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?
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2. Measurement issues bias wage away from pro-cyclicality: pro-cyclical overtime (Bils 1987), adjust. costs (Rotemberg Woodford 1991), counter-cyclical composition (Solon Barsky Parker 1994)
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3. Conceptually, wages might not be allocative
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1. Is the rigidity rational: why not renegotiate?
   - Theories that rationalize endogenous wage rigidity
2. Measurement issues bias wage away from pro-cyclicality: pro-cyclical overtime (Bils 1987), adjust. costs (Rotemberg Woodford 1991), counter-cyclical composition (Solon Barsky Parker 1994)
   - Easily implementable but modest quntitative 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.

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  - User cost of labor in t:

$$\begin{aligned} UCL_t &\equiv PDV_t^W - \beta(1-\delta) E_t PDV_{t+1}^W \\ &= w_{t,t} + \sum_{\tau=t+1}^{\infty} (\beta(1-\delta))^{\tau-t} E_t \left(w_{t,\tau} - w_{t+1,\tau}\right) \end{aligned}$$

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 = new hire wage = 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

	Coefficient on u_t ·100%
User cost of labor	-5.24
	(0.81)
Wages, new hires	-3.10
	(0.72)
Wages, all workers	-1.51
	(0.71)

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

	Coefficient on $u_t \cdot 100\%$
User cost of labor, $\delta_t = const$	-5.24
	(0.81)
User cost of labor, δ_t	-5.19
	(0.76)
User cost of labor, $\delta_{t_0,t}$	-4.91
	(0.59)

Note: The bootstrapped standard errors are in parentheses (1000 replications)

Impulse responses to an identified monetary contraction

Real wage measures

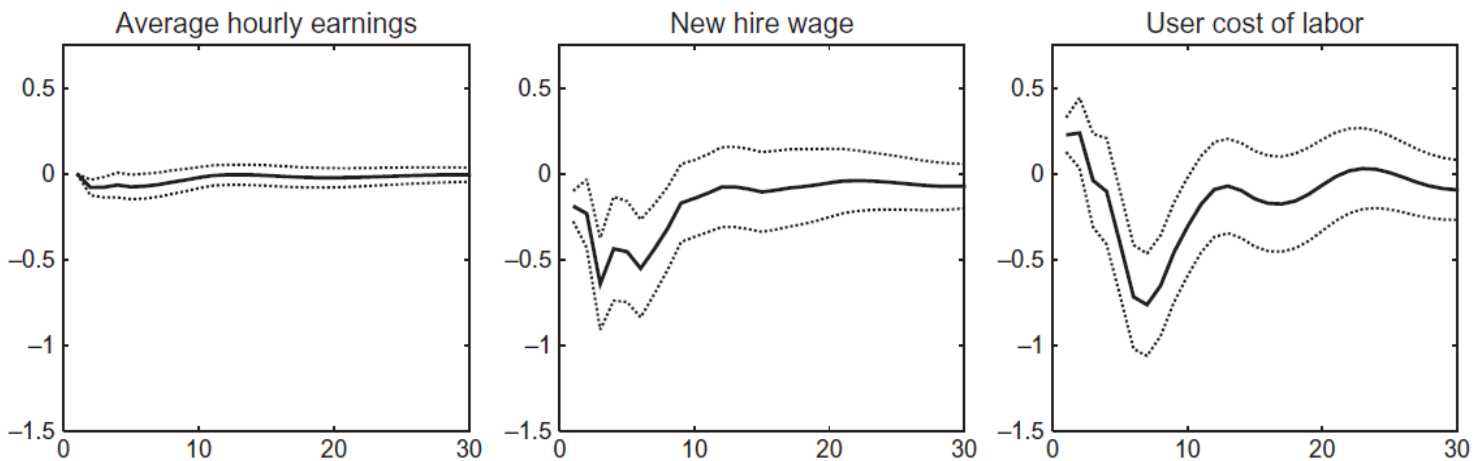

Fig. 3 Impulse responses to an identified monetary contraction: Real wage measures.

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- Substitute for $J_{t,t}$, $J_{t+1,t+1}$

Allocative role of the user cost

- Free entry

$$z_t = \underbrace{w_{t,t} + \sum_{\tau=t+1}^{\infty} (\beta(1-\delta))^{\tau-t} E_t \left(w_{t,\tau} - w_{t+1,\tau}\right)}_{UCL_t} + \frac{c}{q(\theta_t)} - \beta(1-\delta) E_t \frac{c}{q(\theta_{t'})}$$

- Free entry ties UCL and θ, but no direct restriction on w.

- Distinct paths of wages can be consistent with the same path of UCL, and thus - θ.

