Unemployment Compensation in a Worldwide Recession

by

Dr. Wayne Vroman
The Urban Institute
wvroman@urban.org
and
Dr. Vera Brusentsev
The University of Delaware
brusentv@udel.edu

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Introduction

A major worldwide recession is underway and its depth as of June 2009 is not certain. The April 2009 International Monetary Fund (IMF) forecast of real GDP growth for countries in its World Economic Outlook data base projected negative growth in 2009 for 165 of 182 countries.[1] Ten of the 17 countries with positive projected real GDP growth this year were from either Sub-Saharan Africa or were Pacific Island nations. The present recession is affecting all regions of the planet.

In January 2009 the ILO published an analysis suggesting an increase in global unemployment for the year could be as large as 40 million persons, increasing from 190 million to 230 million.[2] As 2009 continues to unfold, it is clear that an increase larger than 40 million is possible during 2009–2010.

The present paper draws upon a multi-country data base to make estimates of the replacement of unemployment-related earnings losses by cash benefit paid by unemployment compensation (UC) programs. The analysis utilizes an accounting framework developed by the authors previously[3] to assess earnings loss replacement in individual countries, eight major global regions and worldwide.

The paper reaches three major conclusions. (1) UC replaces 0.12 of the earnings loss caused by unemployment in countries with UC programs, and, of course, less worldwide because many countries do not have UC. (2) Earnings loss replacement is highest in the countries of Western Europe and Scandinavia, in the 0.40-0.45 range, and lowest in three regions: North Africa and the Middle East, Sub-Saharan Africa and Central America and the Caribbean where it is uniformly less than 0.04. (3) Low replacement of earnings losses among the unemployed reflects the combined effects of three factors: limited prevalence of UC programs (present in just 66 of the 150 countries examined here), low recipiency rates in countries with UC, and low replacement rates among UC recipients. To increase the extent of wage loss replacement all three factors would need to be increased.

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[1] See the web site http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/weorept.aspx.
[2] See Table S2 in ILO, "Global Employment Trends," (Geneva: ILO, January 2009).
[3] Wayne Vroman and Vera Brusentsev, *Unemployment Compensation Throughout the World*, (Kalamazoo, MI: W.E. Upjohn Institute, 2005).

Labor Force Surveys and UC Programs

The starting point for assessing UC effectiveness is to know the level of unemployment, necessary for measuring the recipiency rate (UC recipients a proportion of unemployment). From the universe of all independent countries, this paper is restricted to countries with populations of 1.0 million or more. These 150 large countries account for 99 percent of the world's population.[4]

These countries fall into eight major regions. The regions and associated counts of countries appear in table 1. Seven of the eight regions are defined by the geographic proximity of constituent countries. The exception is the OECD-20 group which has 20 high-income countries that belong to the Organization for Economic Cooperation and Development (OECD). Sixteen of the OECD-20 are from the European continent or near-by (the United Kingdom and Ireland) while two are from North America (Canada and the United States) and two are from the Pacific rim (Australia and New Zealand).

Table 1. Counts of Countries with Labor Force Surveys and UC Programs in 2009

Region	Number of Countries	Ever with LF Surveys	Ongoing L F Surveys	UC Programs	UC Benefit Data
OECD-20	20	20	20	20	20
Cent. and East. Europe	12	12	10	12	10
Former Soviet Union	16	13	11	15	9
East and South Asia	22	15	13	7	6
N. Africa and Mid-East	17	12	9	5	4
Sub-Saharan Africa	42	11	3	2	2
South America	10	10	10	5	4
Cent. America and Carib.	11	10	10	0	0
Total	150	103	86	66	55

Source: Data assembled by the authors

[4] All 150 countries are included in the IMF World Economic Outlook database.

The other geographic aggregations are largely self-explanatory. The countries from Central and Eastern Europe (CEE) and the Former Soviet Union (FSU) include 12 of the present 14 from the CEE area and 16 from within the FSU border.[5]

Over two-thirds of the 150 countries systematically measure employment and unemployment. Ongoing labor force surveys are used most typically, but some countries assess employment and unemployment using a census or as part of a household expenditure survey or make an "official" estimate. These alternatives can also generate useful data on employment, unemployment and (less frequently) under-employment, hours worked per week and hourly (or weekly) earnings.

The definitions of employment and unemployment are reasonably standardized while under-employment is less standardized. Employment is typically defined as paid work of at least one hour during the survey reference period (usually the past week or month) while unemployment usually has three elements: able to work, available for work and actively seeking work. Under-employment may encompass work of fewer hours than customary or preferred and/or work below the skill level for which the person was trained. The present paper focus just upon unemployment, meaning it does not fully address all aspects of economic hardship.[6]

Note in Table 1 that over two-thirds of these "large" countries (103) use some type of survey to assess unemployment. However, a smaller number (86) conduct ongoing labor force measurements that permit tracking of short-term changes in employment and unemployment, especially important in a period like 2008–2009.

Table 1 indicates that 66 of the 150 countries have a UC program in 2009. UC programs are practically universal for three country groupings: OECD-20, CEE and FSU. Tajikistan is the single country from these 48 that does not have UC. In contrast, just 2 of 42 from Sub-Saharan Africa and none from Central America and the Caribbean have UC.

Data on program performance is not readily obtained for all countries with UC. Information on benefit payments has been assembled for 55 of the 66. On average, the

[5] Within the CEE area Montenegro is excluded because it has a population below 1.0 million and Kosovo is excluded due to the recency of independence and the absence of relevant data. The FSU group includes the three Baltic republics and Mongolia. Also excluded from this analysis are Cuba, North Korea, Timor-Leste and the West Bank and Gaza.

[6] Such a measure would consider underemployed and discouraged workers (persons who have stopped searching from a belief that no jobs are unavailable) as well as the unemployed.

countries with UC programs have large populations. The 66 represent 44 percent of the 150 countries, but their combined population totals 3,402 million or 51 percent of the 150-country total of 6,632 million. The population of the 55 countries with UC benefit data totaled 3,220 million or 49 percent of the 150-country total and 95 percent of the 66-country total.

Table 2 provides regional details on total population, and the coverage of labor force surveys and UC programs. Columns (1) and (2) focus on population totals by region while columns (3) to (5) show the percentages of each region's population that resides in countries where an LFS and UC programs are present. For most countries, the LFS and UC data refer to 2007, but earlier years are used where 2007 data were not available. Note that columns (3) to (5) display percentages where 100 percent means that all the population of a given region resides in countries where an LFS and/or UC programs are present. The percentages do not inform as to the coverage within individual countries of the existing LFS and UC programs. In some countries, the LFS is conducted just in urban areas, e.g., China, Ecuador and Peru.

Table 2. Coverage of Labor Force Surveys and UC Programs in 2007

Region	Population (1)	World population share (%) (2)	Ongoing LFS coverage % of (1) (3)	UC program coverage % of (1) (4)	UC perfor-mance data % of (1) (5)
OECD-20	765	11.5	100.0	100.0	100.0
Cent. and East Europe	118	1.8	94.0	100.0	94.0
Former Soviet Union	286	4.3	82.6	97.6	75.3
East and South Asia	3,681	55.5	60.3	45.8	43.4
N. Africa and Mid-East	426	6.4	78.5	56.1	53.6
Sub-Saharan Africa	803	12.1	6.4	6.2	6.2
South America	382	5.8	100.0	69.3	65.8
Cent. America and Carib.	171	2.6	94.4	NA	NA
Total	6,632	100.0	64.3	51.3	48.6

Source: IMF "International Financial Statistics, Statistical Yearbook 2008"
Notes: Population in column (1) in millions. NA = Not applicable as there is no UC program in the region.

One feature that stands out in table 2 is the large size of Asia's population. Its 3,681 million people were 55.5 percent of the global total. Six of the 11 countries with a population of 100 million or more in 2007 are from this region. China (1,329 million) and India (1,169 million) are individually more populous than each of the other seven regions in Table 2. That China has both an LFS and a UC program while India has neither are the most important two factors in determining worldwide LFS and UC coverage. The absence of UC from all eleven countries of the Central America-Caribbean region is much less important since its total population was just 171 million in 2007.

The 103 countries with survey-based labor force and unemployment measurement have a total population of 4,690 million or 71 percent of the world's population while the 86 with ongoing labor force surveys have a total population of 4,262 million or 64 percent of the worldwide total. Column (3) in Table 2 shows the population coverage percentages by region of the 86 with ongoing labor force surveys. In six of eight regions population coverage exceeds 75 percent and in four it exceeds 90 percent. The lower percentage for East and South Asia (60.3) reflects the absence of an ongoing LFS in India. Support of an ongoing LFS is rare in Sub-Saharan Africa where just three countries (Botswana, Mauritius, and South Africa) conduct ongoing surveys, and their combined population is just 6.4 percent of the region's total.

