Labor Force Participation of Older Women in Sweden

Haodong Qi, Stockholm University
Tommy Bengtsson, Lund University
AGENTA Final Conference, Vienna 2017
Why Older Women?

- Their labor supply behavior has been less understood, compared to older men.

- In the past, few women working at older age (e.g. at 65)

- But now...
Retirement Age by Gender, Sweden

Why retire later?

ATP to NDC (1994)

Men

Women

Note: Own Calculation using Swedish Income Register
NDC

Affected those born in 1938 and later

Cohort-specific treatment

1938: 20% NDC + 80% ATP
1939: 25% NDC + 75% ATP
...
1954: 100% NDC + 0% ATP
Changes in Pension from ATP to NDC

Qi et al., (2016)
Effects of Pension Change on Men’s Retirement Age

Qi et al., (2016)
Effects of Pension Change on Women’s Retirement Age

What drives the trend increase in women’s retirement age?

Qi et al., (2016)
Education and Old-Age LFP by Cohort, Sweden

What mechanism?
Direct vs Indirect Effect

- Direct (e.g. jobs are more fulfilling/exciting)

- Indirect (Heckman, 1973)

  Higher education (HC Endowment) increases earning capacity

  Higher earning increases labor supply (Inter-temporal Substitution Effect)
Education and Earning Capacity by Cohort, Sweden
Decomposing Direct and Indirect Effect of Education

\[ dW(i, c) = dB_W(c) + \beta_W(c)dX(i, c) + d\varepsilon_W(i, c) \]

\[ dL(i, c) = dB_L(c) + \beta_L(c)dX(i, c) + \gamma_L(c)dW(i, c) + d\varepsilon_L(i, c) \]

\[ dL(i, c) = dB(c) + \boxed{\beta_L(c)dX(i, c)} + \boxed{\gamma_L(c)\beta_W(c)dX(i, c)} + \gamma_L(c)d\varepsilon_W(i, c) + d\varepsilon_L(i, c) \]

Direct    Indirect
## Decomposition Results

Table 4: Effects of Rising Initial Human Capital Endowment on LFP

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct (Leisure Effect)</td>
<td>-0.003 (-2.8%)</td>
<td>-0.008 (-8%)</td>
</tr>
<tr>
<td>Indirect (Substitution Effect)</td>
<td>0.008 (7.4%)</td>
<td>0.020 (20%)</td>
</tr>
<tr>
<td>Net Effect</td>
<td>0.005 (4.6%)</td>
<td>0.012 (12%)</td>
</tr>
</tbody>
</table>

Note: percentage contribution to total change in LFP in parentheses.
Summary

- Older women’s LFP increased as much as older men
- But NOT due to reduced pension, rather due to increased earning
- Earning increase is partly driven by their human capital development

- Message:
  Keep Educate Yourself, a KEY to sustain/improve earning capacity

Haodong Qi
Stockholm University Demography Unit (SUDA)
Haodong.Qi@sociology.su.se