Understanding Determinants of the US-Europe Wage Gap for Low-Skilled Workers
DeAndre Johnson¹, Muskan Jha², Jonathan Gruber³
¹Program in Public Policy, Stanford University,
²Department of Economics, Reed College,
³Department of Economics, Massachusetts Institute of Technology

Background and Motivation

- Labor market polarization is the trend of growth in low-skilled and high-skilled jobs, but decline in middle-skilled jobs in developed economies like the United States, United Kingdom, and Germany.
- This trend is contributing to income inequality as wages for high-skilled workers increase substantially, and access to middle-skill jobs (which pay higher than low-skilled jobs) declines.
- While minimum wages in Europe have gone up over the last few years, they have stagnated in the United States.
  - How are these trends reflected in the distribution of earnings and occupations in the US and Europe?
  - How do economy-wide distributions of earnings and occupations determine the extent of inequality and overall average monthly earnings?
- Hypotheses:
  - The United States has a wider distribution (higher variance) on monthly earnings because of stagnant minimum wages in the US.
  - European workforce composition paired with US level of earnings means a higher overall average monthly earnings.

Graphical Analysis

- All occupations grouped into 9 categories.
- For each country, the number of people employed across the 9 occupations classification is reported.
- From this we can construct a 9 element vector of job composition for the entire country.
- For each of those occupations, average monthly earnings is also reported.
- We can construct earnings vectors from this data for each country.
- By multiplying a given country’s vectors, we find average monthly earnings for the whole country.
- The data allows us to:
  - Calculate variance on each country’s average monthly earnings.
  - Answer what if the US had European job composition?
  - Answer what if the US had European earnings?
  - Understand differences in labor force composition.

Data

- Replacing US job composition with European job composition does not make average earnings for the US higher, but replacing US earnings with European earnings does. This suggests that the wage distribution in the United States contributes more to lower overall wages in the US.
- The United States has a lower variance on average monthly earnings. This result suggests that low-skilled workers in the United States actually make closer to the highest skilled workers in the United States than low-skilled workers in Europe make to the highest skilled workers in Europe. Alternatively, the data does not account for after-tax income or non-wage earnings.
- There is significant country-to-country variation in wage and occupation distribution.
- Managers make up a greater share of the labor force in the United States than in Europe, but managers make more in Europe in absolute and relative terms.

Further Research

- Decomposition of the wage differential between low-skilled workers in the United States and Western Europe.
  - How much of the difference is due to higher minimum wages in Europe, and how much of the difference is due to differences in upward career mobility?
  - To perform the above analysis, further work must be done to measure mobility in a consistent way across countries.
  - This is data intensive.
- Not a detailed enough analysis to look only at aggregated earnings data.
  - The present exploration does not take into account after-tax income or non-wage earnings.

Takeaways

- Replacing US job composition with European job composition does not make average earnings for the US higher, but replacing US earnings with European earnings does. This suggests that the wage distribution in the United States contributes more to lower overall wages in the US.
- The United States has a lower variance on average monthly earnings. This result suggests that low-skilled workers in the United States actually make closer to the highest skilled workers in the United States than low-skilled workers in Europe make to the highest skilled workers in Europe. Alternatively, the data does not account for after-tax income or non-wage earnings.
- There is significant country-to-country variation in wage and occupation distribution.
- Managers make up a greater share of the labor force in the United States than in Europe, but managers make more in Europe in absolute and relative terms.

References and Acknowledgements

I am grateful to Ruchita Coomar, Benvin Lozada, Eunice Beato, and Muskan Jha for their support in the development of this presentation.

Scan this QR code to view references for this project.