Columns (4) and (5) respectively summarize regional population totals for the 66 countries with UC and the 55 with UC performance data. None of the 11 from the Central America-Caribbean region have UC and just two from Sub-Saharan Africa (Mauritius and South Africa) have UC. The low UC coverage percentage in East and South Asia is strongly influenced by the absence of UC in India. The worldwide population shares represented by these groups of 66 and 55 countries are respectively 51 and 49 percent.

UC Recipiency Rates and Replacement Rates

Table A1 in appendix A of a companion paper displays data for each of the 150 countries that comprise the sample of large countries examined in this paper.[7] For each country there can be three types of entries: 1) population in 2007, 2) labor force, unemployment

[7] Wayne Vroman and Vera Brusentsev, "The Role of Unemployment Compensation in the Worldwide Recession of 2009" (Washington, D.C.: The Urban Institute, 2009).

and unemployment rate in 2007 (or a nearby year) and 3) data on UC recipiency rates (UC recipients as a ratio to total unemployment) and replacement rates (average weekly benefits as a fraction of average weekly wages). The product of the recipiency rate and the replacement rate is a generosity index or G. Under certain assumptions, G shows the share of lost earnings caused by full unemployment that is replaced by UC benefits.[8] Countries and regions with higher indices are more effective in cushioning the income of families and individuals.

Appendix table A1 of the companion paper also displays four sets of 0-1 dummy variables. Two identify countries with an LFS and with an ongoing LFS and two identify countries with UC and with UC performance data. These dummy variables identify the countries that enter the regional totals to be discussed below. While some countries with UC do not support an LFS, e.g., Belarus, all with UC performance data do support an ongoing LFS. The population estimates in Table 2 and the statistics in Tables 3 (below) are based upon aggregations of countries as identified by these dummy variables.

The same appendix table A1 shows estimates of the labor force and unemployment for all 103 countries with an LFS and the 86 with an ongoing LFS. The former group has a combined labor force of 1,674 million in 2007 and total unemployment of 105.8 million. The unemployment rate for this group was 6.3 percent in 2007. The analogous statistics for the 86 countries with an ongoing LFS are a labor force of 1,521 million, unemployment of 98.0 million and an unemployment rate of 6.4 percent. Extending these estimates to all 150 countries might suggest worldwide unemployment of 150 million in 2007.[9]

This preceding estimate of 150 million unemployed is not offered as a "hard" estimate but simply as an extrapolation based upon data from countries with an LFS as identified here. Abstracting from the exact level of unemployment, it is clear that high unemployment in 2008, 2009 and 2010 will cause very large earnings losses. How well will UC programs perform in cushioning these losses?

[8] The most important assumption is that the unemployed have weekly earnings equal to that of covered workers. To the extent that UC recipients have below-average earnings, the computed replacement rate and the generosity index will understate the extent of wage-loss replacement. The generosity index also abstracts from differences in the tax treatment of earnings and UC benefits.

[9] This crude calculation simply divides the 105.8 million estimate of unemployment in 2007 by the world population share of the 103 countries of 70.7 percent.

Table 3 provides a regional and global summary of earnings loss replacement from UC programs. In making the estimates, three assumptions were used: (1) UC performance in the recession will equal performance in 2007, (2) country-specific recipiency rates and replacement rates were weighted by the level of unemployment in 2007 (shown in appendix A of the companion paper) to yield regional estimates, and (3) countries with UC programs but no data on UC recipiency rates and replacement rates have the same performance characteristics as the average of those from the region reporting UC data.[10] It should be noted that in each of seven regions, the population of the countries reporting UC data represented at least 75.0 percent of the population of all countries in the region with UC programs.[11] The aggregate population of the 55 countries with UC data was 3,220 million or 94.7 percent of the combined population of 3,402 million in the 66 countries with UC.

Table 3. Earnings Loss Replacement by Major Region, Countries with UC Programs

Region	Total unem-ployment (1)	UC benefi-ciaries (2)	UC ben./ unemp. = (2)/(1) (3)	Replace-ment rate (4)	UC gen-erosity = (3)*(4) (5)
OECD-20	22,321	14,159	0.634	0.378	0.240
Cent. And East Europe	5,009	964	0.192	0.294	0.057
Former Soviet Union	7,688	1,685	0.219	0.152	0.033
East and South Asia	13,672	5,623	0.411	0.180	0.074
N. Africa and Mid-East	7,952	257	0.032	0.489	0.016
Sub-Saharan Africa	4,188	101	0.024	0.226	0.005
South America	11,407	2,461	0.216	0.480	0.104
Cent. America and Carib.	NA	NA	NA	NA	NA
Total	72,236	25,250	0.354	0.329	0.117

Source: Data assembled by authors. Country-level data appear in table A1 of appendix A of Vroman and Brusentsev (2009).
Notes: Unemployment and UC beneficiaries in thousands. NA = Not applicable as there is no UC program in the region.

[10] This assumption probably biases the estimates upward. One plausible reason for not reporting performance data is poor performance, i.e., low recipiency rates and low replacement rates.
[11] The lowest reporting-countries-to-all-countries-with-UC population percentage was 77.5 in FSU countries where only 9 of 15 reported UC data. The percentage in all other regions was at least 94.0.

The average UC recipiency rate across all regions is 0.354 and the replacement rate is 0.329 (columns 3 and 4 in table 3). Roughly one-third of the unemployed receive UC benefits and their payment is about one-third of average earnings. The product of the recipiency rate and the replacement rate yields a ratio of benefit payments to earnings loss of 0.117 (column 5). On average, across the 66 large countries with UC programs, 11.7 percent of earnings loss is compensated.

The regional details in table 3 show that the OECD-20 countries replace by far the highest share of earnings losses. The generosity coefficient of 0.240 is more than twice the coefficient of any other major region. The average recipiency rate in these countries of 0.634 is nearly twice the overall average. While the OECD-20 replacement rate of 0.378 is also above-average, it is only 15 percent higher than the all-country average of 0.329. High recipiency among unemployed workers is the main reason for above-average UC generosity in the OECD-20 countries.

Across the other regions, recipiency rates are much lower than in the OECD-20. The Asian countries with UC have an above-average recipiency rate at 0.411. Of the six Asian countries reporting UC data, China dominates the aggregate measures. Its recipiency rate was estimated to be 0.519 in 2003, the year used in the calculations. Unlike the other 54 countries with reported data, the data from China are not from the national statistical agency but from a World Bank research project that secured data from provincial sources.[12] China is the only other country besides the United States where UC administrative decision making has an important sub-national component. Chinese provinces, like states in the United States, play a large role in determining UC statutory provisions related to eligibility and payment levels.

Because the data are not official, it seemed prudent to exclude the Chinese data to note the effect on the results. When the Chinese data are removed from the calculation, the average recipiency rate in Asia decreases to 0.202 but the replacement rate increases to 0.354. Because these changes are largely offsetting, the generosity index is 0.072 under the second calculation, nearly identical to the 0.074 shown in Table 3.

Three regions in table 3 show very low recipiency rates: zero for Central America and the Caribbean, 0.032 for North Africa-Middle East, and 0.024 for Sub-Saharan

[12] The data were gathered and summarized by Dr. Vivien Chen.

Africa. The North Africa-Middle East average is based on four countries, but for three (Egypt, Iran, and Turkey) the recipiency rate falls below 0.06. While Israel has a higher recipiency rate (0.237), it is too small to noticeably raise the overall regional average. The Sub-Saharan Africa average is based on just two countries (South Africa and Mauritius), and both have a recipiency rate below 0.03.

Three other regions have intermediate recipiency rate averages, that is, close to 0.20. Roughly one in five is compensated in the CEE, FSU and South American countries with UC programs. Appendix table A1 in our companion paper shows that the averages in table 3 mask considerable diversity at the level of individual countries even from these three regions. Relatively high recipiency characterize the Czech Republic, Hungary, and Romania from the CEE region while very low recipiency is observed in Armenia, Azerbaijan, Georgia, and Moldova from the FSU region and in Argentina.

The average recipiency rate of 0.634 for the OECD-20 countries also masks wide diversity across individual countries. Scandinavian and Western European countries have overall average recipiency rates of 0.898 and 0.990 respectively while the English-speaking countries have an average of 0.386. Within the latter group of six, the United States has by far the lowest recipiency rate (0.311) while the average for the other five is 0.543. This is but one example of the exceptionalism of the United States in the realm of social protection.

Table 3 also shows wide variation across regions in UC replacement rates (average benefits as a ratio to average earnings). The above-average replacement rate for the OECD-20 has already been noted. Even higher averages are observed for North Africa and the Middle East and for South America. In South America, the high replacement rate offsets a below-average recipiency rate sufficiently to bring the generosity index close to the all-country average, that is, 0.104 versus 0.117. In all other regions the generosity index falls considerably below 0.100. For countries in the FSU, North Africa, the Middle East, and Sub-Saharan Africa, less than 4 percent of unemployment-related earnings loss is compensated by UC programs.

