Lifetime earnings inequality in Germany

Timm Bönke1, Giacomo Corneo1,2 and Holger Lüthen1,3


Motivation
We document for the first time level, structure and development of intragenerational lifetime earnings inequality for West German men. Questions of interest:

(1) What is the magnitude of lifetime inequality in Germany?
(2) How is lifetime inequality related to cross sectional inequality?
(3) How do cohort-specific inequality and mobility develop over the life cycle?
(4) Is the lifetime inequality of current workers different from those of their (statistical) parents?

Life-cycle inequality
Inequality and mobility over the life-cycle: Gini of annual earnings are u-shaped

Rank correlation of annual and lifetime earnings: Mobility is high only at the beginning of the life-cycle

Lifetime inequality
UAX earnings: Present value of earnings up to a certain age X.
Main findings:
(1) Gini of lifetime earnings (up to age 60) fluctuate between 0.15 - 0.22, and are increasing.
(2) The Gini of earnings up to 40 allow for comparisons between generations, e.g., those born in 1935 to those born in 1963. The inequality for earnings up to age 40 increases by about 85%.

Results hold for annual earnings as well and are not counteracted by rising mobility.

Results for 50th / 15th and 85th / 50th ratio of UAX earnings reveal that the rise mainly occurred between 0.15 - 0.22.

Determinants
Labor market status in month up to age 40 (sorted by the quartile of UA-40 earnings):
Times of unemployment and non-employment rose strongly across generations for the lowest quartile.

Imputing the last wage for times of unemployment/non-employment suggests that 20-40% of the rise is caused by an increase in unemployment.

Conclusion
(1) Gini of lifetime earnings for men fluctuate between 0.15 - 0.22.
(2) Lifetime inequality amounts to 2/3 of cross sectional inequality.
(3) Mobility is high at the beginning of the life cycle and low after age 40.
(4) There are neither short-term nor long-term changes in mobility.
(5) Lifetime inequality is rising: Western German men born in the 1960s face about 80% more lifetime inequality than their statistical parents. Inequality is rising for women, too.
(6) Longer unemployment spells of workers at the bottom of the distribution accounts for 30 to 40 percent of this increase.

Data
Data basis: Insurance account sample 2002 - 2009 (process generated administrative data).
Precise monthly information: (Un-)employment, sickness, earnings, education...
Observations: Per sample about 240,000 insurance accounts. Insurants aged between 30 and 67 in the reference years.
Sample:
Further excluded: Fragmentary biographies
(2) Social security earnings/market value of labor between the age of 17 and 60.
(3) Number of observations: Between 1000 and 2000 per cohort and sex

Methodology
Construction of lifetime earnings:
(1) Present values of earnings up to a certain age, discounted to age 17.
(2) Discount factors: Federal Bonds and CPI.
Methods:
(1) Inequality: Gini, percentile ratios
(2) Mobility: (Rank-) correlation, age-earnings-profiles
(3) Dismantling trends: Counterfactual analysis, Gini-decomposition

Further Information
The paper can be found as CEPR DP9829 or at:
www.wiwiss.fu-berlin.de/fachbereich/vwl/boenke/forschung/publikationen/index.html

There is also an appendix providing more details.

Cooperation partners: