DUT) » (2 years); Specialised higher school short professional diploma, e.g. in special education, laboratory technician, social worker “Diplômes professionnels divers (éducateur spécialisé, laborantin, assistante sociale, infirmier-infirmière, etc.) » (2-3 years); High-level technician award (school or school and work-based) “Brevet de technicien supérieur (BTS)” (2 years)
Second	
<b>ISCED 6</b>	
	University education 3 <sup>rd</sup> cycle 1st year “Diplôme d’études approfondies (DEA)” (1 year); Doctorate programmes “Diplôme de docteur” (3 years)

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**Germany:**

<b>ISCED 5A</b>	
First	Bachelor's degrees (3 years) Fachhochschulen: degree "Diplom (FH)" (4 years); University degree "Diplom oder Staatsprüfung" (5 years)
Second	Master's degrees (2 years, cumulative duration of 5 years)
<b>ISCED 5B</b>	
First	Specialised academies (Bavaria) "Abschluss der Fachakademie/ Fachhochschulreife" (2 years); Health sector schools for medical assistants/ nurses "Abschlusszeugnis für medizinische Assistenten, Krankenschwestern/ -pfleger" (3 years); Trade and technical schools "Fachschulabschluss, Meister/Techniker, Erzieher" (2 years & 3-4 years); Colleges of public administration diploma "Diplom (FH)" (3 years);
Second	a
<b>ISCED 6</b>	
Doctoral studies "Promotion" (2-5 years)	

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**Greece:**

<b>ISCED 5A</b>	
<b>First</b>	<p>University (University Sector): Panepistimio:</p> <ol style="list-style-type: none"> <li>University (Panepistimio) (8, 10 or 12 semesters)</li> <li>Technical University (Polytechnio) (10 semesters)</li> <li>School of Fine Arts (Scholi Kalon Technon) (10 semesters)</li> <li>Greek Open University (Elliniko Anoikto Panepistimio – E.A.P.) (12 subject units – 4 years)</li> </ol>
<b>Second</b>	<p>University Sector: Post-graduate studies (Master):</p> <ol style="list-style-type: none"> <li>University (Panepistimio) (1-2 calendar years)</li> <li>Technical University (Polytechnio) (1-2 calendar years)</li> <li>School of Fine Arts (Scholi Kalon Technon) (1-2 calendar years)</li> <li>Greek Open University (Elliniko Anoikto Panepistimio-E.A.P.) (3 years)</li> </ol>
<b>ISCED 5B</b>	
<b>First</b>	<p>Technological educational institution (technological sector):</p> <p>Technologiko Ekpaideftiko Idryma (T.E.I.);</p> <p>(4 years of which 3.5 years school-based, plus 1 semester work-based)</p>
<b>Second</b>	<p>Technological sector: post-graduate studies (Master):</p> <ol style="list-style-type: none"> <li>Technological educational institutions (offering programmes in co-operation with university sector institutions in Greece, subcategory a: Panepistimio) (1-2 calendar years)</li> <li>Technological educational institutions (offering programmes in co-operation with overseas University Sector Institutions) (1-2 calendar years)</li> </ol> <p><i>Note:</i> The data concerning these programmes are reported under ISCED 5A, second qualification.</p>
<b>ISCED 6</b>	
	<p>University sector (Post-graduate studies): Doctorate programme (Didaktoriko diploma);</p> <ol style="list-style-type: none"> <li>University (Panepistimio) (6 semesters)</li> <li>Technical University (Polytechnio) (6 semesters)</li> <li>School of Fine Arts (Scholi Kalon Technon) (6 semesters)</li> <li>Greek Open University (Elliniko Anoikto Panepistimio-E.A.P.) (6 semesters)</li> </ol>
	<p>Post-graduate studies: post-doctorate programme (Metadidaktoriko diploma);</p> <ol style="list-style-type: none"> <li>University sector (Panepistimio)</li> <li>Research institutions</li> </ol> <p><i>Note:</i> Greek legislation does not give information concerning post-doc programmes such as theoretical duration of the programme under study. Also, institutions offering post-doc programmes are not classified into a specific category of institutions and thus an exhaustive list cannot be compiled.</p>

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**Hungary:**

<b>ISCED 5A</b>	
First	College first programmes (3-4 years); University first programmes (4-5 years): university medicine programme (6 years)
Second	University supplementary programmes for college graduates (2 years); postgraduate specialisation programmes (1-2 years)
<b>ISCED 5B</b>	
First	Tertiary vocational programmes (1-2 years)
Second	a
<b>ISCED 6</b>	
Doctoral programmes (Ph.D., DLA) (3 years)	

The information on length refers to theoretical duration of the programme. [Back to table1](#)

**Iceland:**

<b>ISCED 5A</b>	
First	First University Degree “Háskólanám 3ja/ 4ra/ 5/ 6 ára til fyrstu gráðu” (3, 4, 5 or 6 years); Tertiary technical programmes – First University Degree “Háskólanám í tæknifræði til fyrstu gráðu” (3.5-4 years)
Second	Master’s Degree after 3-4 years 1 <sup>st</sup> degree “Háskólanám, 1,5-2 viðbótarár ofan á 3-4 ár, tekin viðbótargráða” (1.5-2 years); Master's Degree after 5-6 years 1 <sup>st</sup> degree “Háskólanám, 2 viðbótarár ofan á 5-6 ár, tekin viðbótargráða” (2 years)
<b>ISCED 5B</b>	
First	Tertiary Diploma “Æðra nám í 2 ár án háskólagráðu” (2 years); Tertiary Diploma “Æðra nám í 3 ár án háskólagráðu” (3 years); Teacher's Qualification (no degree) “Nám til kennsluréttinda án háskólagráðu” (1 year).
Second	a
<b>ISCED 6</b>	
Doctoral programme (Ph.D.) “Doktorsnám” (3-4 years)	

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**Ireland:**

<b>ISCED 5A</b>	
First	Honours Bachelor's Degree (3-4 years); Honours Bachelor's Degree in (Veterinary) Medicine/ Dental Science/ Architecture (5-6 years)
Second	Post-graduate Diploma (1 year); Master's Degree (taught) (1 year); Masters Degree (by research) (2 years)
<b>ISCED 5B</b>	
First	Higher Certificate (2 years); Ordinary Bachelor Degree (3 years)
Second	Ordinary Bachelor Degree (3 years)
<b>ISCED 6</b>	
Doctoral Degree (Ph.D.) (3 years)	

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**Israel:**

<b>ISCED 5A</b>	
First	Bachelor's degree from universities (3 years); Bachelor's degree from the Open University (6 years); Teacher training colleges – academic track (2-4 years)
Second	University Second Degree (2 years); University Post-Graduate Diploma (2 years); Second Degree from academic colleges (2 years); Second Degree from the Open University
<b>ISCED 5B</b>	
First	Post-secondary education (2 years); Teacher training colleges – non-academic track (2 years)
Second	a
<b>ISCED 6</b>	
Third Degree (5-6 years)	