UC and Country Income Levels

The preceding analysis can be repeated to emphasize contrasts in earnings loss protection for countries arranged by income levels rather than by geographic groupings. Table 4 displays selected details about UC programs in a format where the data base of 150 countries has been sorted into ten income deciles, each with 15 countries. Besides showing information for each income decile and all-country totals and averages, the table displays details for the top two and bottom two deciles. Columns 1 and 2 show respectively counts of countries with UC programs and the share of the population in countries with UC. Columns 3, 4, and 5 then display information on recipiency rates, replacement rates and UC generosity for the indicated aggregations of countries.

Table 4. UC Coverage and Generosity: Countries Grouped by Income in 2005

Income decile	Countries with UC program (1)	Population with UC coverage (2)	UC recipiency rate (3)	UC replacement rate (4)	UC gener-osity (5)
1	15	1.000	0.520	0.346	0.180
2	12	0.962	0.666	0.424	0.282
3	11	0.830	0.088	0.284	0.025
4	11	0.813	0.185	0.364	0.067
5	5	0.882	0.450	0.153	0.069
6	6	0.224	0.042	0.402	0.017
7	3	0.062	0.307	0.179	0.055
8	3	0.092	0.219	0.152	0.033
9	0	0.000	0.000	0.000	0.000
10	0	0.000	0.000	0.000	0.000
All 10 deciles	66	0.513	0.354	0.329	0.117
Deciles 1 & 2	27	0.989	0.568	0.376	0.213
Deciles 9 & 10	0	0.000	0.000	0.000	0.000

Source: Data assembled by authors. Country-level data appear in table A1 of appendix A in Vroman and Brusentsev (2009).

Table 4 vividly illustrates that UC is present mainly in high-income countries, 27 of the top 30, but not in a single country from the bottom 30. UC coverage exceeds 80 percent of the population for the top five income deciles but falls consistently below 10

percent of the population for the four lowest income deciles. Recipiency rates and replacement rates are generally highest for high-income countries. As a result, earnings loss replaced by UC benefits is 18.0 and 28.2 percent respectively for the two top income deciles but consistently less than 6 percent across the five of the lowest income deciles.[13] In fact, only 12 of the 75 countries from the five lowest deciles even have a UC program.

The fact that UC programs are uncommon in low-income countries partially reflects different patterns of labor underutilization in these countries. Open unemployment is less prevalent than underemployment. Many of the underemployed are working but at jobs that do not generate much income. UC recipients are more typically fully unemployed, looking for work and using UC benefits to partially defray living expenses. UC programs largely operate in labor markets where labor underutilization mainly takes the form of open unemployment. Hence, to assess the extent of earnings loss protection across the full income spectrum of countries, one would have to consider temporary employment programs and other interventions. The implied scope for such an analysis is much broader than attempted in this short paper.

Summary

Four findings of this paper are noteworthy. First, while about half of the world's population resides in countries with UC programs, UC provides only a modest degree of wage loss replacement for unemployed residents of these countries. The aggregate estimate was 11.7 percent. In six of the eight major regions of the world, the replacement of earnings losses from unemployment was noticeably less than 10 percent. The unemployed in these regions must rely mainly upon personal savings, support from the extended family and other coping mechanisms and upon other public programs for income support when unemployment occurs.

Second, the level of earnings loss protection in the OECD-20 countries was more than twice that of any other region, 0.240 versus the second-highest ratio of 0.104 in South America. At the low-end of the distribution, earnings loss protection fell below

[13] Recall that 11 of the 66 countries with UC programs do not report performance data. For these countries, the recipiency rates, replacement rates and generosity indices used in table 4 are the regional averages for countries from their region that report performance data. This procedure probably exaggerates the degree of wage loss replacement in the 11 countries, hence the averages for deciles 4 through 8 in table 4.

0.04 in four regions: FSU, North Africa and the Middle East, Sub-Saharan Africa and Central America and the Caribbean. None of the eleven countries from the latter region have UC.

Third, within each region, individual countries vary quite widely in the degree of earnings loss protection which they provide through UC. Appendix Table A1 of our companion paper[14] provides details on the extent of this country-by-country variability for 55 countries where data were available.

Finally, UC programs are most effective in compensating unemployment-related earnings losses in countries with high incomes (as measured by per-capita real GDP). Earnings loss protection is roughly 0.21 for countries in the two highest income deciles, but consistently less than 0.06 for countries in the five lowest income deciles. Since UC programs are completely absent in the two lowest income deciles, they provide no wage loss protection in these 30 countries.

[14] Vroman and Brusentsev, "Role of Unemployment Compensation."