

An International Comparison of Lifetime Inequality: How Continental Europe Resembles North America

Research Brief No. 4

Summary

Is earnings inequality in North America as high as previous research has suggested? And how does North America compare to Europe? Previous studies on this topic have found a higher level of earnings inequality in North America than in Continental Europe. However, these studies have focused largely on earnings in a single year. In their forthcoming study on earnings inequality, authors Audra Bowlus and Jean-Marc Robin develop a new methodology for investigating and comparing earnings inequality in North America and Europe.

The methodology developed by Bowlus and Robin constructs a measure of lifetime earnings in order to compare lifetime earnings inequality across countries. By focusing on lifetime earnings, the authors find that earnings inequality is smaller in North America than single-year earnings comparisons would suggest. In fact, due to cross-country differences in how earnings change over an individual's lifetime, there may be no difference in lifetime earnings inequality between North America and Europe.

Key Findings

- Bowlus and Robin confirm previously reported differences in current earnings inequality across countries. When considering current-year earnings alone, the U.S. and Canada display the highest level of earnings inequality. High earners (90th percentile) in the U.S. receive nearly 5 times the earnings of low earners (10th percentile). In Canada, high earners receive 4 times the earnings of low earners. Current-year earnings inequality is lower in France and Germany, where high earners receive just over 2.5 times the amount that low earners do.
- Using their new methodology, Bowlus and Robin find that lifetime earnings inequality is smaller than current earnings inequality in the U.S., Canada, and the U.K. In fact, lifetime earnings inequality in these countries may be no different from France and Germany. The new methodology suggests that high lifetime earners may receive only 2.4-2.8 times the lifetime earnings of low lifetime earners in each of the five countries.
- Differences between current earnings inequality and lifetime earnings inequality are due in large part to "earnings mobility." Earnings mobility represents the potential for variation, both upward and downward, in an individual's earnings over time. Results indicate that the U.S., which has the highest current-year earnings inequality, also displays the highest earnings mobility. Likewise, France displays the lowest current earnings inequality, but the lowest earnings mobility. The finding of cross-country differences in earnings mobility highlights the importance of using lifetime earnings rather than single-year earnings for measuring earnings inequality.
- Differences between estimates of current earnings inequality and lifetime earnings inequality also stem from the exclusion of "employment risk" (i.e., the risk that an individual may endure a spell of unemployment). Accounting for employment risk, estimates of lifetime earnings inequality are reduced in North American countries, but increased in Continental Europe, narrowing the inequality gap between the five countries analyzed. The differing impact of employment risk on lifetime earnings inequality in each country likely arises from differences in labour market regulations in North America compared to Continental Europe.





An International Comparison of Lifetime Inequality

Background

Researchers, policy makers, and the media have long been interested in issues of economic equality and fairness. In its *Global Risks 2011* report, the World Economic Forum identified economic disparity, including income inequality within countries, as one of the greatest economic risks facing the world in the next decade.

In an attempt to quantify inequality within a country, many studies have relied on earnings data from a single year. However, if single-year earnings inequality differs from the long-run pattern, then incorrect conclusions may be drawn about the degree of inequality that actually exists and the policies that might reduce it.

Prior Research

While many researchers aim to investigate lifetime earnings inequality, such an investigation typically requires large datasets in which the same sample of individuals is tracked over a period of many years.

Additionally, in order to make meaningful cross-country comparisons, data for each country should represent the same time period. This adds to the difficulty in finding the necessary data to perform such an analysis. As a result, many researchers have instead relied on an analysis of current earnings inequality.

Even those studies that focus on lifetime earnings fail to account for important influences on an individual's earnings.

First, they treat all variation in earnings as relating to the individual. However, some earnings variation comes as countries move through the business cycle (recessions and economic expansions). This is particularly problematic when trying to compare inequality across countries, as recessions and expansions do not always occur at the same time or have the same effects in each country.

Second, most research on lifetime earnings inequality still does not include employment risk in the analysis.

Key Contributions and Objectives

- The authors develop a statistical method to compute lifetime earnings measures using relatively short panel datasets.
- The reduced data requirements of the methodology allow for analysis and comparison of lifetime earnings inequality across more countries.
- The authors isolate changes in earnings related exclusively to business cycles. The impact of business cycles can then be reduced or even eliminated from the analysis. This allows the authors to focus on individual earnings variation in the absence of business cycle effects.
- The authors note that variation in an individual's earnings over time may depend on whether they are a high earner or a low earner. For example, a low earner should be more likely to see earnings increase than decrease. Incorporating "non-symmetric" earnings changes results in a more accurate picture of lifetime earnings inequality.
- The new methodology allows for the inclusion of employment risk in the model. To the extent that labour protection regulation leads to differences in unemployment patterns within and across countries, the inclusion of employment risk leads to a more accurate picture of lifetime earnings inequality.