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**Italy:**

<b>ISCED 5A</b>	
First	University Degree "Diploma di Laurea" (4-6 years); University Degree "Diploma Universitario" (3 years); Diploma di laurea di 1° livello (3 years); Diploma di laurea specialistica a ciclo unico (5-6 years)
Second	Professional Post-graduate Diploma "Diploma di specializzazione" (2-5 years); Post-graduate Certificate "Attestato di partecipazione al Corso di perfezionamento" (1 year); Master's of first and second level "master di 1°/2° livello"; Specialisation course "Specializzazione post-laurea"
<b>ISCED 5B</b>	
First	Diploma from Fine Arts Academy "Diploma di Accademia di Belle Arti" (4 years); Dramatic Art Studies Diploma "Accademia di arte drammatica – Diploma di attore o diploma di regista" (3 years); Higher Artistic Studies Diploma "Diploma di Istituto Superiore Industrie Artistiche" (4 years); Music Conservatory Diploma "Conservatorio musicale (specializzazione di 2 anni)" (2 years); Dance Studies Diploma "Accademia di Danza – Diploma di avviamento e/o perfezionamento" (3 years)
Second	a
<b>ISCED 6</b>	Doctorate "Titolo di Dottore di ricerca" (3 years)

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**Japan:**

<b>ISCED 5A</b>	
First	Bachelor's Degree "Gakushi" (4 years); Bachelor's Degree in Medicine/Dentistry/Veterinary Medicine "Gakushi" (6 years); University Advanced Course Certificate of Completion "Daigaku Senkoka" (1 year+)
Second	Master's Degree "Shushi" (2 years); Professional Graduate School Master's Degree "Shushi (Senmonshoku)" (2 years); Juris Doctor "Houmu-hakushi" (3 years)
<b>ISCED 5B</b>	
First	Specialised Training College Postsecondary Course Technical Associate; Qualification "Senmonshi" (1 year+); Junior College Associate Qualification "Jun-gakushi" (2-3 years); College of Technology Associate Qualification "Jun-gakushi" (2 years); Junior College Advanced Qualification "Tanki-daigaku Senkoka" (1+years); College of Technology Advanced Qualification "Koto-senmon-gakko Senkoka" (1+ years)
Second	
<b>ISCED 6</b>	Doctor's Degree "Hakushi" (5 years); Doctor's Degree in Medicine/Dentistry/Veterinary Medicine "Hakushi" (4 years)

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**Korea:**

<b>ISCED 5A</b>	
First	Bangsongtongsin daehak [air and correspondence university (open university)] (2-4 years); Daehak(gyo) (university) (4 years); Hankuk kwahak kisulwon (Korea Advanced Institute of Science and Technology) (4 years); Hankuk yeosuljonghap hakgyo (yeosulsa kwajong) (the Korean National University of Arts) (4 years); Woikwa deahak,chikwa daehak (university, medical-dentistry) (6 years)
Second	Hankuk jeongsin munwha yeonku won (seoksa kwajong) (the Academy of Korean Studies, MA course) (2-3 years); Ilbandaehakwon (seoksa kwajong) (graduate school, Master's degree programme, short) (2 years); Hankuk kwahak kisulwon (seoksa kwajong) (Korea Advanced Institute of Science and Technology, MA course) (2 years); Daehakwon daehak (seoksa kwajong) (university of graduate school) (2 years); Hankuk yeosuljonghap hakgyo (jeonmun yeosulsa kwajong) (the Korean National University of Arts, MA course) (2 years)
<b>ISCED 5B</b>	
First	Yukkun samsakwan hakgyo (third military academy) (2 years); Kakjong-hakgyo (daehak kwajong) (miscellaneous school, undergraduate course) (4 years); Sanup daehak (gaebang daehak) (open university, polytechnic university) (4 years); Yukkun sakwan hakgyo (military academy) (4 years); Geongchal daehak (National College of Police ) (4 years); Gyoyuk daehak (university of education) (4 years); Kukkunganho sakwan hakgyo (nursing academy) (4 years); Haekun sakwan hakgyo (naval academy) (4 years); Kongkun sakwan hakgyo (Air Force Academy) (4 years)  Jeonmun daehak (junior college) (2-3 years); Kinung daehak (polytechnic college) (2 years); Kakjong-hakgyo (jeonmun daehak kwajong) (miscellaneous school, junior college course) (2 years); Kisul daehak (technical college) (2-4 years)
Second	Kukbang daehakwon (School of National Security) (2 years); Teuksu daehakwon (graduate school, special) (2-3 years); Jeonmun daehakwon (graduate school, professional) (2.5 years)
<b>ISCED 6</b>	
	Hankuk kwahak kisulwon (baksa kwajong) (Korea Advanced Institute of Science and Technology) (3 years); Hankuk jeongsin munwha yeonku won (baksa kwajong) (Academy of Korean Studies, Ph.D.) (3 years); Ilban daehakwon (baksa kwajong) (graduate school, doctoral programme) (3 years); Daehakwon daehak(baksa kwajong) (university graduate school) (3 years)

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**Luxembourg:**

<b>ISCED 5A</b>	
First	University courses: Cours universitaires 1er cycle:DPCU (2 years); Stage pédagogique ; formation obligatoire pour l'accès à une profession de professeur d'enseignement secondaire (2 years); Stage pédagogique: formation obligatoire pour l'accès à une profession d'avocat avoué (2 years)
Second	-
<b>ISCED 5B</b>	
First	Higher technician certificate: Brevet de technicien supérieur (BTS) (2 years); Short-term course in higher studies of administration or studies of informatics: Cycle court d'études supérieures en gestion ou en informatique (2 years)
Second	Training of industrial engineers: Formation à l'ingénieur industriel (4 years); Initial training of primary and pre-primary teachers: Formation des instituteurs (3 years); Training of graduated educators, full-time: Formation d'éducateurs gradués (plein temps) (3 years); Training of graduated educators, while working: Formation d'éducateurs gradués (en cours d'emploi) (6 years)
<b>ISCED 6</b>	Etudes supérieures spécialisées en contentieux communautaires

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**Mexico:**

<b>ISCED 5A</b>	
First	Educación normal licenciatura [teacher training school programmes (Bachelor's degree programme)] (4 years); Licenciatura universitaria [university degree programmes (Bachelor's degree programme)] (4-5 years); Licenciatura tecnológica [technological institutes programmes (Bachelor's degree programme)] (4-5 years)
Second	Programa de especialización [specialisation degree programme (Master's degree programme) (short)] (0.5-1 years); Programa de maestría [Master's degree programme (long)] (2 years)
<b>ISCED 5B</b>	
First	Técnico superior [technological universities programmes (vocational associate's degree programmes)] (2 years)
Second	-
<b>ISCED 6</b>	Programa de doctorado [Doctoral programme – Doctorate (Ph.D. Research)] (3 years)

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**The Netherlands:**

<b>ISCED 5A</b>	
First and second	Higher professional education (long programmes) and university education, full-time programmes; (Lang) HBO en WO, voltijd (4-6 years); higher professional education (long programmes) and university education, part-time programmes, excl. the Open University; (Lang) HBO en WO, deeltijd, excl. the Open University; Open University qualification programmes; Open University, diploma programmes
<b>ISCED 5B</b>	
First	<i>Since 2003/2004 the Netherlands do not deliver data anymore for ISCED 5B, since the number of students enrolled or graduating from ISCED 5B is nil.</i>
Second	-
<b>ISCED 6</b>	Research assistants; AIOs (4 years)

