Discussion of Basu and House "Allocative and Remitted Wages: New Facts and Challenges for Keynesian Models"

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Main question

- Monetary business-cycle models
- In the data, shocks have an amplified and persistent effect
- In the models, need an amplification mechanism
  - wage rigidity
  - price rigidity
- Do data exhibit required wage rigidity?
Main takeaway

- Susanto Basu and Chris House employ direct measurement of allocative wage and suggest that the most promising place to look for market imperfections in the monetary business-cycle models is not the labor market but possibly the product market.
Observed wage in the data

- Aggregate wage in the data appears rigid

However, there are three main criticisms of accepting wage rigidity

1. Is the rigidity rational: why not renegotiate?
   - 

   - 

3. Conceptually, wages might not be allocative
   - 
Discussion of Basu and House

Observed wage in the data

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However, there are three main criticisms of accepting wage rigidity

1. Is the rigidity rational: why not renegotiate?
   - Theories that rationalize endogenous wage rigidity

   - Easily implementable but modest quantitative impact

3. Conceptually, wages might not be allocative
   - What is the allocative price of labor
What is the allocative price of labor?

- Observed wage might not equal the price of labor

- Employment relationships are often long-term
  - "With implicit contracts, payments are not perfectly associated over time with labor services supplied." (Kydland Prescott '82)
  - "One should look at the implicit asset prices of labor contracts recently negotiated" (Hall 1980).

- Need a measure of the price of labor that acknowledges labor as a long-term asset.
User cost of labor

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- Firm’s decision: hire in $t$ versus postpone hiring until $t + 1$. 
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  - Wage costs of adding a worker in $t$

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- User cost of labor in $t$:

\[
UCL_t \equiv PDV_t^W - \beta(1-\delta) E_t PDV_{t+1}^W
\]

\[
= w_{t,t} + \sum_{\tau=t+1}^{\infty} (\beta(1-\delta))^{\tau-t} E_t (w_{t,\tau} - w_{t+1,\tau})
\]
User cost of labor versus wage

- User cost of labor:

\[ UCL_t = w_{t,t} + E_t \sum_{\tau=t+1}^{\infty} (\beta (1 - \delta))^{\tau-t} (w_{t,\tau} - w_{t+1,\tau}). \]

- If \( w_{t,\tau} = w_{t+1,\tau} \), then \( UCL_t = \text{new hire wage} = \text{av wage} \).

- But \( w_{t,\tau} \neq w_{t+1,\tau} \)
  - Wages depend on history (Beaudry DiNardo 1994)
  - Wages of new hires more cyclical than of stayers (Bils 1985)

- The distinction between the user cost and wage is important if they respond differently to shocks!
Cyclicality of the user cost and wages
Real wage measures, unconditional correlations

<table>
<thead>
<tr>
<th></th>
<th>Coefficient on $u_t \cdot 100%$</th>
</tr>
</thead>
<tbody>
<tr>
<td>User cost of labor</td>
<td>-5.24 (0.81)</td>
</tr>
<tr>
<td>Wages, new hires</td>
<td>-3.10 (0.72)</td>
</tr>
<tr>
<td>Wages, all workers</td>
<td>-1.51 (0.71)</td>
</tr>
</tbody>
</table>

Note: The bootstrapped standard errors are in parentheses (1000 replications)
Cyclicality of the user cost and wages

- Pro-cyclical wages of new hires and rigid wages within employment relationships generate highly pro-cyclical user cost.
## Cyclicality of the user cost, time-varying separation rate

Real wage measures, unconditional correlations

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<th>User cost of labor, $\delta_t = const$</th>
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<tr>
<td>User cost of labor, $\delta_t$</td>
<td>-5.19 (0.76)</td>
</tr>
<tr>
<td>User cost of labor, $\delta_{t_0,t}$</td>
<td>-4.91 (0.59)</td>
</tr>
</tbody>
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Impulse responses to an identified monetary contraction

Real wage measures

Fig. 3 Impulse responses to an identified monetary contraction: Real wage measures.
Allocative role of the user cost

- Example: the textbook search and matching model
Allocative role of the user cost

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- Vacancy creation/free entry for firms

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where \( J_{t,t} \equiv \sum_{\tau=t}^{\infty} (\beta(1-\delta))^{\tau-t} E_t (z_{\tau} - w_{t,\tau}) \)
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- Substitute for \( J_{t,t}, J_{t+1,t+1} \)
Allocative role of the user cost

- Free entry

\[ z_t = w_{t,t} + \sum_{\tau=t+1}^{\infty} (\beta(1-\delta))^{\tau-t} E_t (w_{t,\tau} - w_{t+1,\tau}) + \frac{c}{q(\theta_t)} - \beta(1-\delta) E_t \frac{c}{q(\theta_{t'})} \]

- Free entry ties \( UCL \) and \( \theta \), but no direct restriction on \( w \).

- Distinct paths of wages can be consistent with the same path of \( UCL \), and thus - \( \theta \).
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  - Equal wages in all matches in \( t \) (Nash bargaining each period)
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![Graphs showing impulse responses to a monetary contraction](image)

*Fig. 3 Impulse responses to an identified monetary contraction: Real wage measures.*
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![Graphs showing average hourly earnings, new hire wage, and user cost of labor](image)

**Fig. 3** Impulse responses to an identified monetary contraction: Real wage measures.

- The empirical counterpart is the user cost.
Wage dynamics in baseline new Keynesian models

User cost = new hire wage = average wage

- In the baseline model, $UCL_t = w_{t,t} = w_t$
- Comparing model’s $UCL_t$ to $UCL_t$ in the data:
  - only sticky prices have a chance
Implicit contracts in sticky price models

Different wage flexibility within contract

Three wage settings differ by wage flexibility within a contract:

- \( s = 1 \) is the case of \( UCL_t = w_{t,t} = w_t \)
- \( s = 0.21 \) (Barattieri, Basu, Gottschalk 2014) matches well new hire wage and average wage
- But the flexibility or stickiness of wages within contract has no impact on quantities as long as the user costs are the same.
Where from here?

- Key friction in the monetary business cycles models in the labor market or the product market?
  - Basu and House employ direct measurement of allocative wage and show that price rigidities are the most promising.

- Why are prices sticky or inflexible?
  - customer markets (Phelps and Winter 1970)
  - collusive industry theory (Green and Porter 1984)
  - aversion to uncertainty (Arellano, Bai, Kehoe 2012)
  - financial constraints and customer base (Gilchrist, Schoenle, Sim, Zakrajsek 2016)
  - menu costs and non-collusive oligopoly (Mongey 2017)