DISCUSSION OF:
“WHERE HAVE ALL THE WORKERS GONE?”

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Federal Reserve Bank of Boston
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OVERVIEW OF COMMENTS

1 Mechanical composition versus within age-sex changes.

2 Labor supply decision.

3 Prime-age workers.
   ▶ Heterogeneity within group important.
   ▶ Role of disability.
   ▶ Role of family structure.

4 Well-being.
AGE-SEX DEMOGRAPHIC COMPOSITION

Labor force participation rate (%)

- 2007: 66.0%
- 2008: 65.5%
- 2009: 65.0%
- 2010: 64.5%
- 2011: 64.0%
- 2012: 63.5%
- 2013: 63.0%
- 2014: 62.5%
- 2015: 62.0%
- 2016: 61.5%

Actual
**AGE-SEX DEMOGRAPHIC COMPOSITION**

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
<th>Using 2007 age-sex LFPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>66.0</td>
<td>66.0</td>
</tr>
<tr>
<td>2008</td>
<td>65.5</td>
<td>65.5</td>
</tr>
<tr>
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<td>65.0</td>
<td>65.0</td>
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<tr>
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<td>64.5</td>
<td>64.5</td>
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<tr>
<td>2011</td>
<td>64.0</td>
<td>64.0</td>
</tr>
<tr>
<td>2012</td>
<td>63.5</td>
<td>63.5</td>
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<tr>
<td>2013</td>
<td>63.0</td>
<td>63.0</td>
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<tr>
<td>2014</td>
<td>62.5</td>
<td>62.5</td>
</tr>
<tr>
<td>2015</td>
<td>62.0</td>
<td>62.0</td>
</tr>
<tr>
<td>2016</td>
<td>61.5</td>
<td>61.5</td>
</tr>
</tbody>
</table>
AGE-SEX DEMOGRAPHIC COMPOSITION

Labor force participation rate (%)

- Actual
- Using 2007 age-sex LFPR
- Using 1997-07 trend in age-sex LFPR

AGE-SEX DEMOGRAPHIC COMPOSITION

Labor force participation rate (%)

- Using 1997-07 trend in age-sex LFPR
- Using 2007 age-sex LFPR
- Trend except women 55-64
- Actual

[Graph showing labor force participation rate from 2007 to 2016]
**Female cohort effects**

![Chart showing labor force participation rate for women by age and birth year]

- 55-64 year old trend from 1997 to 2007 is 1941 versus 1951 cohort. Should not extrapolate to 1961 cohort.
AGE-SEX DEMOGRAPHIC COMPOSITION

Actual
Using 2007 age-sex LFPR
Using 1997-07 trend in age-sex LFPR
Trend except women 55-64

Labor force participation rate (%)
62.5 63.0 63.5 64.0 64.5 65.0 65.5 66.0 66.5
AGE-SEX DEMOGRAPHIC COMPOSITION

And except women 16-24

Actual

Using 2007 age-sex LFPR

Using 1997-07 trend in age-sex LFPR

Trend except women 55-64

Labor force participation rate (%)

ECONOMICS: STATIC FOC FOR PARTICIPATION

With no search costs, indivisible labor \( \ell \in \{0, 1\} \), separable period utility
\( u(c) - \phi \mathbb{1}\{\ell = 1\} \), no skill or asset accumulation, work if:

\[
\frac{\phi}{u'(c)} + b \leq (1 - \tau)w,
\]

\[
w = \mathcal{M}^{-1}MPL.
\]

- LFPR defined by individual who satisfies with equality.
- \( \phi \): Work painful (disability?) or leisure valuable (video games?).
- \( u'(c) \): Wealth effect (benign?).
- \( b \): Transfers (SSDI?).
- \( 1 - \tau \): Labor income taxes.
- \( \mathcal{M} \): Firm markup (lower labor bargaining power or minimum wage?).
- \( MPL \): Marginal product of labor (SBTC? disability?).
What are they doing and will they return?

<table>
<thead>
<tr>
<th>Male 35-54 pop. share (%)</th>
<th>NE hazard (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Want Job</td>
<td>1.2</td>
</tr>
<tr>
<td>School</td>
<td>0.4</td>
</tr>
<tr>
<td>Other</td>
<td>0.9</td>
</tr>
<tr>
<td>House</td>
<td>0.8</td>
</tr>
<tr>
<td>Retired</td>
<td>1.2</td>
</tr>
<tr>
<td>Disabled</td>
<td>5.3</td>
</tr>
<tr>
<td>Total NILF</td>
<td>9.8</td>
</tr>
</tbody>
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- Modest scope for tighter labor market to raise reemployment rates.
- Retired and disabled 44% of increase. Mostly permanent.
### What are they doing and will they return?