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**New Zealand:**

<b>ISCED 5A</b>	
First	Bachelor's Degree (3-5 years); Graduate Certificates and Diplomas (1/2 year); Bachelor's Honours (1-2 years)
Second	Master's Degree, (1-2 years), Post-graduate Certificate, Post-graduate Diploma,
<b>ISCED 5B</b>	
First	National and Local (institution-specific) Certificates and Diplomas (1-2 years)
Second	a
<b>ISCED 6</b>	Doctor of Philosophy "Ph.D."/ Higher Doctorate (3-5 years)

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**Norway:**

<b>ISCED 5A</b>	
First	First/lower degree (lavere grad), bachelor's degree, short professional education, (3-4 years),
Second	Second/higher degree (høyere grad: hovedfag/mag.art (2-3 years), master's degree (2 years); Long professional programmes (lange profesjonsutdanninger), integrated master's degrees (integreerte mastergrader): (5 years); Very long professional programmes (6 years)
<b>ISCED 5B</b>	
First	Tertiary education, < 3 years, 1st degree: Høyere utd., < 3 år, lavere grad (2-2.5 years)
Second	-
<b>ISCED 6</b>	Doctorate, Ph.D.: Doktorgrad (3 years)/ unspecified

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**Poland:**

<b>ISCED 5A</b>	
First	Professional degree (Licentiate) “Licencjat” (3 years); Professional degree (Engineer) “Inżynier” (3.5-4 years); Master’s degree (art, engineering, etc.) “Magister” (4.5-5.5 years); degree in dentistry “Lekarz dentysta” (5 years); veterinary degree “Lekarz weterynarii” (5.5 years); degree in medicine “Lekarz” (6 years)
Second	Post-licentiate/post-engineering master's degree “Magister” (1.5-2 years); Post-graduate Certificate “Studia Podyplomowe” (0.5-2 years)
<b>ISCED 5B</b>	
First	Teacher Training College Diploma “Dyplom ukończenia Kolegium Nauczycielskiego” (3 years); Foreign Language Teacher Training College Diploma “Dyplom ukończenia Nauczycielskiego Kolegium Języków Obcych” (3 years)
Second	a
<b>ISCED 6</b>	Scientific degree of Doctor “Stopień naukowy doktora” (4 years)

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**Portugal:**

<b>ISCED 5A</b>	
First	<p><i>Licenciatura</i> programmes (4 or 5 years, 6 years in special cases) provided by universities and polytechnics, leading to the <i>licenciado</i> degree</p> <p>The <i>licenciatura</i> programmes provided by polytechnic education in most fields are two cycles/programmes called <i>curros bietápicos de licenciatura</i>: the first cycle (3 years) leads to the <i>bacharel</i> degree (5B first), and the second cycle (1-2 years) leads to the <i>licenciado</i> degree (5A first)</p> <p>Universities and polytechnics also offer to <i>bacharéis</i> (5B first), in the fields of teacher training and nursing, 1-2 year programmes leading to the <i>licenciado</i> degree, called <i>curros complementares de licenciatura</i></p>
Second	<i>Especialização de pós-licenciatura</i> (also identified frequently as <i>Pós-Graduação</i> ) (1-2 years) – Specialised studies taken after <i>licenciatura</i> , leading to a certificate.
<b>ISCED 5B</b>	
First	<i>Bacharelato</i> (3 years) programmes provided by universities (rarely) and polytechnics, leading to the <i>bacharel</i> degree
Second	<i>Especialização pós-bacharelato</i> (1 year) – Specialised studies taken after <i>bacharelato</i> , leading to a certificate
<b>ISCED 6</b>	<p><i>Mestrado</i> programmes (2 years after <i>licenciatura</i>) provided by university education, leading to the <i>mestre</i> degree.</p> <p><i>Doutoramento</i> programmes (variable, usually 3 years, sometimes 4 or 5 years after <i>mestrado</i> or, in certain conditions, after <i>licenciatura</i>), provided by universities, leading to the <i>doutor</i> degree</p>

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**The Slovak Republic:**

<b>ISCED 5A</b>	
First	"Bachelor's" Degree 3-4 years; "Master's" degree (4 years); "Master's" degree in Engineering (5-5.5 years); Degree in Engineering/Architecture/Medicine/Veterinary Medicine (6 years)
Second	Supplementary Educational Study – "Certificate" (2 years); Teaching an Additional Subject – "Diploma" (2-4 years) Examina Rigorosa – "Academic Degree (JUDr., PaedDr., RNDr., PhDr., etc.)" (usually 1 year);
<b>ISCED 5B</b>	
First	Post-secondary Specialisation Study – "Graduate's Diploma" (2-3 years); Higher Professional Studies – "Graduate's Diploma" (3 years); Dance Conservatory – "Graduate's Diploma" and "Certificate on Maturita Examination" (8 years); Conservatory and Secondary Schools Specialising in Arts – "Graduate's Diploma" and "Certificate on Maturita Examination" (6 years)
Second	
<b>ISCED 6</b>	Doctorate Study (Ph.D., ArtD.) (3 years)

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**Spain:**

<b>ISCED 5A</b>	
<b>First</b>	<p>Bachelor's degree “Diplomado Universitario, Arquitecto Técnico e Ingeniero Técnico” (3 years); Conservation and Restoration of Cultural Assets “Conservación y Restauración de Bienes Culturales” (3 years); Military Programme – Medium Grade “Militar de carrera de la escala media (Diplomado Universitario)” (3 years);</p> <p>University degree – First and Second Cycle “Licenciado, Arquitecto e Ingeniero” (4-6 years); Higher Dramatic Art Studies Degree “Título Superior de Arte Dramático” (4 years); Music Studies Advanced Degree “Titulación Superior por especialidad musical” (4 years); Military Programme – Medium Grade “Militar de carrera de la escala media (Diplomado Universitario)” (3 years); Military Programme – Higher Grade “Militar de carrera de la escala superior (Licenciado universitario)” (5 years)</p>
<b>Second</b>	Master's degree “Licenciado e Ingeniero” (2 years)
<b>ISCED 5B</b>	
<b>First</b>	<p>Specific Vocational Training in Plastic Arts and Design – Advanced Level Qualification “Técnico Superior – Ciclos Formativos de Artes Plásticas y Diseño de Grado Superior” (2 years); Specific Vocational Training – Advanced Level Qualification “Técnico Superior – Ciclos Formativos de Formación Profesional de Grado Superior” (2 years); Specific Vocational Training – Advanced Level (Distance Learning) “Técnico Superior – Ciclos Formativos de Formación Profesional de Grado Superior (Distancia)” (2 years); Military Programme Basic Grade “Militar de carrera de la escala básica” (2 years); Specific Vocational Training in Sports - Advanced Level Qualification “Técnico Superior - Enseñanzas Deportivas de Grado Superior (2 years)</p>
<b>Second</b>	a
<b>ISCED 6</b>	Doctorate “Doctor” (4-6 years)

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**Sweden:**

<b>ISCED 5A</b>	
First	Diploma (3-4 years); Bachelor's Degree (3 years); Master's Degree (4-4.5 years); Master's Degree in Pharmacy, Horticulture, Forestry, Landscape Architecture, Psychology (5 years); University Degree in Medicine, Dental Surgery, Veterinary Medicine (5-5.5 years)
Second	Nursing Specialisation Qualification (1-1.25 years); Midwifery, Psychotherapy, Special Education (1.5 years)
<b>ISCED 5B</b>	
First	Diploma (2 years); Degree Certificate in Advanced Vocational Education (2-3 years)
Second	
<b>ISCED 6</b>	
	"Licentiate" (2 years); "Doctorate" (4 years)

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**Switzerland:**

<b>ISCED 5A</b>	
First	Pedagogical University Certificate « Pädagogische Hochschule/ Haute École Pédagogique » (3 years); University of Applied Science Diploma “Fach- hochschuldiplom -diploma” (3 years); University Bachelor's Degree (3 years) and Diploma “Hochschulen – Lizentiat, Diplom, Staatsexamen” (4 years)
Second	University Master's Degree (2 years), Postgraduate Degree “Fachhochschul Nachdiplom” (1 year); University Postgraduate Diploma “Nachdiplom/ Diplôme du troisième cycle/ Postgrade” (1 year)
<b>ISCED 5B</b>	
First	Diploma of Higher Vocational Education – Stage I “Berufsprüfung/ Examen professionnel” (1-2 years);  Diploma of Technical School “Höhere Fach- und Berufsschule/ École technique” (2 years); Teacher’s Certificate – Teacher Training II “Primarlehrerpatent/ Fachlehrerpatent” (3 years);  Polytechnic School Diploma from a Higher Vocational College “Höhere Fachschule/ École Professionnelle Supérieure/ Scuola Professionale Superiore” (3 years)
Second	Trade Master's Diploma or equivalent in Higher Vocational Education – Stage II “Höhere Fachprüfung/ Examen Professionnel Supérieur” (1-2 years)
<b>ISCED 6</b>	
	University Doctorate “Doktorat/ Ph.D.” (4 years); Post doctorate degrees “Uni- versitäre Habilitationen” (number of years unknown)

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**Turkey:**

<b>ISCED 5A</b>	
First	University: Üniversite (4 years); Integrated higher school for hearing impaired: İşitme Engelliler Entegre Yüksek Okulu; Open Training Faculty: Açık Öğretim Fakültesi (4 years); Conservatory: Konservatuar (4 years); Medical science, veterinary, dentistry: Eczacılık Veterinerlik ve Tıp Fakültesi (5-6 years)
Second	Enstitüler: Mastır (2 years); Specialisation in medical science: Tıpta Uzmanlık (4 years)
<b>ISCED 5B</b>	
First	Vocational higher Schools: Meslek Yüksek Okulu (2 years); Open training Faculty: Açık Öğretim Fakültesi (2 years); Integrated higher school for hearing impaired: İşitme Engelliler Entegre Yüksek Okulu (2 years)
Second	
<b>ISCED 6</b>	
	Enstitüler: Doktora (4 years)

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**The United Kingdom:**

<b>ISCED 5A</b>	
First	Bachelor's Degree “BA, BSc, etc.” (3-4 years); Bachelor of Education “BEd” (4 years); Bachelor of Medicine “MB” (5 years+)
Second	Master's Degree taught “MA, MSc, MBA, etc.” (1 year); "Postgraduate Diploma/Certificate “PG Dip/PG Cert” (9m); Teaching Qualification – Postgraduate Certificate in Education “PGCE” (1 year); Master's Degree by Research “Mphil, etc.” (2 years+)
<b>ISCED 5B</b>	
First	Higher National Certificate “HNC” (1 year); Diploma of Higher Education “DipHE” (2 years); Higher National Diploma “HND” (2 years); Foundation Degree, National Vocational Qualification (NVQ) Level 4, and NVQ Level 5
Second	a
<b>ISCED 6</b>	
	Doctor of Philosophy “Ph.D.” (3 years+)

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**The United States:**

<b>ISCED 5A</b>	
First	Bachelor's Degree Programme (4 years)
Second	Master's Degree programme (short) (1-2 years); Master's Degree programme (long) (2-3 years); First-Professional Degree Programme (3 years); First-Professional Degree Programme – Medical (4 years)
<b>ISCED 5B</b>	
First	Vocational Associate's Degree Programme (2 years)
Second	a
<b>ISCED 6</b>	
	Doctorate (Ph.D. – Research) (5 years)

*Note: Academic associate's degree programmes (2 years) are not included, as for international comparisons these degrees are regarded as “intermediate degrees”. Post-graduate certificate programmes (typically 1 year) are not included. [Back to table1](#)*

■ **Table A3.4. Completion rates in tertiary education (2005)**

*Methodology*

Data on completion rates were collected through a special survey undertaken in 2007. The completion rate is calculated as the ratio of the number of students who graduate from an initial degree during the reference year to the number of new entrants in this degree  $n$  years before, with  $n$  being the number of years of full-time study required to complete the degree. The calculation of the completion rate is defined from a cohort analysis in one-half of the countries listed in Table A4.1 (true cohort method). The estimation for the other countries assumes constant student flows at the tertiary level, owing to the need for consistency between the graduate cohort in the reference year and the entrant cohort  $n$  years before (cross-section method). This assumption may be an oversimplification.

These two methodologies to estimate completion rates are:

*Cross-section cohort method*

Example at tertiary type A level of education: To calculate the completion rate using the cross-section cohort method, the number of graduates from tertiary-type A first degree programmes (2005 data) is divided by the number of new entrants to tertiary-type A first degree programmes  $n$  years before multiplied by 100.  $N$  is the number of full-time years required to complete a tertiary-type A first degree programme. The year of reference gives the reference year for the number of graduates and the year of entrance gives the reference year for the number of entrants.

*True cohort method*

A second way of calculating completion rates is by following a single year's entrants through until all have either dropped out or graduated. This method is referred to as the "true cohort method" and the calculations are based on information from individual student registers. To calculate the completion rate using the true cohort method, at least  $n$  years of data are required, where  $n$  must be large enough to ensure that a minority of entrants are still enrolled in the system. Typically,  $n$  is between eight and ten years. The completion rate gives the proportion of entrants who graduated within  $n$  years. The year of entrance gives the year when the observed cohort of students entered the level. These individual students are followed up on an individual basis until the year of reference, to establish whether they drop out or graduate. In this case the difference between the year of reference and the year of entrance is no indication of the typical duration of studies. It rather presents an upper limit of the time students may need to complete studies.

*Notes on specific countries*

**Belgium (Flemish Community):** The figures for social advancement education were omitted, as well as students in the Royal Military School, the Open University, the Protestant Theological Faculty, etc. Due to the differences in coverage these data can not be compared with the other tables of the UOE data collection (for example ENRL, GRAD and ENTR).

Data refer only to the main enrolments in basic courses and initial teacher training courses (*hogescholen*) and to the main enrolments in basic courses (universities)

Since individual records for students in the Flemish Community are not available, the theoretical duration of the qualifications was taken into account.

Entrants = students who are for the first time enrolled in higher education in the Flemish Community. [Back to table1](#)

**France:** The cohort monitoring carried out in France takes into account both the entry programme and the graduation programme of students, therefore providing a precise estimate of students' successful completion of tertiary education. In the currently available calculation, the actual curriculum of graduates is not specified. In particular, as the graduates' entry programme is unknown, classification is based exclusively on their graduation programme, which might create a significant bias.

