

# KILM 9. Total unemployment

## Introduction

The unemployment rate is probably the best-known labour market measure and certainly one of the most widely quoted by media in many countries as it is believed to reflect the lack of employment at national levels to the greatest and most meaningful extent. Together with the employment-to-population ratio (KILM 2), it provides the broadest indicator of the labour market situation in countries that collect information on the labour force. The KILM 9th edition complements national estimates with ILO estimates of unemployment rates. To supplement the stock indicator of unemployment with a more dynamic view of the labour market, KILM 9 also includes an indicator on unemployment flows, namely inflows into and outflows from unemployment.

National estimates on unemployment rates are available for a total of 215 economies in table 9b. Information on the number of unemployed persons is available for additional countries in both tables, but the lack of statistics on the labour force, the necessary denominator, prevents the calculation of the unemployment rate for them. ILO estimates on unemployment rates (table 9a) are harmonized to account for differences in national data and scope of coverage, collection and tabulation methodologies as well as for other country-specific factors such as differing national definitions.<sup>1</sup> Table 9a is based on available national estimates of unemployment rates and includes these reported rates as well as imputed data for 177 economies. ILO

<sup>1</sup> For further information on the methodology used to harmonize estimates, see Annex 4, “Note on global and regional estimates”, in ILO: *Global Employment Trends 2011* (Geneva, 2011); [http://www.ilo.org/global/publications/books/WCMS\\_150440/lang--en/index.htm](http://www.ilo.org/global/publications/books/WCMS_150440/lang--en/index.htm).

estimates on unemployment rates are national data, meaning there are no geographic limitations in coverage. This series of harmonized estimates serves as the basis of the ILO’s global and regional aggregates of the unemployment rates reported in the *World Employment and Social Outlook* series and made available in the KILM 9th edition as table R5. Estimates of unemployment flows (table 9c) are calculated on the basis of data on unemployment by duration. They can contribute to the better understanding of variations in unemployment which are the result of variations in the rate at which workers move from employment to unemployment and vice versa. Unemployment flows are available for 67 economies.

## Use of the indicator

The overall unemployment rate for a country is a widely used measure of its unutilized labour supply. If employment is taken as the desired situation for people in the the labour force (formerly known as economically active population), unemployment becomes the undesirable situation. Still, some short-term unemployment can be necessary for ensuring adjustment to economic fluctuations. Unemployment rates by specific groups, defined by age, sex, occupation or industry, are also useful in identifying groups of workers and sectors most vulnerable to joblessness.

While the unemployment rate may be considered the most informative labour market indicator reflecting the general performance of the labour market and the economy as a whole, it should not be interpreted as a measure of economic hardship or of well-being. When based on the internationally recommended

standards (outlined in more detail under “definitions and sources” below), the unemployment rate simply reflects the proportion of the labour force that does not have a job but is available and actively looking for work. It says nothing about the economic resources of unemployed workers or their family members. Its use should, therefore, be limited to serving as a measurement of the utilization of labour and an indication of the failure to find work. Other measures, including income-related indicators, would be needed to evaluate economic hardship.

An additional criticism of the aggregate unemployment measure is that it masks information on the composition of the jobless population and therefore misses out on the particularities of the education level, ethnic origin, socio-economic background, work experience, etc. of the unemployed. Moreover, the unemployment rate says nothing about the type of unemployment – whether it is cyclical and short-term or structural and long-term – which is a critical issue for policy-makers in the development of their policy responses, especially given that structural unemployment cannot be addressed by boosting market demand only.

