Discussion of “The Growing Longevity Gap between Rich and Poor...”, by Bosworth, Burtless and Gianattasio

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Stanford University, Palo Alto
1. Do the rich live longer?

• True in many and perhaps most countries.

• But income can be used to promote health or to fund behaviors bad for health – smoking, obesity, excessive alcohol. Costa Rica.

• Are differentials widening? Very few studies.
  • Chile – yes, widening
  • OECD report of widening differentials in many countries.
2. Data issues and challenges

We observe only a section of a generation’s life

Very substantial projection is needed to get these results.

<table>
<thead>
<tr>
<th>Birth Year</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>93</td>
<td>83</td>
</tr>
<tr>
<td>1940</td>
<td>28</td>
<td>19</td>
</tr>
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No one born in 1940 has yet reached age 75 within observation period ending 2012 (as authors point out).

For females, less than one fifth of the cohort has died by 2012 (worst case). For top decile 1940 women, only 13% died by 2012 (I estimate).

To calculate life expectancy at age 50 and related statistics needed to assess the effect of lifetime benefits, a great deal of projection is required.

The implied mortality trajectories for the total population should be compared to Social Security cohort mortality projections to make sure they are reasonable.

Relative to SSA cohort projections, BBG 1920 is about one year higher and BBG 1940 is two to three years higher.

BBG do not consider survival past 100, but at age 100 23% of women in the top income decile are still alive, and have 3.3 remaining years of life expectancy.
Comparison of mean projected cohort e50 to Bell&Miller SSA cohort projections

The agreement is very good for males. For females, agreement is less good.

<table>
<thead>
<tr>
<th>Birth Year</th>
<th>M</th>
<th>F</th>
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<tbody>
<tr>
<td>1920</td>
<td>1.24</td>
<td>3.14</td>
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<tr>
<td>1940</td>
<td>1.04</td>
<td>2.45</td>
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Related problem for longitudinal studies including NAS and Waldron: we see different segments of ages for different cohorts

Figure taken from report by Bosworth, Burtless and Zhang, 2016.

Given limitations of data sets, we observe mortality of earlier born cohorts when they are older, and of more recently born cohorts when they are younger.

Many analysts report that mortality differences by SES diminish at older ages. Alternative: apparent diminishing actually is increasing dispersion. Earlier born cohorts always were more equal.

Serious problem.

Many differences in approach

- Data source: SIPP vs HRS (full BBG study uses both HRS and SIPP)
- Birth years used for comparison: 1920 vs 1940; 1930 vs 1960.
- Definition of relative income: In many respects the measures are closely similar, because NAS specification was based on earlier Bosworth paper. However, also an impt diff:
  - Ratio to equivalized mean income in each birth year; income quintile for each birth year.
  - Point is you get degree of inequality in BBG spec, not in NAS.
- Statistical model:
  - Inc is continuous measure in BBG, categorical in NAS.
  - Interactions of Inc and Birth Year are also continuous in BBG, cat in NAS.
Comparison of BBG e50 gap between top and bttm inc quintile to NAS

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<thead>
<tr>
<th>Birth Year</th>
<th>M</th>
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<tbody>
<tr>
<td>1920 (1930)</td>
<td>4.2 (5.1)</td>
<td>3.3 (3.9)</td>
</tr>
<tr>
<td>1940 (1960)</td>
<td>9.8 (12.7)</td>
<td>8.6 (13.6)</td>
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</tbody>
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Increase per calendar year in $e_{50}$ gap between top and bttm quintiles

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<tr>
<th>Study</th>
<th>M</th>
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<tbody>
<tr>
<td>BBG</td>
<td>.28</td>
<td>.25</td>
</tr>
<tr>
<td>NAS</td>
<td>.27</td>
<td>.32</td>
</tr>
</tbody>
</table>
Comparison to NAS of changes in lifetime SS benefits gap between top and bottom income quintiles

Agreement is remarkable, given differences in birth years, data source, and methods.

Medicare and Medicaid from NAS take into account differences in health and health care utilization by income, which tend to offset longevity.

Comparison to NAS of inter cohort changes in BBG quintile income gaps in lifetime SS benefits, and more

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<tbody>
<tr>
<td>BBG SS</td>
<td>83,000</td>
<td>47,000</td>
</tr>
<tr>
<td>NAS SS</td>
<td>70,000</td>
<td>48,000</td>
</tr>
<tr>
<td>NAS All*</td>
<td>132,000</td>
<td>157,000</td>
</tr>
</tbody>
</table>

*NAS All = SS + Medicare + Medicaid
4. A disagreement about strategy and specification

- BBG include other variables in regression -- Race/ethnic, Education, Disability, Marital Status
- Do these belong in the equation? I believe they do not.
- For present purpose, what we want is the simple association of mortality with income, controlling only for age, birth year, sex.
- If lower income people tend to be black, have lower education, be disabled, and not married, we want all of that. We don’t want to hold these constant. We do not want to net these out.
5. Do widening income differentials drive widening mortality differentials by quantile?

• Analyses based on income quantiles (e.g. income quintiles or deciles) cannot ask or answer this question, because bottom 20% is always bottom 20%, whether inc distributions widens or converges.

• BBG use actual ratios of individual incomes to cohort mean income, and that measure does reflect how narrow or dispersed the inc distr.

• Why not use the estimated equation to ask how much of the widening in the mortality difference by income decile (as shown in Figure 4) is due to widening of the inc distribution btwn 1920 and 1940 birth cohorts, holding age and time fixed?
Outline

1. Do rich live longer?
2. Data issues and challenges
3. Remarkable agreement with NAS results
4. Narrowing differentials at older ages bias this and NAS analysis
5. Do widening income diffs drive widening mort diffs?
6. A disagreement about strategy and specification