Consequently, as indicated by the table below (based on the French data collected from the panel sample), 79% of students entering ISCED 5A programmes will obtain a tertiary education degree, whereas 21% will complete the programme without graduating. The graduation rates for students entering tertiary-type B programmes are equivalent to 79 % of students that will graduate. The data gathered from the panel sample also highlight the usual trend towards student re-orientation between tertiary-type A and tertiary-type B levels, with a 14.5% share starting tertiary-type A programmes and then graduating from tertiary-type B programmes.

	Entry	ISCED graduates 5A	ISCED graduates 5B	Total graduates
Entry				
ISCED 5A	100.0	64.3	14.5	78.8
ISCED 5B	100.0	1.6	77.5	79.2
Total	100.0	38.5	40.5	79.0

Source: Panel sample.

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**Switzerland:** The calculation of the OECD completion rate depends on a relatively stable student population. This means that the entrant cohort and the graduate cohort are composed of the same population. "The methodology is therefore sensitive to the validity of data. In a system which is expanding or diminishing heavily and where the students do not follow the typical pathways and durations and where there are many changes between the programme categories from entrance to graduation the results may be less reliable" (Doc. ESTAT/F4/2006-ETS-06-EN).

In 1998 the transformation of selected higher vocational schools and colleges, especially colleges of engineering and colleges of economics and administration (formerly ISCED 5B) into universities of applied sciences (newly ISCED 5A) took place. Because of the reform, entrance and graduate population changed in Switzerland from 1998 to 2003.

Nevertheless, national completion and dropout rates in the higher education system for ISCED 5A (3 to 5 years) and ISCED 5A (5 to 6 years) can be calculated from a longitudinal analysis of an individual student cohort (with a personal identification number for each student). The calculation is carried out according to the national classification of the different types of higher education institutions. Data for ISCED 6 and ISCED 5B do not presently exist.

ISCED 5A					
First degree					1st and 2nd degree
	Total	3 to less than 5 years*	5 to 6 years**	More than 6 years	First-time 5A, (unduplicated)
Completion rates	m	72%	68%	m	m
Dropouts	m	24%	28%	m	m
Remaining in the system	m	4%	4%	m	m

\* Student cohort 1999: only students in universities of applied science and most pedagogical universities;

\*\* Student cohort 1994: only students in universities and colleges of advanced technology.

The criterion is the successful completion of the study programmes by obtaining a first degree.

**Completed:** Students of the entrance cohort who have successfully obtained a first degree in higher education after five or ten years.

**Dropout:** Students who are not longer enrolled in the specific type of higher education without obtaining a degree after five or ten years.

**Remaining in the system:** Students of the entrance cohort, who are still enrolled in the study programmes after five or ten years and have not yet completed their studies. Students in this group may still obtain a degree, but some may drop out without successfully completing a degree.

#### *Data and calculation methods*

The entrance cohort is composed of students enrolled for the first time in a specific type of higher education at the ISCED 5A level, independently of whether they had already enrolled in another type of higher education institution:

- For the universities of applied science and most pedagogical universities (ISCED 5A programmes of three to five years duration), the completion rate is calculated five years after the students' entrance (most recent entrance cohort: 1999);
- For the universities and colleges of advanced technology (ISCED 5A programmes of five to six years), the rate is calculated ten years after the students' entrance (most recent entrance cohort: 1994).

The criterion for the five- and ten-year period is the proportion of students still remaining in the system after a certain period. This proportion has to be less than 5% of the entrance cohort. For the ISCED 5A 3-to-5-year programmes this is the case after five years and for the ISCED 5A 5-to-6-year programmes this is the case after ten years.

The definition and the different cohorts do not allow the calculation of a total of the two programmes types ("3 to less than 5 years" and "5 to 6 years"). Foreign students with prior education outside Switzerland are excluded from the student cohort according to data restrictions. [Back to table1](#)



ISCED 5A (3 to 5 years) Entrance cohort 1999	Cohort	Graduates of the cohort (completion rate)	Dropouts of the cohort	Students of the cohort remaining in the system	Total
Total	%	71.76	24.14	4.11	100
	Number	6 401	4 593	1 545	6 401
ISCED 5A (5 to 6 years) Entrance cohort 1994					
Total	%	67.9	27.81	4.3	100
	Number	11 440	7 767	3 181	11 440

**United States:** The figures include only students starting full-time at a specific college and their completion status at the same institution. Students who transfer to other colleges to complete their degrees are not included. An older, but more comprehensive study (Beginning Postsecondary Students Longitudinal Study of 1995/96 to 2001) found that the 6 year bachelor's degree completion rate for those who started full-time in a 4-year college or university was 54.5 percent for the first institution and 63.4 percent including those who transferred to another college to complete their degree.

■ **Table A3.5. (Web only) Percentage of tertiary graduates, by field of education (2007) and Table A3.6. (Web only) Percentage of tertiary qualifications awarded to females at tertiary level, by field of education (2007)**

■ **Please see notes to Table A3.1.**

#### *Classification*

Tertiary graduates who receive their qualification in the reference year are classified by field of education based on their subject of specialisation. These figures cover graduates from all tertiary degrees reported in Table A3.1. The 25 fields of education used in the UOE data collection instruments follow the revised ISCED classification by field of education. The same classification by field of education is used for all levels of education. For definitions and instructions refer to the ISCED Classification (UNESCO, 1997). The classification is in accordance with the fields of training defined in the *Fields of Training – Manual* (EUROSTAT, 1999). [Back to table1](#)

#### *Notes on specific countries:*

**Belgium (Flemish Community):** Data refers to graduates and not to graduation. [Back to table1](#)

**Ireland:** Data refers to graduates and not to graduation. [Back to table1](#)

**Hungary:** This table is based on graduations rather than graduates. In education, students often graduate in two subjects, which means that the increase is due to double counting. Before, students were weighted 0.5 in each subject. The increase in health and welfare is due to a tertiary-type 5B programme which primarily attracts women. [Back to table1](#)

**Sweden:** There are few students and only five kinds of degrees defined as "second degree" in the Swedish tertiary-type A education system, four of which are dominated by female students. [Back to table1](#)

■ **Table A3.7. (Web only) Sciences graduates, by gender**

Please see notes to Tables A3.1, A3.3 and A3.4.

The labour force data used are taken from the OECD Labour Force database, compiled from National LFSs and European LFSs. [Back to table1](#)

**Australia:** Year of reference 2006 for the number of science graduates, and 2007 for the labour force population. The figures for science graduates are consequently around 5 per cent lower than they would be if the year of reference was 2006 for both the number of science graduates, and for the population. [Back to table1](#)

■ **Table A3.8. (Web only) Trends in net graduation rates at advanced research qualifications**

Please see notes to Table A3.1.

**Sweden:** Advanced research (Licentiate) degrees not recognised as doctorates have not been included since 2005. [Back to table1](#)

**INDICATORS A4-A5 PISA**

For any necessary information, please refer to the PISA website ([www.pisa.oecd.org](http://www.pisa.oecd.org)). [Back to table1](#)

## **INDICATOR A6: How does participation in education affect participation in the labour market?**

- **Table A6.1a, A6.1b (web), A6.2a, A6.2b (web), A6.2c (web), A6.2d (web), A.6.3a, A6.3.b (web), A6.3.c (web), A6.4a A6.4.b (web), A6.4.c (web)**

### *Methodology and definitions*

Data on population and educational attainment are taken from OECD and EUROSTAT databases, which are compiled from national LFSs (LFS). Tables (b for males, c for females, d for different age group) are available on the web.