Data Sources

The study focuses on earnings patterns within five countries in the late 1990s. Panel datasets, which include data on the same sample of individuals collected periodically over several years, are required. The datasets used are as follows.

- Canada: Survey of Labour and Income Dynamics, 1996-2001
- France: French Labor Force Survey, 1997-1999
- Germany: German Socio-Economic Panel, 1995-2001
- U.K.: The British Household Panel Survey, 1995-2001
- U.S.: Survey of Income and Program Participation, 1996-1999



An International Comparison of Lifetime Inequality

Analysis and Results

The authors estimate a statistical model of earnings and employment risk. Using this statistical model, they simulate lifetime earnings paths for each individual. This simulation incorporates country-specific characteristics such as differences in average retirement age and unemployment insurance systems.

Earnings of high earners (90th percentile) are divided by earnings of low earners (10th percentile) as a measure of earnings inequality. This analysis is conducted using current-year earnings and simulated lifetime earnings in order to analyze differences between the prior approach to measuring inequality and the new methodology.

Homogeneous Model	U.S.	Canada	U.K.	France	Germany
Base-Year Earnings	4.88	4.02	3.20	2.55	2.66
Earnings Mobility Only	2.67	2.51	2.28	2.23	2.17
Employment Mobility Only	4.76	3.73	3.45	3.12	3.24
Lifetime Values (Full Mobility)	2.76	2.65	2.40	2.65	2.63

Base-year earnings comparisons confirm previous findings that current earnings inequality is higher in North America than in Continental Europe, with the U.K. falling in between.

In 1998, high earners in the U.S. received 4.88 times the earnings of low earners. France showed a much lower current earnings inequality in that year, when high earners received only 2.55 times the earnings of low earners.

[These results are for males only. The same analysis was performed for females. Estimates of current earnings inequality were higher for females than for males, but cross-country rankings were similar.]

The lifetime inequality picture looks much different. When earnings mobility and employment risk are taken into account, all five countries show a similar level of lifetime earnings inequality.

The U.S. is still the most unequal, with high earners receiving 2.76 times the income of low earners. However, this is only slightly higher than Canada, France, and Germany, where high earners receive approximately 2.65 times the income of low earners.

[These results are based on a lower bound of the lifetime earnings inequality estimate. The upper bound estimates still show some cross-country differences in lifetime earnings inequality, but these differences remain smaller than those suggested by current earnings inequality comparisons.]

The results indicate that earnings mobility lowers lifetime earnings inequality in all countries, as expected. However, the inclusion of employment risk decreases lifetime earnings inequality in the U.S., Canada, and the U.K., but increases it in France and Germany. When the two components are combined, the five countries look quite similar.



An International Comparison of Lifetime Inequality

Policy Implications

- The finding that lifetime earnings inequality differs from current earnings inequality has important policy implications. Policies aimed at closing the current earnings inequality gap may not reduce lifetime earnings inequality. In some cases, such policies may risk increasing lifetime earnings inequality. This suggests that policy makers should consider the balance between long-run and short-run inequality when evaluating policies aimed at reducing earnings inequality.
- The results of this study suggest that employment risk impacts lifetime earnings differently in different countries. Spells of unemployment are more likely but shorter in North American countries than in France and Germany due to differing employment regulations and unemployment insurance programs. Employment policies in Continental Europe disproportionately protect high earners, increasing lifetime earnings inequality in those countries. Policy changes aimed at increasing the exit rate out of unemployment or reducing employment regulation may reduce lifetime earnings inequality.
- Disparity in education levels also increases lifetime earnings inequality within countries. Policies requiring or incentivizing increases in minimum education levels for individuals within countries may reduce lifetime earnings inequality.

References

World Economic Forum (2011). *Global Risks 2011*, Sixth Edition. <http://riskreport.weforum.org/>

About the study

“An International Comparison of Lifetime Inequality: How Continental Europe Resembles North America” is forthcoming in the *Journal of the European Economic Association*. This paper was written by Audra Bowlus, Ph.D., University of Western Ontario, and Jean-Marc Robin, Ph.D., Sciences Po and University College London.

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The analysis was carried out at the University of Western Ontario Research Data Centre. The Research Data Centre program is part of an initiative by Statistics Canada, the Social Sciences and Humanities Research Council, the Canadian Institutes of Health Research and university consortia to strengthen Canada’s social research capacity.

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