

KILM 11. Unemployment by educational attainment

Introduction

This indicator focuses on unemployment among workers categorized by their level of educational attainment. Specifically, the indicator is the percentage distribution of a country's total unemployed according to five levels of schooling – less than one year, less than primary level, primary level, secondary level, and tertiary level. Information for the indicator is given in table 11 for 119 economies, to some extent. Coverage for the indicator is sparse for Africa and the Middle East and many countries of Asia & the Pacific are missing as well. For a minority of the countries presented, observations for one year only have been obtained; for most, however, several years are shown.

Use of the indicator

This indicator can provide important insights into the relationship between the educational attainment of workers and unemployment in different countries. This allows researchers to discern a key characteristic of a country's or region's unemployed labour force and, in so doing, assists in identifying the likelihood of different groups of workers experiencing unemployment. The information in the indicator may also be used to draw inferences relating to changes in employment demand. By focusing on the education characteristics of the unemployed, the KILM 11 indicator can aid in analyses designed to shed light on how significant long-term events in the country, such as ongoing skill-based technological change, increased trade openness or shifts in the sectoral structure of the economy, alter the experience of high- and low-skilled workers in the labour market.

The information provided can have important implications for both employment and education policy. If it is confirmed that persons with low education levels are at a higher risk of becoming unemployed, the political reaction may be either to seek to increase their education level or to create more low-skill occupations within the country. Alternatively, a higher share of unemployment among persons with higher education could indicate a lack of sufficient professional and high-level technical jobs. In many countries, qualified jobseekers are being forced to accept employment below their skill level. Where the supply of qualified workers outpaces the increase in the number of professional and technical employment opportunities, high levels of skills-related underemployment (see the manuscript for KILM 12 for more information) are inevitable. A possible consequence of the presence of highly educated unemployed in a country is the "brain drain", whereby educated professionals migrate in order to find employment in other areas of the world.

An important policy question is whether unemployment by educational attainment affects women and men differently. A substantially higher level of women's unemployment at any education level could be a reflection of discrimination in the labour market, or of a mismatch between skills required and those supplied (which a measure of educational attainment alone cannot reveal). On the other hand, it could mean that married women, protected by the spouse's earnings, can afford to be choosier in searching for a job. Research has shown, however, that women with higher education generally have more labour market opportunities than women with less education so that the opportunity costs for them of withdrawing from the labour force or undertaking an extensive job search is higher.

Definitions and sources

Table 11 presents information on educational attainment based on the following categories of schooling – less than one year, less than primary level, primary level, secondary level, and tertiary level. The table shows the proportions of total unemployed in each educational attainment category. With few exceptions, the indicator includes distributions for males and females.

The international definition of those counted as unemployed is all persons above a specified age who have no job and are currently available for and seeking work.¹ The categories of educational attainment used in the indicator are conceptually based on the ten levels of the International Standard Classification of Education (ISCED). ISCED was designed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in the early 1970s to serve as an instrument suitable for assembling, compiling and presenting comparable indicators and statistics of education both within countries and internationally. The original version of ISCED (ISCED-76) classified educational programmes by their content along two main axes: levels of education and fields of education. The cross-classification variables were maintained in the revised ISCED-97, however, the rules and criteria for allocating programmes to a level of education were clarified and tightened and the fields of education were further elaborated.²

1. Resolution concerning statistics of the economically active population, employment, unemployment, and underemployment, adopted by the 13th International Conference of Labour Statisticians, October 1982; website: <http://www.ilo.org/public/english/bureau/stat/download/res/ecacpop.pdf>. The official ILO definition of unemployment is repeated in box 8a in the manuscript of KILM 8.

2. For further details about ISCED see UNESCO: *International Standard Classification of Education/ISCED 1997* (Paris, 1998); website: <http://uis.unesco.org>. The 1997 document can be

Most countries continue to classify education levels according to the levels of ISCED-76, but countries are gradually beginning to progress to the nine levels and ten subcategories of ISCED-97. Both ISCED revisions are shown in Appendix D, but the main education levels are also summarized in the table below.

The major attainment levels used in the KILM 11 indicator are primary, secondary and tertiary education. Primary education aims to provide the basic elements of education (for example, at elementary or primary school and middle or lower secondary school) and corresponds to ISCED levels 1 and 2. Curricula are designed to give students a sound basic education in reading, writing and arithmetic, along with an elementary understanding of other subjects, such as history, geography, natural science, social science, art, music and, in some cases, religious instruction. Some vocational programmes, often associated with relatively unskilled jobs, as well as apprenticeship programmes that require further education, are also included. Students generally begin primary education at 5 to 7 years of age and end at 13 to 15 years. Literacy programmes for adults are also classified under primary education.