The attainment profiles are based on the percentage of the population aged 25 to 64 years that has completed a specified level of education. The International Standard Classification of Education (ISCED-97) is used to define the levels of education.

The employment rate for a particular age group is equal to the percentage of individuals in the population of the same age group who are employed as defined according to the guidelines of the International Labour Organisation (ILO). The unemployment rate for a particular age group is equal to the percentage of individuals in the labour force of the same age group who are unemployed.

The unemployed are defined as individuals who are without work, actively seeking employment and currently available to start work. The employed are defined as those who during the survey reference week: *i*) work for pay (employees) or profit (self-employed and unpaid family workers) for at least one hour, or *ii*) have a job but are temporarily not at work (through injury, illness, holiday, strike or lock-out, educational or training leave, maternity or parental leave, etc.) and have a formal attachment to their job. [back to table1](#)

### *General notes*

Historical data on educational attainment are only available for the three major levels of education:

Less than upper secondary education – 0/1/2/3C short (ISCED97 equivalent levels).

Upper secondary and post-secondary education – 3/4 (ISCED-97 equivalent levels).

Tertiary non-university and university – 5/6 (5A/5B/6 ISCED-97 equivalent levels).

Before 1997, educational attainment levels were coded according to international mapping ISCED-76. The ISCED-76 levels have been allocated to ISCED-97 levels.

Sources and notes on specific countries: see [Indicator A1](#)

**INDICATOR A7: What are the economic benefits of education?**

- **Tables A7.1a, A7.1b, A7.2a (web), A7.2b (web), A7.2c (web), A7.3 (web), A7.4a, A7.4b (web), A7.4c (web)**

*Methods and definitions*

The total (male plus female – M+F) average for earnings is NOT the simple average of the male and female earnings figures, but the average based on earnings of the total population. This overall average weights the average earnings figure separately for males and for females by the share of males and females at different levels of attainments (and therefore of earnings).

*Notes on specific countries*

Earnings data for the Czech Republic, Hungary, Luxembourg, Poland and Portugal exclude part-time work. Moreover earnings data for Hungary, Luxembourg, Poland and Portugal exclude part-year or seasonal employment.

Earnings are considered before income tax except for Belgium and Korea where data are after income tax. The length of the reference period is one week for Australia, New Zealand and the United Kingdom; one month for Belgium, France, Hungary, Ireland and Portugal; the calendar year for Austria, Canada, the Czech Republic, Denmark, Finland, Germany, Italy, Luxembourg, the Netherlands, Norway, Spain and Sweden; and other 12-month period for Korea, Switzerland and the United States.

Original earnings data are expressed in national currencies. [Back to table1](#)

**Denmark:** There was a change in the coverage of the income definition in 2003. As a consequence, the data from 2003 and onwards in the trends series on earnings are not directly comparable with data from 2002 and earlier years. [Back to table1](#)

**France:** From 2006 inclusion of quarterly and yearly bonuses and self-employed declared earnings from work tend to increase earnings differences between educational levels and relative indexes. [Back to table1](#)

**United Kingdom:** Previously the earnings for females over the pension age (60+) were derived from females 55 to 59 years old; however earnings are now collected for women over 60 who are in employment so these figures have been used here. Moreover, the category “unknowns” was previously apportioned to education levels and this change in the methodology caused a significant change over a two-year period in the comparison for Table A9.1. [Back to table1](#)

*Sources*

Australia	Survey of Education and Training Experience
Austria	Micro-census on wage tax statistics (administrative data)
Belgium	Labour Force Survey (Continue Enquête naar de Arbeidskrachten)
Canada	Survey of Labour and Income Dynamics
Czech Republic	Average Earnings Information System (Informační systém o průměrném výdělku)
Denmark	Not reported

Finland	The Register-based Employment Statistics
France	French Labour Force Survey (Enquête Emploi)
Germany	German Socio-economic Panel Study (SOEP)
Hungary	Individual salary and earning of employees
Ireland	EU Survey of Income and Living Conditions (SILC)
Israel	Income survey (הכנסות סקר)
Italy	Bank of Italy Survey on Household Incomes and Wealth
Korea	The 6th Wave of Korean Labor & Income Panel Study (KLIPS)
Luxembourg	Structure of earnings survey (every four years)
New Zealand	New Zealand Income Survey, June 2006 Quarter
Norway	Income Statistics for Persons and Families
Poland	SES 2006 – Structure of earnings survey by occupation (struktura wynagrodzeń według zawodów w październiku)
Portugal	Personal Tables, Quadros de Pessoal
Slovenia	Tax Register, Statistical Register of Employment (Davčni register – dohodnina – SRDAP)
Spain	Survey of living conditions (Encuesta de Condiciones de Vida)
Sweden	National register on income (Inkomstregistret)
Switzerland	Swiss Labour Force Survey (Schweizerische Arbeitskräfte Erhebung)
Turkey	Household Budget Survey
United Kingdom	Labour Force Survey
United States	Current Population Survey (Annual social and economic supplement – March CPS 2007)

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## INDICATOR A8: What are the incentives to invest in education?

### ■ Tables A8.1, A8.2, A8.3, A8.4.

#### *Methods and definitions*

The Net Present Value (NPV) represents a measure of the economic benefit obtained, over an individual's working life, relative to the cost of obtaining higher levels of education. The NPV can be measured from either the individual's or society's point of view. Private NPV measures the discounted net economic payoff to an individual investing in obtaining a higher level of education. Public NPV measures the net fiscal benefits to society of an individual obtaining a higher level of education. The formulae for calculating both types of return are the same, although the costs and benefits differ between the two.

The Net Present Value (NPV) calculation is an actuarial method of discounting over time the cost of making an investment relative to the benefits that the investment produces. NPV is a traditional criterion for making investment choices, in that it provides a monetary estimate of the value of investments in terms of their economic benefits, after accounting for the costs of the investments. NPV is calculated as follows:

$$NPV = -\sum_{t=0}^{d-1} C_t / (1+i)^t + \sum_{t=d}^{64-a-d} B_t / (1+i)^t$$

where:

$C_t$  = costs at period  $t$  ( $t \in 0, d-1$ )

$B_t$  = benefits at period  $t$  ( $t \in d, 64-a-d$ )

$i$  = the discount rate at which future costs and benefits are valued in the present

$d$  = the duration of studies (in years)

$a$  = age at the beginning of education/training

$64$  = age at the last year of activity in the labour market.

The discount rate ( $i$ ) is fixed to 5%, which reflects the interest one can expect, under normal circumstances, by investing in long-term government bonds in most countries.

#### *The composition of costs and benefits*

The cost elements are the following:

##### 1. Foregone earnings

Foregone earnings are the value of earnings that would have been obtained if the individual had worked at the lower level of education instead of making the investment in education.