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<th>Male 25-34 pop. share (%)</th>
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<tr>
<td>Want Job</td>
<td>1.6</td>
<td>2.1</td>
</tr>
<tr>
<td>Other</td>
<td>1.0</td>
<td>1.4</td>
</tr>
<tr>
<td>House</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td>School</td>
<td>1.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Retired</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Disabled</td>
<td>2.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Total NILF</td>
<td>7.8</td>
<td>11.1</td>
</tr>
</tbody>
</table>

- Modest scope for tighter labor market to raise reemployment rates.
- School 35% of increase.
Role of Disability

\[
\frac{\phi_{\text{age}=a, \text{health}=h, \text{time}=t}}{u'(c_{a,h,t})} + b_{h,t} \leq (1 - \tau_{h,t}) N_t^{-1} MPL_{a,h,t}.
\]

- Distribution of \( h | a \): higher participation among 60+ suggests improving health.
- \( \phi_{a,h,t} \): Harder to work with disability? Seems unlikely: ADA, etc.
- \( MPL_{a,h,t} \): Productivity of disabled? Shift to services, non-manual work should have facilitated participation of moderately disabled.
- \( b_{h,t} \): DI benefits more generous (Autor and Duggan).
- Maestas, Mullen, Strand (2013), French, Song (2014), Autor, Maestas, Mullen, Strand (2013) quasi experimental evidence using administrator/judge assignment: at most about 1/4 to 1/2 of SSDI recipients would otherwise work.
Krueger evidence on health status

- 43% of prime-age men NILF report health as fair or poor.
- 34% say yes to at least one of six disabilities asked by CPS.
  - Useful to further restrict age – different for 45 year old than 30 year old.

- Prime-age male NILF (disabled) spend 1/2 (71%) of day in some pain. Pain rating higher for NILF.
- 44% of prime-age male NILF take some pain medication.
- Self-reporting: 93% of disabled NILF receiving income support say they would not otherwise work.
### ROLE OF DISABILITY

\[
\frac{\phi_{\text{age}=a,\text{health}=h,\text{time}=t}}{u'(c_{a,h,t})} + b_{h,t} \leq (1 - \tau_{h,t})M_t^{-1}MPL_{a,h,t}.
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- Distribution of \(h|a\): higher participation among 60+ suggests improving health.
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Married with children have highest LF attachment and smallest decrease.

Unmarried men have lowest LF attachment.
Shift toward family structures with lower male labor force attachment.
NOT IN LABOR FORCE BY FAMILY STRUCTURE

Women 35-44

Women 45-54

- Increase in out of labor force in past 20 years not concentrated among women with children.
# WELL-BEING ( "HOW DOES IT FEEL?"

Cantril ladder by spousal employment

<table>
<thead>
<tr>
<th>Spouse:</th>
<th>Men 25-54</th>
<th></th>
<th></th>
<th></th>
<th>Women 25-54</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>6.55</td>
<td>7.25</td>
<td>7.21</td>
<td>7.03</td>
<td>6.77</td>
<td>7.56</td>
<td>6.93</td>
<td>7.24</td>
</tr>
<tr>
<td>Not in LF</td>
<td>5.73</td>
<td>6.68</td>
<td>6.22</td>
<td>6.08</td>
<td>6.17</td>
<td>7.50</td>
<td>6.51</td>
<td>7.03</td>
</tr>
</tbody>
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Cantril ladder 0-10 with 10 the best possible life and 0 the worst.

- Without spouse less satisfied with life.
- Conditional on spouse present, decline in well-being among NILF smaller if spouse working than not. Income effects?
CONCLUSIONS

1. Age-sex explains a lot.

2. Disability important, but may matter along many dimensions.

3. Family structure important.

Appendix slides
What are they doing and will they return?

<table>
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<tr>
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<th>Female 35-54 pop. share (%)</th>
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<tr>
<td>Want Job</td>
<td>1.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Other</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>School</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>House</td>
<td>13.2</td>
<td>13.7</td>
</tr>
<tr>
<td>Retired</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Disabled</td>
<td>5.9</td>
<td>6.5</td>
</tr>
<tr>
<td>Total NILF</td>
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Modest scope for tighter labor market to raise reemployment rates.
**What are they doing and will they return?**

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<tbody>
<tr>
<td>Other</td>
<td>1.0</td>
<td>1.2</td>
<td>+0.17</td>
<td>14.7</td>
</tr>
<tr>
<td>Want Job</td>
<td>2.5</td>
<td>2.8</td>
<td>+0.29</td>
<td>14.5</td>
</tr>
<tr>
<td>School</td>
<td>2.7</td>
<td>3.4</td>
<td>+0.67</td>
<td>8.5</td>
</tr>
<tr>
<td>Retired</td>
<td>0.4</td>
<td>0.7</td>
<td>+0.30</td>
<td>6.1</td>
</tr>
<tr>
<td>House</td>
<td>16.6</td>
<td>15.4</td>
<td>−1.27</td>
<td>5.1</td>
</tr>
<tr>
<td>Disabled</td>
<td>2.3</td>
<td>2.5</td>
<td>+0.23</td>
<td>3.4</td>
</tr>
<tr>
<td>Total NILF</td>
<td>25.5</td>
<td>25.9</td>
<td>+0.40</td>
<td>25.5</td>
</tr>
</tbody>
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Modest scope for tighter labor market to raise reemployment rates.
NILF, want job similar to long-term unemployed.

NILF, disabled rarely reenter employment.
NILF, want job similar to long-term unemployed.

NILF, disabled rarely reenter employment.
Family structure by age-sex category

Women 35-44

Women 45-54

Shift toward family structures with lower male labor force attachment.
NOT IN LABOR FORCE BY FAMILY STRUCTURE

Men 35-44

Men 45-54

Percent of category out of labor force

- No spouse or children under 18
- No spouse, children under 18
- Spouse, no children under 18
- Spouse, children under 18

Solid lines: cohabitants
Dashed lines: progeny
NOT IN LABOR FORCE BY FAMILY STRUCTURE

Women 35-44

15.0 20.0 25.0 30.0 35.0

Percent of category out of labor force


No spouse or children under 18
Spouse, no children under 18
Solid lines: cohabitants

Women 45-54

15.0 20.0 25.0 30.0 35.0

Percent of category out of labor force


No spouse or children under 18
No spouse, children under 18
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