Paradoxically, low unemployment rates may well disguise substantial poverty<sup>2</sup>, as high unemployment rates can occur in countries with significant economic development and low incidence of poverty. In countries without a safety net of unemployment insurance and welfare benefits, many individuals, despite strong family solidarity, simply cannot afford to be unemployed. Instead, they must eke out a living as best they can, often in the informal economy or in informal work arrangements. In countries with well-developed social protection schemes or when savings or other means of support are available, workers can better afford to take the time to find more desirable jobs. Therefore, the problem in many developing countries is not so much unemployment but rather the lack of decent and productive work, which results in various

forms of labour underutilization (i.e. underemployment, low income, and low productivity).<sup>3</sup>

A useful purpose served by the unemployment rate in a country, when available on at least an annual basis, is the tracking of business cycles. When the rate is high, the country may be in recession (or worse), economic conditions may be bad, or the country somehow unable to provide jobs for the available workers. The goal, then, is to introduce policies and measures to bring the incidence of unemployment down to a more acceptable level. What that level is, or should be, has often been the source of considerable discussion, as many consider that there is a point below which an unemployment rate cannot fall without the occurrence of intense inflationary pressures. Because of this supposed trade-off, the unemployment rate is closely tracked over time.

The usual policy goal of governments, employers and trade unions is to have a rate that is as low as possible yet also consistent with other economic and social policy objectives, such as low inflation and a sustainable balance-of-payments situation. When using the unemployment rate as a gauge for tracking cyclical developments, we are interested in looking at changes in the measure over time. In that context, the precise definition of unemployment used (whether a country-specific definition or one based on the internationally recommended standards) does

<sup>3</sup> Readers interested in the broader topic of labour underutilization should refer to ILO, “Beyond unemployment: Measurement of other forms of labour underutilization”, Room Document 13, 18th International Conference of Labour Statisticians, Working group on Labour underutilization, Geneva, 24 November – 5 December 2008;

[http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/WCMS\\_100652/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/WCMS_100652/lang--en/index.htm) or ILO, “Report and proposed resolution of the committee on work statistics”, 19th International Conference of Labour Statisticians, Committee on Work Statistics, Geneva, 2 November – 11 November 2013; [http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS\\_223719/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS_223719/lang--en/index.htm)

<sup>2</sup> Information relating to poverty, working poverty and inequality is provided in KILM 17.

not matter nearly as much – so long as it remains unchanged – as the fact that the statistics are collected and disseminated with regularity, so that measures of change are available for study.

Internationally, the unemployment rate is frequently used to compare how labour markets in specific countries differ from one another or how different regions of the world contrast in this regard. Unemployment rates may also be used to address issues of gender differences in labour force behaviour and outcomes. The unemployment rate has often been higher for women than for men. Possible explanations are numerous but difficult to quantify; women are more likely than men to exit and re-enter the labour force for family-related reasons; and there is a general “crowding” of women into fewer occupations than men so that women may find fewer opportunities for employment. Other gender inequalities outside the labour market, for example in access to education and training, also negatively affect how women fare in finding jobs.

The indicator on unemployment flows (table 9c) included in the KILM 9th edition provides estimates of the inflows into and outflows from unemployment in order to uncover the adjustment dynamics of unemployment that are underlying net changes in unemployment rates. The data series intend to improve the understanding of varying unemployment rates across time and countries.

Unemployment rates alone often do not reveal the full picture of the labour market situation in an economy as they do not say much about the driving forces behind variations in unemployment. In particular, changes in unemployment rates result from the net effect of flows into unemployment and flows out of unemployment. Both flow margins can be affected by different factors that may vary over the course of the business cycle or follow longer term trends. In order to allow for a more detailed analysis of these dynamics, the inflows into and outflows from unemployment are constructed in an attempt to shift from a simple stock approach to an

understanding of the variation in unemployment as the variation in the rate at which workers move from one labour market state to another. More specifically, the flow approach illustrates how quickly workers transition from employment into unemployment (inflow) and unemployment into employment (outflow). The estimated inflow and outflow rates that are shown in table 9c are directly related to the probability that an employed worker becomes unemployed (inflow) and the probability that an unemployed worker finds a job (outflow). These measures provide an essential tool to target labour market policies more specifically at certain groups of the labour market or to adjust them according to which aspect of the unemployment dynamics dominate in a particular situation.