##### 2. Training costs

Two forms of educational expenditure are taken into account in the analysis:

- Public expenditures on education (for infrastructure, teachers' wages, as well as subsidies, etc.).
- Private expenditures (tuition, other fees, etc.).

##### 3. Additional tax payments resulting from an education-induced increase in taxable income and decrease in transfers.

These costs can be grouped as follows:

Private costs:

Foregone earnings + direct private expenditures  
+ increased future taxes + lost transfers

Public costs:

Lost tax receipts during the training + public expenditures

In the calculation of private NPV, private costs are included; and in the calculation of public rates of return, public costs are included.

The benefits associated with the individual's decision to invest in training are:

1. Increased earnings levels arising from a higher level of education.
2. A lower probability of being unemployed associated with higher education.
3. For the public sector, additional tax receipts, plus less transfers to pay.

These can be grouped as follows:

Private benefits:

Increases in earnings+ higher probability of being employed

Public benefits:

Additional tax receipts +  
transfers saving

In calculating the private NPV, private benefits are included. In calculating the public NPV, public benefits are included.  
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#### *Data and model assumptions*

##### *Data*

1. Earnings correspond to an annual reference period in Austria, Canada, the Czech Republic, Denmark, Finland, Germany, Ireland, Italy, Korea, Norway, Portugal, Spain, Sweden, Turkey and the United States. Earnings have a weekly reference period in Australia, New Zealand and the United Kingdom, and a monthly reference period in Belgium, France, Hungary and Poland. Data on earnings are before income tax, while earnings for Belgium and Korea are net of income tax. Data on earnings for individuals in part-time work are excluded for the Czech Republic, Hungary, Poland and Portugal, while data on part-year earnings are excluded for Hungary and Portugal. The source of these data is *Earnings Network B database* from Statistics Sweden.
2. Starting age of education and duration of studies are based on indicator B1 (*Education at a Glance 2007*), or school expectancy, indicator C1 (*Education at a Glance 2006*).
3. Annual expenditure on educational institutions per student for all services by type of programme (lower, upper and tertiary), as well as relative proportions of public and private expenditure on educational institutions, by level of education (no distinction lower/upper secondary) refer to indicators B1 and B3 (*Education at a Glance 2007*), respectively.
4. Tax rates on earnings and transfers (housing benefits + social assistance) are taken from the OECD database on Benefits and Wages, provided by the Directorate for Employment, Labour and Social Affairs.
5. Unemployment rates by age and by level of education are derived from NEAC Network B database (*Education at a Glance 2007*).

##### *The assumptions of the model*

1. Foregone earnings during the training period are assumed to be the minimum wage when the individual has continued directly to the next highest level of education (at upper secondary level of education, as well as at the tertiary level of education) before entering the labour market.
2. Lifetime earnings streams are estimated from cross-section data based on age cohorts. The average annual earnings for each age group were assigned to the midpoint of the interval. Between two midpoints, earnings have been adjusted to fit a straight line using the method of least squares, along a linear trend. In cross-section data, earnings differentials between age cohorts reflect accumulated work experience, additional training investments made on the job and technological change. Earnings

for all educational categories are likely to increase over time with productivity increases in the economy as a whole over long periods.

3. Employment probabilities (one minus the unemployment rate) are applied to average annual earnings for each education, sex and age group cohort.
4. Earnings of the individual during the training period are assumed to be zero.
5. The duration of education varies from one country to another with the national average.

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## INDICATOR A9: What are the social outcomes of education?

### *Methodology*

Data on the three social outcomes (self-reported health, political interest, and interpersonal trust) were compiled from the following international surveys:

- The 2003 Adult Literacy and Lifeskills Survey (ALL, for more information on ALL see <http://nces.ed.gov/Surveys/ALL/> )
- The 2004 and 2006 European Social Survey (ESS, for more information on the ESS see <http://www.europeansocialsurvey.org/> )
- The 2004 and 2006 International Social Survey Programme (ISSP, for more information on the ISSP see <http://www.issp.org/> )
- The 2005 World Values Survey (WVS, for more information on the WVS see <http://www.worldvaluessurvey.org/> )

With the exception of ALL (which had larger country samples), each of these data sources had samples of roughly 1,500 individuals per country. For indicator construction, all samples were restricted to adults ages 25 to 64. The educational attainment variable in each data source was converted to an ISCED-based 3-level educational attainment variable (below upper-secondary education; upper secondary education, and tertiary education; see information on ISCED). These conversions are summarized below in Table 1 for each data source. The percentage of adults at each ISCED level grouping was then compared to the educational attainment percentages published in *Education at a Glance* for the relevant comparison year. For each data source, if the percentage of adults for a country at any one of these three levels differed from the corresponding percentage in *Education at a Glance* by more than 10 percentage points, that country was excluded from analysis. The country representative to the *Network on Labour Market, Economic and Social Outcomes of Learning* could over-ride this criterion. This criterion for “usable” data eliminated a significant number of countries from most data sources, so multiple sources were used for each outcome in order to more fully represent the OECD countries.

When usable data were available for a given country from more than one data source, the most recent source was used or, in cases where data were available from both the 2006 European Social Survey and



2006 International Social Survey Programme, the European Social Survey was used because it included a larger set of OECD countries with usable data. One exception was made for self-reported health data for Italy; in this case, usable data were available from both the 2003 Adult Literacy and Lifeskills Survey and the 2005 World Values Survey, but the older data were used because the Adult Literacy and Lifeskills Survey had a much larger sample size than the World Values Survey (about 6,000 versus 800 adults ages 25-64). Table 2 below compares the observed outcome measures (cf. Table A9.8 in web only) for the seven countries for which usable data were available from more than one source. Table 3 below shows the final selection of data sources used for indicator construction.

Although the use of multiple data sources was restricted to those sources that included comparable survey questions, the data sources differ in many ways that could affect the comparability of the indicators; readers therefore should use caution when comparing indicator findings across countries that are based on different data sources.

**Marginal effects.** Country-specific regression models were estimated that predicted each dichotomous outcome variable (e.g., high versus low level of interest in politics) from individuals' educational attainment level, with and without control variables for age, sex, and family income. In each regression equation, two categorical dummy variables were included for educational attainment level (0-1 dummies for below upper-secondary education and tertiary education, with upper secondary education as the omitted group). The coefficients for these educational attainment variables provided the measures of marginal effects, that is, the difference in the average level of the outcome variable (which can be interpreted as the share of individuals) across levels of education. For analyses with control variables, age was included as a continuous variable along with an age-squared term (to account for possible curvilinear relationships), and sex was included as a 0-1 dummy variable. Family income was included as a set of dummy variables, based on the income categories included in each data source, and with an additional dummy variable for missing values on income.

In preliminary analyses, both probit and ordinary least squares (OLS) regression were used, and were found to produce very similar estimates of marginal effects. Because OLS regression provides more readily interpretable coefficients, OLS was used for the final analysis to generate marginal effects (see Tables A9.1-A9.4).