Secondary education is provided at high schools, teacher-training schools at this level, and schools of a vocational or technical nature. General education continues to be an important constituent of the curricula, but separate subject presentation and more specialization are found. Secondary education consists of ISCED levels 3 and 4 (level 3 only in ISCED-76), which students generally begin between 13 and 15 years of age and finish between 17 and 18 years. It should be noted that the KILM classifications of primary and secondary education differ from the classifications used in UNESCO publications, in which level 2 is termed “lower secondary education”.

downloaded at:

http://portal.unesco.org/uis/TEMPLATE/pdf/isced/ISCED_A.pdf.

Education classifications used in KILM table 11

KILM Level	ISCED-97 Level	ISCED-76 Level	Description
Less than one year	X: No schooling	X: No schooling	Less than one year of schooling
Pre-primary	0: Pre-primary education	0: Education preceding the first level	Education delivered in kindergartens, nursery schools or infant classes
Primary	1: Primary education or first stage of basic education	1: First level	Programmes are designed to give students a sound basic education in reading, writing and arithmetic. Students are generally 5-7 years old. Might also include adult literacy programmes.
	2: Lower secondary or second stage of basic education	2: Second level, first stage	Continuation of basic education, but with the introduction of more specialized subject matter. The end of this level often coincides with the end of compulsory education where it exists. Also includes vocational programmes designed to train for specific occupations as well as apprenticeship programmes for skilled trades.
Secondary	3: Upper secondary education	3: Second level, second stage	Completion of basic level education, often with classes specializing in one subject. Admission usually restricted to students who have completed the 8-9 years of basic education or whose basic education and vocational experience indicate an ability to handle the subject matter of that level.
	4: Post-secondary non-tertiary education		Captures programmes that straddle the boundary between upper-secondary and post-secondary education. Programmes of between six-months and two years typically serve to broaden the knowledge of participants who have successfully completed level 3 programmes.
Tertiary	5: First stage of tertiary education (not leading directly to an advanced research qualification); subdivided into:		
	5A	6: Third level, first stage leading to a first university degree	Programmes are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes. Duration is generally 3-5 years.
	5B	5: Third level, first stage, leading to an award not equivalent to a first university degree	Programmes are of a typically "practical" orientation designed to prepare students for particular vocational fields (high-level technicians, teachers, nurses, etc.).
	6: Second stage of tertiary education (leading to an advanced research qualification)	7: Third level, second stage	Programmes are devoted to advanced study and original research and typically require the submission of a thesis or dissertation.
Not definable		9: Education not definable by level	Programmes for which there are no entrance requirements.
Not stated	?: Level not stated	?: Level not stated	

Tertiary education is provided at universities, teacher-training colleges, higher professional schools and sometimes distance-learning institutions. It requires, as a minimum condition of admission, the successful completion of education at the secondary level or evidence of the attainment of an equivalent level of knowledge. It corresponds to ISCED levels 5, 6 and 7 (levels 5A, 5B and 6 in ISCED-97 and levels 5, 6 and 7 in ISCED-76).

In addition to primary, secondary and tertiary education, KILM 11 also covers three other categories of educational attainment which correspond to ISCED levels: less than one year of schooling (ISCED level X); less than primary (ISCED level 0); and education not defined by level (ISCED-76 level 9).

The information for KILM 11 on unemployment and educational attainment was obtained from the ILO *Yearbook of Labour Statistics*, the Caribbean Labour Statistics Dataset and the Labour Market Indicators Library. Information on unemployment and educational attainment is obtained through household surveys, official estimates, population censuses and employment office statistics.³

Limitations to comparability

A number of factors can limit the appropriateness of using the indicator for comparisons between countries or over time. First, it should be noted that all of the limitations to the international or historical

comparability of unemployment rates that have been raised in the KILM 8 and 9 sections on comparability apply to this indicator as well. These include issues of sources, collection methods, survey timing, sample sizes and coverage, and so on. Differences in definitions of unemployment and sources of unemployment data across countries are indicated in the notes to table 11.

A potential problem of comparability for this particular indicator, both internationally as well as historically, arises because of differences or changes in how individuals are assigned to education levels. Many countries have difficulty establishing links between their national classification and ISCED, especially with respect to technical or professional training programmes, short-term programmes and adult-oriented programmes (ranging around levels 3 and 5 of ISCED-76 and levels 3, 4 and 5 of ISCED-97). Another difficulty stems from the qualification of classification by level. While in some countries completion of an education level is required for a person to be classified as having attained that level of education, other countries may define the education level by the highest level attained, whether completed or not. It should also be noted that in a few countries ISCED levels are combined; for instance, levels 1 and 2 may refer to level 1 only (as in Poland, Slovakia and many countries in Latin America and the Caribbean) or to level 2 only (as in Australia, Azerbaijan and Estonia). It is necessary to pay close attention to the notes – specifically, the notes given in the column “Level note” – in order to ascertain the actual distribution of education levels before making comparisons.