It can be very insightful to track the behaviour of inflows and outflows during economic up- and downturns, or to use flow measures in forecasting the unemployment rate. Moreover, an analysis of unemployment flows together with other labour market indicators can be useful to better understand labour market distress and develop policy recommendations. For a deeper understanding of fluctuations in unemployment, it is essential to understand fluctuations in the transition rate from employment to unemployment and vice versa.<sup>4</sup>

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### Definitions and sources

The unemployment rate is defined mathematically as the ratio resulting from dividing the total number of unemployed (for a country or a specific group of workers) by the corresponding labour force, which itself is the sum of the total persons employed and unemployed in the group. It should be

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<sup>4</sup> For a detailed analysis of factors influencing labour flows and their consequences for unemployment dynamics see, e.g., Ernst, E. and Rani, U.: “Understanding unemployment flows”, *Oxford Review of Economic Policy Making*, Vol. 27, No. 2, pp. 268-294 (Oxford, 2011).

emphasized that it is the labour force (formerly known as the economically active population) that serves as the base for this statistic, not the total population. This distinction is not necessarily well understood by the public. Indeed, the terms “labour force” and “employment” are sometimes mistakenly used interchangeably.

According to the *Resolution concerning statistics of work, employment and labour underutilization* adopted in 2013 by the 19<sup>th</sup> International Conference of Labour Statisticians (ICLS), the standard definition of unemployment refers to all those persons of working age who are without work, seeking work (carried out activities to seek employment during a recent past period), and currently available for work<sup>5</sup> (see box 9). Future starters, that is, persons who did not look for work but have a future labour market stake (made arrangements for a future job start) are also counted as unemployed.

In many national contexts there may be persons not currently in the labour market who want to work but do not actively “seek” work because they view job opportunities as limited, or because they have restricted labour mobility, or face discrimination, or structural, social or cultural barriers. The exclusion of people who want to work but are not seeking work (in the past often called the “hidden unemployed”, which also included persons formerly known as “discouraged workers”) is a criterion that will affect the count of both women and men although women may have a higher probability of being excluded from the count of unemployed because they suffer more from social barriers overall that impede them from meeting this criterion.

Another factor leading to exclusion from the unemployment count concerns the criterion

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<sup>5</sup> Resolution concerning statistics of work, employment and labour underutilization, 19<sup>th</sup> International Conference of Labour Statisticians, Geneva, 2013);

[http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS\\_230304/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_230304/lang--en/index.htm).

that workers be available for work during the short reference period. A short availability period tends to exclude those who would need to make personal arrangements before starting work, such as for care of children or elderly relatives or other household affairs, even if they are “available for work” soon after the short reference period. As women are often responsible for household affairs and care, they are a significant part of this group and would therefore not be included in measured unemployment. Various countries have acknowledged this coverage problem and have extended the “availability” period to the two (or more) weeks following the reference period. Even then, women – more than men – tend to be excluded from unemployment, probably because this period is still not sufficiently long to compensate for constraints that are more likely to affect them.

With a view to overcoming these limitations of the concept of unemployment, and in order to acknowledge the two population groups mentioned above (persons without work but either not available or not actively seeking work), the 19<sup>th</sup> ICLS resolution introduced the concept of the “potential labour force”. This potential labour force comprises “unavailable jobseekers”, defined as persons who sought employment even though they were not available, but would become available in the near future, and “available potential jobseekers”, defined as persons who did not seek employment but wanted it and were available. Thus, persons without work formerly included in the “relaxed definition” of unemployment are now comprised in the potential labour force. The 19<sup>th</sup> ICLS resolution also identifies a particular group within the available potential jobseekers, the “discouraged jobseekers”, made up of those persons available for work but who did not seek employment for labour market-related reasons (such as the past failure to find a suitable job or the lack of experience).<sup>6</sup>

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<sup>6</sup> For more details on the potential labour force and the changes to the definition in unemployment, please refer to the ILO, “Report III - Report of the Conference”, 19<sup>th</sup> International Conference of Labour Statisticians, Geneva, 2– 11 October 2013;

Household labour force surveys are generally the most comprehensive and comparable sources for unemployment statistics. Other possible sources include population censuses and official estimates. Administrative records such as employment office records and social insurance statistics are also sources of unemployment statistics; however, coverage in such sources is limited to “registered unemployed” only. A national count of either unemployed persons or work applicants that are registered at employment offices is likely to be only a limited subset of the total number of persons seeking and available for work, especially in countries where the system of employment offices is not extensive. This may be because of eligibility requirements that exclude those who have never worked or have not worked recently, or to other discriminatory impediments that preclude going to register.

