Secular stagnation

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Essential to distinguish between supply stagnation (US) and demand stagnation (Euro area and Japan)
Labor-market indicators range from extremely tight (vacancies) to moderately slack (long-term unemployment, involuntary part time)
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But real earnings per household are way below trend path.
The US case

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But real earnings per household are way below trend path

Appropriate to use the term stagnation for earnings per household and to examine the sources of that stagnation.
AVERAGE REAL EARNINGS PER HOUSEHOLD, 2009 DOLLARS
Sources of supply stagnation

Declining labor share
Sources of supply stagnation

Declining labor share

Depleted capital
Sources of supply stagnation

Declining labor share

Depleted capital

Reduced productivity growth
Sources of supply stagnation

Declining labor share
Depleted capital
Reduced productivity growth
Collapse of labor-force participation
Decomposition of real earnings per household

\[ R = (1 - \alpha_t) \frac{Y_t}{F_t} \]

\[ = (1 - \alpha_t) A_t H_t^{1-\alpha_t} K_t^{\alpha_t} \frac{1}{F_t} \]

\[ = (1 - \alpha_t) \underbrace{A_t}_{\text{share}} \underbrace{TFP}_{\text{TFP}} \underbrace{\left( \frac{H_t}{F_t} \right)^{1-\alpha_t}}_{\text{hours/HH}} \underbrace{\left( \frac{K_t}{F_t} \right)^{\alpha_t}}_{\text{capital/HH}} \]
Total factor productivity
Capital per household
Total hours of work per household

![Graph showing total hours of work per household from 1989 to 2013. The graph indicates a fluctuation in hours with a peak around 2001.](image-url)
Decomposition of hours per household, using CPS data

\[
\text{Hours per household} = [\text{participants per household}] \\
\times [\text{workers per participant}] \\
\times [\text{hours per worker}]
\]
TOTAL HOURS OF WORK PER HOUSEHOLD, CPS
Participants per household
Workers per participant

![Graph showing the number of workers per participant from 1989 to 2013. The graph indicates a slight decrease in the number of workers per participant over time.]
Medium-term outlook

Capital likely to return to historical path of the capital/output ratio, as in the standard growth model.
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Productivity growth not predictable

Reasons for collapse of participation not well understood
# Changes in weekly hours of time use, 2003 to 2013

**American Time Use Survey**

<table>
<thead>
<tr>
<th></th>
<th>Personal care</th>
<th>Household work</th>
<th>Market work</th>
<th>Education</th>
<th>Leisure</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>1.3</td>
<td>0.1</td>
<td>-2.5</td>
<td>0.2</td>
<td>1.3</td>
<td>-0.4</td>
</tr>
<tr>
<td>Women</td>
<td>1.6</td>
<td>-0.7</td>
<td>-0.8</td>
<td>-0.1</td>
<td>0.8</td>
<td>-0.8</td>
</tr>
</tbody>
</table>
Labor-force participation rate, monthly

Conclusions on US policy

Inflation still below target, so monetary policy should remain expansionary.
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The unemployment rate reached 3.8 percent in 2000 and 4.4 percent in 2007 without an outbreak of inflation, so there is little danger if unemployment drops below 5 percent in the next few years
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Woodford has argued cogently for continuing monetary expansion to validate earlier statements of the Fed’s intention to expand aggressively to escape the ZLB.
IDEAS ABOUT DECLINING LFPR

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Stagnant real compensation in lower-skill labor markets

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Continental Europe (and Japan?): The zero lower bound

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Timidity stands in the way of effective monetary policy under secular demand stagnation.
**Demand Stagnation**

Substantial and growing slack
Demand stagnation

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ZLB binding for the indefinite future
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Inflation below target and declining
Demand stagnation

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Inflation below target and declining

Central banks unwilling to lower IOR despite the absence of currency hoarding

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Overcoming the ZLB to conquer demand stagnation

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And tax holdings of currency in excess of €10,000 at a rate sufficient to discourage accumulation
FAQs

What would happen to the larger-denomination bills?
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How would financial institutions remain viable with negative interest rates?

In ordinary times, banks earn on their portfolios and pay depositors somewhat less, taking the difference as gross profit; with negative rates, banks earn from depositors and pay on portfolio holdings, taking the difference as gross profit.