Another issue of international comparability, affecting several countries in the European Union, originates from the way in which those who have received their highest level of education in apprenticeship systems are classified. The classification of apprenticeship in the “secondary level” – despite one or more years of study and training beyond the conventional length of secondary schooling in other countries – can lower the reported proportion of the unemployed labour force with tertiary education. This

3. Additional documentation regarding national practices in the collection of statistics is provided in ILO: *Sources and Methods: Labour Statistics*, Vol. 3: *Economically Active Population, Employment, Unemployment and Hours of Work (Household Surveys)*; Vol. 4: *Employment, Unemployment, Wages and Hours of Work (Administrative Records and Related Sources)*; and Vol. 5: *Total and Economically Active Population, Employment and Unemployment (Population Censuses)*. The *Sources and Methods* are available online at the country level on website: <http://laborsta.ilo.org>.

classification issue substantially holds down the tertiary education levels reported by Austria, for instance, where the participation of young people in the apprenticeship system is widespread.

Trends

There is no clear division between the likelihood of being unemployed according to educational attainment along development lines. The range of unemployed with primary education in the selected developed economies was between 19 per cent in the United States and 54 per cent in Spain; whereas the share of unemployed with primary education in the selected developing countries was even wider, ranging from 11 per cent in Ukraine to 64 per cent in Costa Rica. (See figure 11a.) Half of the countries had the highest share of unemployed with primary education. (Keep in mind that less than primary level is not included here so that the sum of shares may not total 100 per cent.). Only one country had the largest share of unemployed with tertiary-level education as opposed to primary and secondary: the United States. The lack of commonalities across regions or state of development suggests that labour market policies designed to assist the unemployed need to be tailored to the specific circumstances of countries.

The same countries shown in figure 11a are repeated in figures 11b and 11c in order to demonstrate how the differences in the incidence of unemployment are generally differences in the composition of the labour forces themselves. KILM 11 can be compared to KILM 14 on the size of the labour force by educational attainment in order to relate a given level of unemployment by educational attainment to the actual size of the labour force having that level of education and to gain a better understanding of how unemployment is distributed in the country. For example, take two countries – the United States (in figure 11b) and Croatia (in figure 11c) – that had almost 20 per cent of all unemployed with primary education in 2005. In Croatia, those

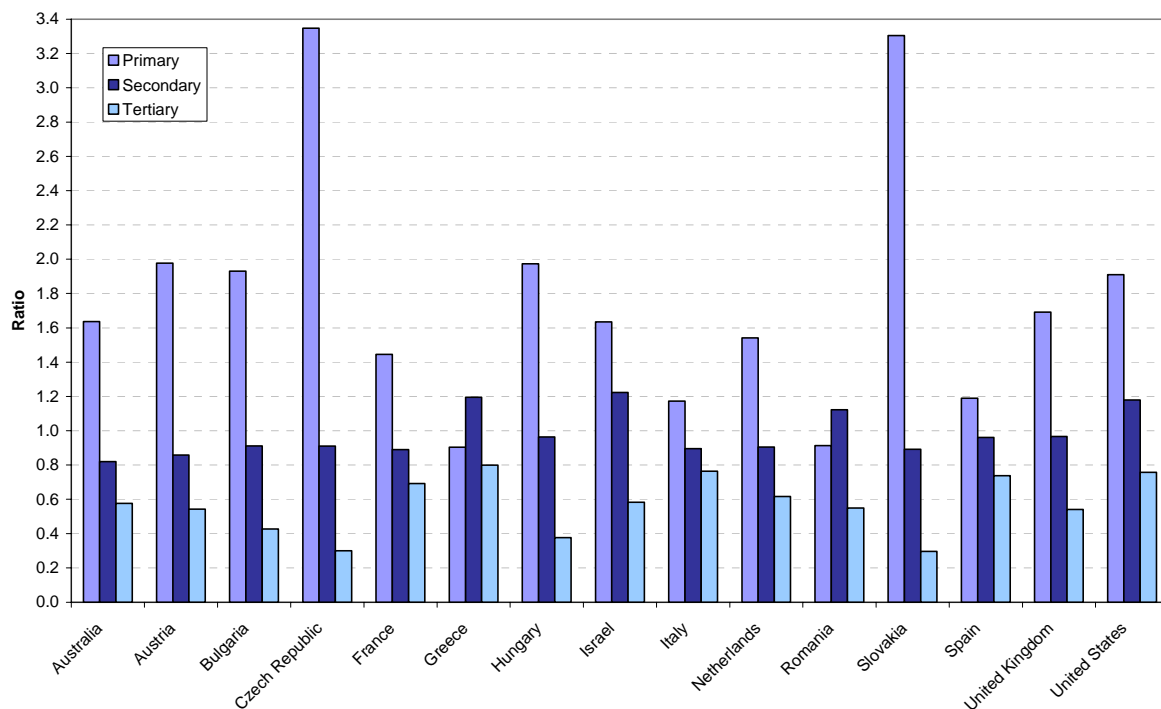
with only primary education accounted for about 20 per cent of the total labour force, whereas they accounted for just 10 per cent of the labour force in the United States. Therefore, in Croatia, the ratio between the share of unemployed with primary education to the share of the labour force with primary education was equal to 1.0. In comparison, it becomes evident that the labour force with primary education in the United States suffered from unemployment to a greater extent than the labour force with higher levels of education as reflected in the ratio of 1.9. In fact, the statement regarding the United States having the largest share of unemployed with tertiary-level education is misleading. The US labour force also had the largest share of its labour force with tertiary education in 2005 and the ratio between the share of unemployed with tertiary education to the share of the labour force with tertiary education was actually less than 1.