On the other hand, administrative records can overstate registered unemployment because of double-counting, failure to remove people from the registers when they are no longer looking for a job, or because it allows inclusion of persons who have done some work. Due to these measurement limitations, national unemployment data based on the registered unemployed should be treated with care; registered unemployment data can serve as a useful proxy for the extent of persons without work in countries where data on total unemployment are not available. Time-series of registered unemployment data by country can serve as a good indication of labour market performance over time, but due to the limitation in comparability to “total unemployment”, the two measures should not be used interchangeably. Table 9a and 9b provide data on total unemployment only.

The indicator on unemployment flows (table 9c) is calculated based on data on unemployment by duration (see KILM 11 on long-term unemployment) and quarterly

unemployment rates. In cases in which quarterly unemployment rates are not available, annual unemployment rates are used (as indicated in the column “use of annual data for unemployment rates” of table 9c). Data to compute unemployment flows (unemployment by duration, unemployment rates and labour force) are taken from labour force or household surveys.

Unemployment flows in table 9c are displayed as alternative estimates of monthly transition rates from employment to unemployment (inflow) and vice versa (outflow). The different estimates of inflow and outflow rates are calculated on the basis of data on unemployment spells of different durations, namely less than one month, less than three months, less than six months, and less than twelve months. The estimates on the basis of unemployment with a duration of less than one month follow the methodology applied by Shimer (2012).<sup>7</sup>

The table also contains weighted flow rate estimates. Weights are calculated on the basis of the methodology proposed by Elsby et al. (2013) who use these weighted flow rate estimates in case of no evidence for duration dependence and flow rates calculated on the basis of unemployment with a duration of less than one month otherwise.<sup>8</sup> The column “result of test for no duration dependence” indicates the result of the test to determine which flow rate estimate to choose, following Elsby et al. (2013).

For countries for which the hypothesis of “no duration dependence” is rejected, Elsby et al. (2013) follow the approach of Shimer (2012) and use flow estimates that are calculated on the basis of unemployment with a duration of less than one month. For countries for which the above hypothesis is not rejected, the weighted estimate is preferred.

<sup>7</sup> For more details, see Shimer, R.: “Reassessing the ins and outs of unemployment”, *Review of Economic Dynamics*, Vol. 15, No. 2, pp. 127-148 (2012).

<sup>8</sup> See Elsby, M.; Hobijn, B.; Sahin, A.: “Unemployment dynamics in the OECD”, *Review of Economics and Statistics*, Vol. 95, No. 2, pp. 530-548 (2013).

## Limitations to comparability

A significant amount of research has been carried out over the years in producing unemployment rates that are fully consistent conceptually, in order to contrast unemployment rates of different countries for different hypotheses. Interested users can compare the series of “ILO-comparable” unemployment estimates<sup>10</sup> with the information shown in table 9b. In a few cases the adjusted rates are the same as those found in table 9b; elsewhere they are quite different as the information in table 9b may be obtained from multiple sources, while the adjusted “ILO-comparable” rates are always based on a household labour force sample survey.