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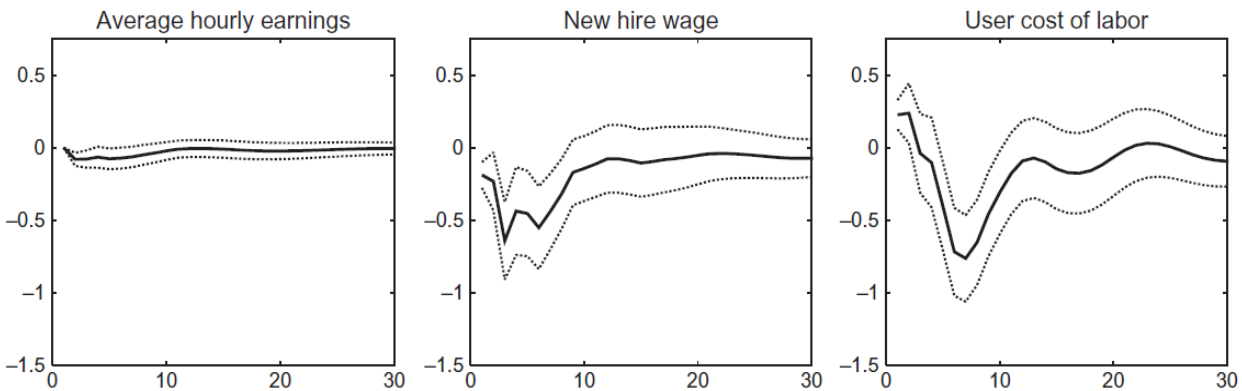

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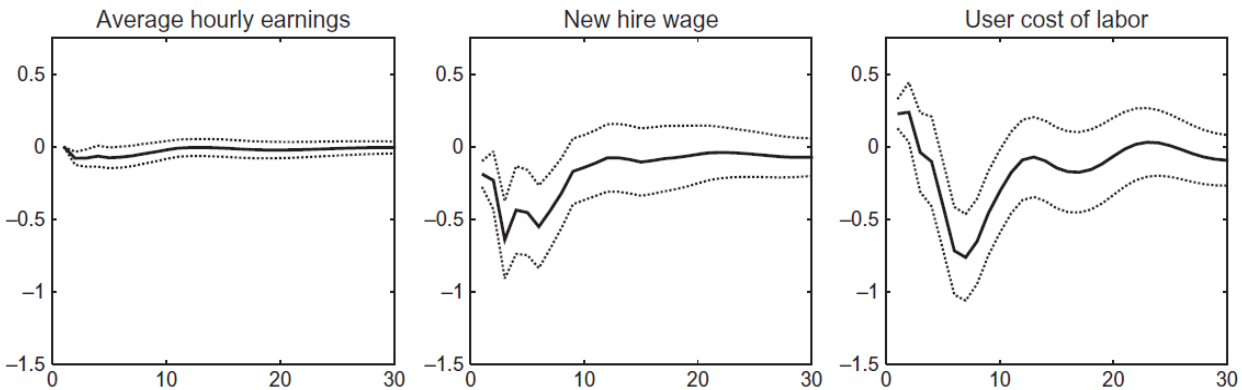
- 

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- The emprical counterpart is the user cost.

Wage dynamics in baseline new Keynesian models

User cost = new hire wage = average wage

Fig. 5 Wage dynamics in baseline New Keynesian models. *Notes:* Each panel reports the estimated impulse responses (heavy line) and model

- 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

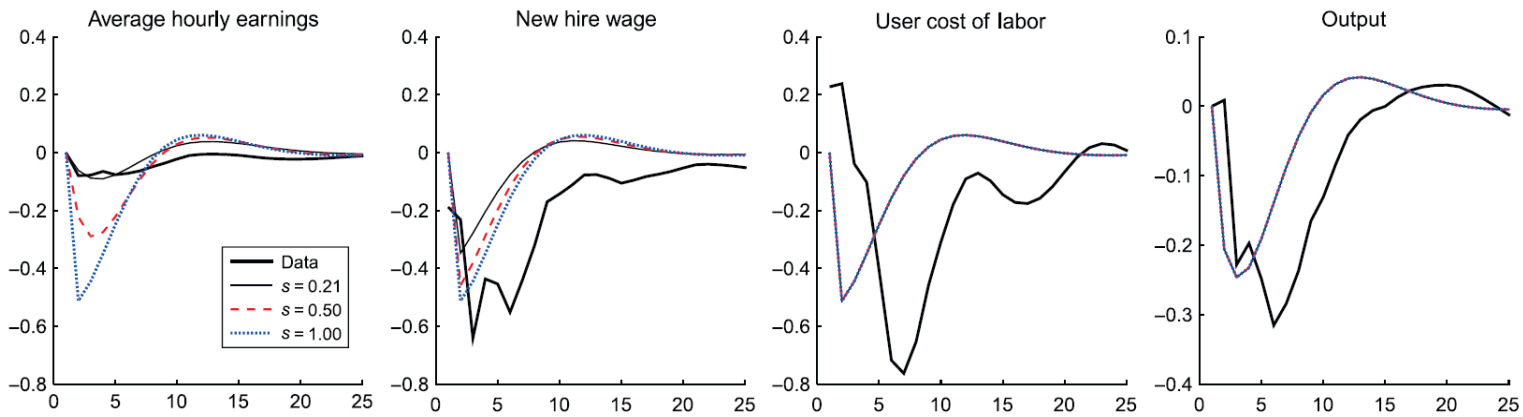

Fig. 6 Implicit contracts in sticky price models. *Notes:* Each panel reports the estimated impulse responses and model impulse responses to a

- 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 av. 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)