Discussion:
“Hours Worked over the Business Cycle in OECD Countries, 1960-2010”
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Contributions of the paper

- Construct new dataset
  - Total hours, not employment
  - 14 OECD countries
  - Quarterly, 1960-2010

- Revisit what we thought we knew
  1. Extensive versus intensive margin of labor adjustment
     - Extensive margin most important (US data)
     - Expect to be less important in Europe because of LM frictions
  2. Great Recession
     - US looks different from Europe (OECD empl data)
     - Casts doubt on banking crisis as common source (Ohanian 2010)
Construction of the dataset

- Quarterly data on total hours, 1960-2010
  - Official quarterly data on hours per worker (national agencies)
  - Backcast using quarterly data from the ILO
  - Adjust using annual data from the Conference Board TED

- Sample

<table>
<thead>
<tr>
<th>Table 1. Hours per Worker: Sample</th>
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</thead>
<tbody>
<tr>
<td>Australia 1970-2010</td>
</tr>
<tr>
<td>Austria 1965-2010</td>
</tr>
<tr>
<td>Finland 1960-2010</td>
</tr>
<tr>
<td>France 1960-2010</td>
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<tr>
<td>Germany 1960-2010</td>
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<tr>
<td>Ireland 1960-2010</td>
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</tbody>
</table>

- Netherlands, Spain (2008-2010)
Comovement of labor and output in the Great Recession

- Employment (Ohanian 2010)
  - US: large increase labor wedge, no change productivity wedge
  - Europe: large decline productivity wedge, no change labor wedge

- Total hours: Same picture

Was Great Recession similar across countries?

- Similar banking crisis, different wedges (Ohanian 2010)
- Similar drop house prices, similar wedges (US, Spain, Ireland)

Comment

- Very interesting, but at most suggestive
- This is not the main point of the paper, nor can it be
Results: Extensive versus intensive margin

- **Unconditional second moments (descriptive statistics)**
  - Extensive margin 50% variance total hours in Europe, 60% in the US
    Consistent with higher firing costs in Europe
  - Contribution extensive margin decreased post 1984
    Consistent with increased labor market frictions

- **Business cycle diagnostics**
  - Movements labor wedges Europe much larger than US
    *Inconsistent* with higher firing costs in Europe
  - Employment-based wedges relatively large in Europe cf US
    *Inconsistent* with higher firing costs in Europe
  - Difference Europe versus US increased post 1984
    *Inconsistent* with increased labor market frictions in Europe
1. Interesting exercise
   - Important question
   - Appropriate data to answer it
2. I propose a simpler approach
3. I find different results
Business cycle diagnostics

- Absolute size of movements in wedges not informative
  “Movements labor wedges Europe much larger than US”
  - Increase in labor wedge $\Rightarrow$ labor falls more than output
  - Other frictions may drive this result (more price rigidity in Europe)

- Relative size employment and hours wedges
  “Employment-based wedges relatively large in Europe cf US”
  - Productivity wedge
    \[
    Z_t = \frac{Y_t}{A_t K_t^{\theta} L_t^{1-\theta}} \Rightarrow \frac{Z_t^H}{Z_t^N} = \left( \frac{L_t^N}{L_t^H} \right)^{1-\theta}
    \]
  - Labor wedge
    \[
    X_t = \frac{(1-\theta)(Y_t/L_t)(1-L_t)}{\phi C_t} \Rightarrow \frac{X_t^H}{X_t^N} = \frac{L_t^N}{L_t^H} \frac{(1-L_t^H)}{(1-L_t^N)}
    \]
  - All information can be summarized by $L_t^N / L_t^H$
## Extensive versus intensive margin

<table>
<thead>
<tr>
<th></th>
<th>Standard deviation</th>
<th>Peak-to-trough</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours</td>
<td>Empl</td>
</tr>
<tr>
<td><strong>1960:Q1 - 2007:Q4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>0.66</td>
<td>0.44</td>
</tr>
<tr>
<td>France</td>
<td>0.57</td>
<td>0.47</td>
</tr>
<tr>
<td>Germany</td>
<td>0.59</td>
<td>0.38</td>
</tr>
<tr>
<td>Italy</td>
<td>0.98</td>
<td>0.64</td>
</tr>
<tr>
<td>Europe¹</td>
<td>0.66</td>
<td>0.48</td>
</tr>
<tr>
<td><strong>1985:Q1 - 2007:Q4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>0.48</td>
<td>0.31</td>
</tr>
<tr>
<td>France</td>
<td>0.38</td>
<td>0.23</td>
</tr>
<tr>
<td>Germany</td>
<td>0.54</td>
<td>0.37</td>
</tr>
<tr>
<td>Italy</td>
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<td>0.59</td>
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</tr>
</tbody>
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¹France, Germany, Italy + Austria, Sweden and UK
What can we learn from these data?

- Labor market frictions
  - Labor market frictions (EPL, unions, ...) higher in Europe
  - Both extensive and intensive margin may be subject to frictions

1. If frictions extensive margin higher
   - Smaller response extensive margin
   - Larger response intensive margin

2. If frictions extensive margin higher
   - Slower response extensive margin
   - Extensive margin relatively more important at lower frequencies

3. If frictions take the form of firing costs
   - Smaller/slower response extensive margin in recessions
   - Larger/faster response extensive margin in recoveries
Response total hours in ECRI recession, 1960:Q1 - 2007:Q4
Response total hours in ECRI recession, 1985:Q1 - 2007:Q4
Total hours, employment (dash) and hours/worker (dot), 1960:Q1 - 2007:Q4
Total hours, employment (dash) and hours/worker (dot), 1985:Q1 - 2007:Q4
Total hours and employment (dash), 1960:Q1 - 2007:Q4
Total hours and employment (dash), 1985:Q1 - 2007:Q4
Total hours and employment (dash) in recovery, 1960:Q1 - 2007:Q4
Total hours and employment (dash) in recovery, 1985:Q1 - 2007:Q4
Interesting exercise

- Important question
- Appropriate data to answer it

I propose a simpler approach

I find different results

- No striking difference Europe vs US in relative importance margins
  Almost all adjustment along extensive margin
- No striking difference adjustment at different frequencies
- No striking asymmetry between recessions and recoveries
- No striking differences post vs pre 1984
- Labor adjustment is much slower in Europe vs US

Frictions intensive margin seem very high
- Frictions seem higher in Europe along both margins