There are a host of reasons why measured unemployment rates may not be comparable between countries. A few are provided below, to give users some indication of the range of potential issues that are relevant when attempting to determine the degree of comparability for unemployment rates between countries. Users with knowledge of particular countries or special circumstances should be able to expand on them:

1. **Different sources.** To the extent that sources of information differ, so will the results. Comparability difficulties resulting from the difference between sources measuring registered unemployment and total unemployment have been removed by separating the two and only including total unemployment. The remaining

sources in KILM 9 – labour force surveys, official estimates and population censuses – can still pose issues of comparability in cross-country analyses. Official estimates are generally based on information from different sources and can be combined in many different ways. A population census generally cannot probe deeply into labour force activity status. The resulting unemployment estimates may, therefore, differ substantially (either upwards or downwards) from those obtained from household surveys where more questions are asked to determine respondents’ labour market situation. For more information regarding sources, users may also refer to the discussion of the pros and cons of various sources in the corresponding section of KILM 1 (labour force participation rates).

2. **Measurement difference.** Where the information is based on household surveys or population censuses, differences in the questionnaires can lead to different statistics – even allowing for full adherence to ILO guidelines. In other words, differences in the measurement tool can affect the comparability of labour force results across countries.
3. **Conceptual variation.** National statistical offices, even when basing themselves on the ILO conceptual guidelines, may not follow the strictest measurement of employment and unemployment. They may differ in their choices concerning the conceptual basis for estimating unemployment, as in specific instances where the guidelines prior to the 19<sup>th</sup> ICLS resolution used to allow for a relaxed definition, thereby causing the labour force estimates (the base for the unemployment rate) to differ. They may also choose to derive the unemployment rate from the civilian labour force rather than the total labour force. To the extent to which such choices vary across countries, so too will the statistics displayed in KILM 9.
4. **Number of observations per year (reference period).** Statistics for any given year can differ depending on the

<sup>10</sup> The “ILO-comparable” unemployment rates are national labour force survey estimates that have been adjusted to make them conceptually consistent with the *strictest* application of the ILO statistical standards. The unemployment rates obtained are based on the total labour force including the armed forces. For more information regarding the methodology, see Lepper, F.: *Comparable annual employment and unemployment estimates*, Department of Statistics Paper, ILO (Geneva, 2004); [http://www.ilo.org/global/statistics-and-databases/WCMS\\_087893/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/WCMS_087893/lang--en/index.htm).

number of observations – monthly, quarterly, once or twice a year, and so on. Among other things, a considerable degree of seasonality can influence the results when the full year is not covered.

5. **Geographic coverage.** Survey coverage that is less than national coverage – urban areas, city, regional – has obvious limitations to comparability to the extent that coverage is not representative of the country as a whole.<sup>11</sup> Unemployment in urban areas may tend to be higher than total unemployment because of the exclusion of the rural areas where workers are likely to work, although they may be underemployed or unpaid family workers, rather than seek work in a non-existent or small formal sector.
6. **Age variation.** The generally used age coverage is 15 years and over, but some countries use a different lower limit or impose an upper age-limit.
7. **Collection methodology.** Sample sizes, sample selection procedures, sampling frames, and coverage, as well as many other statistical issues associated with data collection, may make a significant difference. The better the sample size and coverage, the better the results. Use of well-trained interviewers, proper collection and processing techniques, adequate estimation procedures, etc. are crucial for accurate results. Wide variations in this regard can clearly affect the comparability of the unemployment statistics.

When viewing the unemployment rate as a gauge for tracking cyclical developments within a country, one would be interested in looking at changes in the measure over time. In this context, the definition of unemployment used (whether a country-specific definition or one based on the internationally recommended standards) does

<sup>11</sup> When performing queries on this table and others, users have the option to omit records that are of sub-national geographic coverage. On the software, this can be done by performing the query for all data and then refining the parameters to select “national only” under “Geographic coverage”.

not matter as much – so long as it remains unchanged – as the fact that the statistics are collected and disseminated with regularity, so that measures of change are available for study. Still, for users making cross-country comparisons it will be critical to know the source of the data and the conceptual basis for the estimates. It is also important to recognize that minor differences in the resulting statistics may not represent significant real differences.