**Predicted values.** Probit regression models were estimated for each country in order to generate predicted values on the outcome variables for adults with different levels of educational attainment, who were of a specific gender, age, and income level. Similar to the models for marginal effects, the probit models included educational attainment, gender, age, and age-squared, but family income was included as a dichotomous variable that indicated whether the individual's income was above or below the country median reported in the data source. The coefficients from the model were then used to compute the share of individuals expressing a positive social outcome (e.g., health at least "good") within educational attainment groups across the characteristics of gender, age, and income included in the model. For each level of attainment, estimates were obtained by setting the educational attainment variable to the appropriate level and setting all remaining variables except the characteristic of interest (e.g., gender) to the average value for the country. The characteristic of interest was then varied (e.g., gender set to 0 or 1) to calculate the probability of reporting a positive outcome for different values of the characteristic (e.g., for men or women) within a given level of educational attainment (see Tables A.9.5-A9.7). For comparison, Table A9.8 (web only) provides the observed shares of individuals expressing positive self-rated health, political interest and interpersonal trust.

#### *Notes on specific countries*

**Canada:** At the request of the Canadian representative to the *Network on Labour Market, Economic and Social Outcomes of Learning*, Canada's data from the 2006 International Social Survey Programme were

used for political interest and interpersonal trust outcomes, even though the educational attainment data for Canada in this data source did not match *Education at a Glance* data for 2006. (The International Social Survey Programme does not have a self-reported health variable, so could not be used for that outcome.) [Back to table1](#)

**Italy:** Italy's data from the 2005 World Values Survey data were used for political interest and interpersonal trust outcomes, after recoding the Italian educational attainment variable using an ISCED conversion provided by the Italian representative to the *Network on Labour Market, Economic and Social Outcomes of Learning* (see Table 1 below). (As noted above, Italy's World Values Survey data were not used for the self-reported health outcome, because the Adult Lifeskills and Literacy Survey provided a larger sample for that outcome.) [Back to table1](#)

**Norway:** At the request of the Norwegian representative to the *Network on Labour Market, Economic and Social Outcomes of Learning*, Norway's data from the 2006 European Social Survey were used for all outcomes, even though the educational attainment data for Norway in this data source did not match *Education at a Glance* data for 2006. [Back to table1](#)

Table 9.1. Conversion from international data source educational attainment variable to 3-level ISCED educational attainment variable

<b>Data Source</b>	<b>Coding in data source</b>	<b>Description of level in data source</b>	<b>ISCED conversion</b>
ALL	01	Level 0 or 1, preprimary or primary	Below upper secondary
	02	Level 2 lower secondary	Below upper secondary
	03	Level 3 upper secondary	Upper secondary
	04	Level 4 post secondary, non tertiary	Upper secondary
	05-11	Tertiary and above	Tertiary
ESS	0	Not completed primary	Below upper secondary
	1	Primary or first stage of basic	Below upper secondary
	2	Lower secondary or second stage of basic	Below upper secondary
	3	Upper secondary	Upper secondary
	4	Post secondary non-tertiary	Upper secondary
	5	First stage of tertiary	Tertiary
	6	Second stage of tertiary	Tertiary
ISSP	0	No formal qualification, incomplete primary	Below upper secondary
	1	Lowest formal qualification	Below upper secondary
	2	Above lowest qualification	Below upper secondary
	3	Higher secondary completed	Upper secondary
	4	Above higher secondary level, other qualifications	Upper secondary
	5	University degree completed, graduate studies	Tertiary
WVS	1	No formal education	Below upper secondary
	2	Incomplete primary	Below upper secondary
	3	Completed primary	Below upper secondary
	4	Incomplete secondary (non vocational)	Below upper secondary
	6	Incomplete secondary (vocational)	Below upper secondary
	5	Completed secondary (non vocational)	Upper secondary
	7	Completed secondary (vocational)	Upper secondary
	8	Some university	Tertiary
	9	University degree	Tertiary
WVS-Italy	1	No formal education	Below upper secondary
	2	Incomplete primary	Below upper secondary
	3	Completed primary	Below upper secondary
	4	Incomplete secondary (non vocational)	Below upper secondary
	6	Incomplete secondary (vocational)	Below upper secondary
	5	Completed secondary (non vocational)	Upper secondary
	7	Completed secondary (vocational)	Upper secondary
	8	Some university	Upper secondary
	9	University degree	Tertiary

ALL = Adult Literacy and Lifeskills Survey

ESS = European Social Survey

ISSP = International Social Survey Programme

WVS = World Values Survey

Table 9.2. Comparison of indicator outcomes for countries that had usable data from more than one data source

OECD country and data source	Self-reported health status: Percent of adults who rate their health as at least "good"			Political interest: Percent of adults who are at least fairly interested in politics			Interpersonal trust: Percent of adults who believe that most people try to be fair		
	Below upper secondary education	Upper secondary education	Tertiary education	Below upper secondary education	Upper secondary education	Tertiary education	Below upper secondary education	Upper secondary education	Tertiary education
Finland									
ESS 2006	53	71	95	41	43	58	73	74	86
WVS 2005	50	76	82	24	38	51	63	71	75
Italy									
ALL 2003	76	90	93						
WVS 2005	68	80	82						
Ireland									
ESS 2006				32	51	59	50	54	64
ISSP 2004				45	52	74	68	79	85
Korea									
WVS 2005				44	45	46	64	68	68
ISSP 2004				49	58	69	59	57	62
Poland									
ESS 2006				32	46	62	24	31	45
ISSP 2006				7	14	28	2	3	8
Portugal									
ESS 2006				22	46	57	29	36	43
ISSP 2004				35	60	65	45	50	60
Switzerland									
ESS 2006				24	58	76	55	69	81
ISSP 2006				23	51	58	25	35	54

Note: The data source listed first for each country was the source used for indicator construction.

ALL = Adult Literacy and Lifeskills Survey

ESS = European Social Survey

ISSP = International Social Survey Programme

WVS = World Values Survey

Table 9.3. Countries included in social outcomes indicators, and the data source for each country

OECD country	Indicator outcome		
	Self-reported health status	Political interest	Interpersonal trust
Belgium	ESS 2006	ESS 2006	ESS 2006
Canada	ALL 2003	ISSP 2006	
Czech Republic	ESS 2004	ESS 2004	ESS 2004
Denmark	ESS 2006	ESS 2006	ESS 2006
Finland	ESS 2006	ESS 2006	ESS 2006
Germany	ESS 2004	ESS 2004	ESS 2004
Greece	ESS 2004	ESS 2004	ESS 2004
Ireland	ESS 2006	ESS 2006	ESS 2006
Italy	ALL 2003	WVS 2005	WVS 2005
Korea	WVS 2005	WVS 2005	WVS 2005
Netherlands	ESS 2006	ESS 2006	ESS 2006
New Zealand		ISSP 2004	ISSP 2004
Norway	ESS 2006	ESS 2006	ESS 2006
Poland	ESS 2006	ESS 2006	ESS 2006
Portugal	ESS 2006	ESS 2006	ESS 2006
Slovak Republic	ESS 2006	ESS 2006	ESS 2006
Spain	ESS 2006	ESS 2006	ESS 2006
Sweden	ESS 2006	ESS 2006	ESS 2006
Switzerland	ESS 2006	ESS 2006	ESS 2006
Turkey	ESS 2004	ESS 2004	ESS 2004
United States	ALL 2003	ISSP 2004	ISSP 2004

ALL = Adult Literacy and Lifeskills Survey

ESS = European Social Survey

ISSP = International Social Survey Programme

WVS = World Values Survey