While diversity of country-specific circumstances prevails, some patterns emerge from using the KILM 11 and 14 indicators to analyse the distribution of unemployment by educational attainment. Comparing the unemployment share at a given level of educational attainment with that level's share of the labour force gives a ratio above, at, or below unity. A ratio below unity would imply that the population with the given education level is faring better in employment terms than its share of the labour force might imply. Figure 11b shows that the distribution of unemployment is more concentrated among the least educated, at least in the developed economies. In 2005, a person in the developed economies (with data available) with only primary education was usually at least three times as likely to be unemployed as a person with tertiary education. The likelihood was highest in the Czech Republic and Slovakia, where a person with only primary education was 11 times more likely to be unemployed than a person with tertiary education. A person with primary-level education was twice as likely to be unemployed than a person with a secondary-level education in half of the developed economies.

Figure 11a. Share of total unemployment by level of educational attainment in selected developed and developing economies, 2005

Developed economies				Developing economies			
	Primary	Secondary	Tertiary		Primary	Secondary	Tertiary
Australia	51.4	29.1	19.3	Argentina	40.3	39.8	18.4
Austria	35.2	55.0	9.6	Belize	52.7	17.4	5.3
Bulgaria	38.6	51.0	10.3	Costa Rica	64.0	20.5	12.0
Czech Republic	24.1	72.0	4.1	Croatia	18.5	72.6	9.0
France	40.6	39.4	18.7	Hong Kong, China	46.3	39.7	12.6
Greece	30.8	49.7	19.1	Iran, Islamic Republic of	41.8	34.7	19.6
Hungary	30.2	62.2	7.6	Korea, Republic of	17.4	53.2	29.4
Israel	20.6	48.7	25.9	Macau, China	62.7	15.7	8.8
Italy	48.1	39.4	10.7	Mauritius	48.6	44.9	5.4
Netherlands	40.7	39.1	17.9	Mexico	51.7	24.4	21.5
Romania	23.1	69.1	6.6	Morocco	51.1	22.4	21.6
Slovakia	27.1	68.3	4.5	Panama	31.7	38.4	29.1
Spain	53.9	22.1	23.1	Philippines	15.2	45.2	38.9
United Kingdom	36.7	46.1	16.2	Turkey	54.3	28.1	11.4
United States	19.1	35.5	45.4	Ukraine	10.9	53.2	35.8

Figure 11b. Ratio of share of unemployed to share of the labour force, by level of educational attainment, selected countries in the Developed Economies & European Union region, 2005



The pattern in figure 11b reflects the fact that demand for more highly educated and skilled workers has increased in developed economies while demand for workers with low education has decreased.

Figure 11c shows a different story for developing economies. In eight of the economies shown, it was the workforce with a secondary education that was the most likely to be unemployed, although never to a substantially larger degree than persons with primary education. At the same time, the demand for workers with higher education was strong in the majority of the countries, as

reflected in the ratios below unity for most countries, with the exceptions being in the Islamic Republic of Iran, Mexico, Morocco, Panama, the Philippines and Turkey. In Morocco, the job situation for persons with tertiary education looked particularly gloomy: In 2005, a person holding a tertiary degree was more than twice as likely to be unemployed as a person with primary education. The “educated unemployed” phenomenon is particularly worrisome to many countries of the Middle East and South Asia because of the potential consequences of skilled migration and political unrest.

Figure 11c. Ratio of share of unemployed to share of the labour force, by level of educational attainment, selected developing economies, 2005