Two examples of substantial difference in household surveys may be useful for understanding some of the complexities of optimal comparisons. The first concerns “job search”. The ILO conceptual framework assumes that persons looking for work must indicate one or more “active” methods – such as applying directly to employers or visiting an employment exchange office – in order to be counted as unemployed. Among the potential methods is the consultation of “newspaper advertisements”. In many parts of the world, this may not be a common or readily available means. In others, newspapers are an excellent source of information about potential jobs, and many jobseekers do indeed consult them. However, some countries accept the mere reading or looking at advertisements as a search method, whereas others require that persons actually answer one or more advertisement before the newspaper search is counted as an acceptable method. The issue comes down to whether the “passive” versus the “active” search is allowed, and countries vary in their approach to this.<sup>12</sup>

The second example relates to “discouraged jobseekers”: persons who are not currently looking for work but may have looked in the past and clearly desire a job “now” (see “definitions and sources” above).

<sup>12</sup> The proposed resolution of the committee on work statistics extended on the “activities to seek employment” and includes examples of such activities. For more details, see ILO, “Report and proposed resolution of the committee on work statistics”, 19<sup>th</sup> International Conference of Labour Statisticians, Committee on Work Statistics, Geneva, 2 November – 11 November 2013; [http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS\\_223719/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS_223719/lang--en/index.htm).

Most surveys do not include them among the unemployed (as indicated by the ILO definition of unemployment), but some do. Users wishing to account for such a definitional difference would need to obtain relevant information (perhaps at the “micro” level) in order to adjust for differences in unemployment rates.

The above two examples illustrate aspects of conceptual variation and measurement difference. The degree of complexity of these and other differences in the measurement and estimation of unemployment that can occur around the world serve as a reminder that great care should be taken in any attempt to draw exacting comparisons.

**Box 9. Resolution concerning statistics of work, employment and labour underutilization, adopted by the 19<sup>th</sup> International Conference of Labour Statisticians, October 2013 [relevant paragraphs]**

**Concepts and definitions**

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*Unemployment (para. 47-48)*

1. Persons in unemployment are defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity, where:
  - a. “not in employment” is assessed with respect to the short reference period for the measurement of employment;
  - b. to “seek employment” refers to any activity when carried out, during a specified recent period comprising the last four weeks or one month, for the purpose of finding a job or setting up a business or agricultural undertaking. This includes also part-time, informal, temporary, seasonal or casual employment, within the national territory or abroad. Examples of such activities are
    - i. arranging for financial resources, applying for permits, licences;
    - ii. looking for land, premises, machinery, supplies, farming inputs;
    - iii. seeking the assistance of friends, relatives or other types of intermediaries;
    - iv. registering with or contacting public or private employment services;
    - v. applying to employers directly, checking at worksites, farms, factory gates, markets or other assembly places;
    - vi. placing or answering newspaper or online job advertisements;
    - vii. placing or updating résumés on professional or social networking sites online;
  - c. the point when the enterprise starts to exist should be used to distinguish between search activities aimed at setting up a business and the work activity itself, as evidenced by the enterprise’s registration to operate or by when financial resources become available, the necessary infrastructure or materials are in place or the first client or order is received, depending on the context;
  - d. “currently available” serves as a test of readiness to start a job in the present, assessed with respect to a short reference period comprising that used to measure employment:
    - i. depending on national circumstances, the reference period may be extended to include a short subsequent period not exceeding two weeks in total, so as to ensure adequate coverage of unemployment situations among different population groups.
2. Included in unemployment are:
  - a. future starters defined as persons “not in employment” and “currently available” who did not “seek employment”, as specified above, because they had already made arrangements to start a job within a short subsequent period, set according to the general length of waiting time for starting a new job in the national context but generally not greater than three months;

- b. participants in skills training or retraining schemes within employment promotion programmes, who on that basis, were "not in employment", not "currently available" and did not "seek employment" because they had a job offer to start within a short subsequent period generally not greater than three months;
- c. persons "not in employment" who carried out activities to migrate abroad in order to work for pay or profit but who were still waiting for the opportunity to leave..