

DISCUSSION:
THE DOMINANT ROLE OF EXPECTATIONS AND
BROAD-BASED SUPPLY SHOCKS IN DRIVING INFLATION
BY: BEAUDRY, HOU, PORTIER

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SUMMARY OF PAPER

- ① No evidence Phillips curve non-linear.
- ② Theory of supply shocks driving inflation expectations.

OVERVIEW OF COMMENTS

- 1 Review of model mechanism + model comments.
- 2 Review of NKPC.
- 3 Revisit evidence for non-linear Phillips curve.

Charles Dickens
**GREAT
EXPECTATIONS**

Unabridged



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- Transitory supply shock \Rightarrow persistent inflation. IRF of π_t to ε_t :

$$\frac{d\pi_{t+h}}{d\varepsilon_t} = \frac{1}{1 - \beta b} \left(\frac{\beta a}{1 - \beta b} \right)^h.$$

RELATIONSHIP TO LITERATURE + COMMENTS

- Simplified version of model in the paper.
 - ① Paper adds output gap but calibrates to quantitative irrelevance.
 - ② $b = \tilde{\rho}_z K$.
 - ③ a more complicated to microfound backward looking expectations.
- Comments:
 - ① Microfoundation of information friction in spirit of Lucas islands.
 - ② Timing a little funny: expectations and inflation jointly determined.
 - ③ Overall feels plausible.

Jordi Galí



**Monetary Policy, Inflation,
and the Business Cycle**

PHILLIPS CURVE INGREDIENTS

- ① Reset price average of today's flex. price and tomorrow's reset price:

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- ⑤ Assume linearity $f(\text{gap}_t) = (\kappa/\lambda) \times \text{gap}_t$:

$$\pi_t = \kappa \text{gap}_t + \beta \mathbb{E}_t \pi_{t+1} + \varepsilon_t.$$

TAKEAWAYS

- ① Expectations enter through price-setters considering what price they would like for the future: $\mathbb{E}_t \pi_{t+1} \uparrow \Rightarrow \mathbb{E}_t p_{t+1|t+1} \uparrow \Rightarrow p_{t|t} \uparrow \Rightarrow \pi_t \uparrow$.
- ② Theory of price-setters \Rightarrow GDP inflation, not CPI inflation.
- ③ Theory predicts linearity between inflation and marginal cost.
- ④ Marg. cost unobserved + dual mandate \Rightarrow output gap Phillips curve.

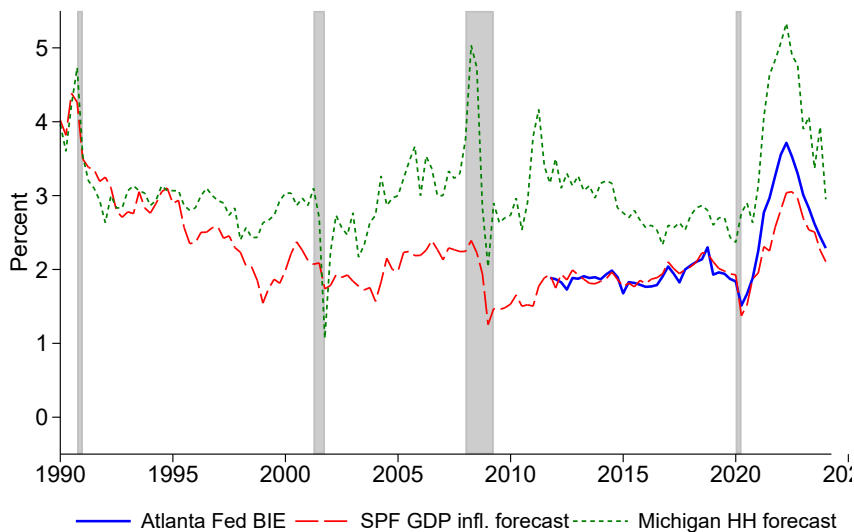
Linear or nonlinear, that is the question



EMPIRICAL IMPLEMENTATION DIFFERENCES

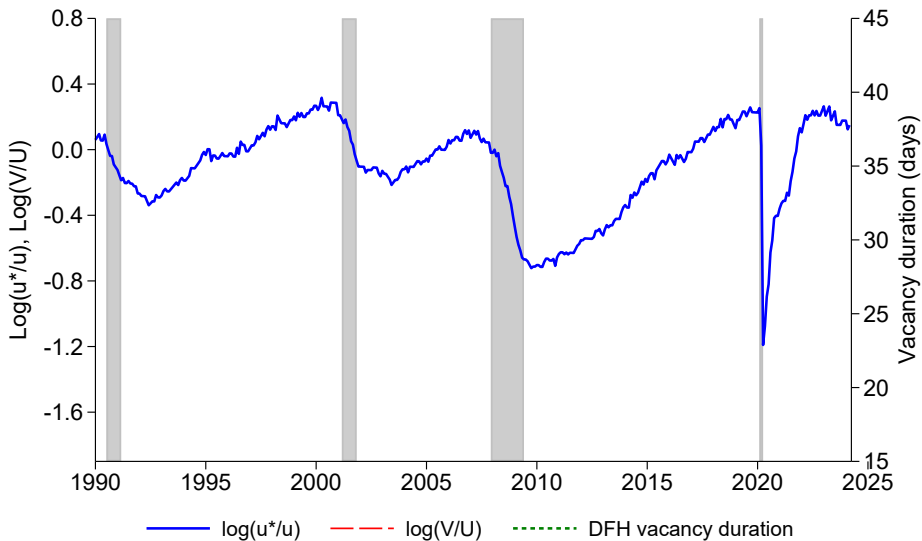
- 1 GDP price index instead of CPI to measure inflation.
- 2 SPF instead of Michigan survey to measure expectations.
- 3 V/U or vacancy duration instead of $u - u^*$ to measure tightness.
- 4 Impose $\beta = 0.99$ and plot $\pi_t - \beta \mathbb{E}_t \pi_{t+1}$ against output gap.

MEASURING INFLATION EXPECTATIONS

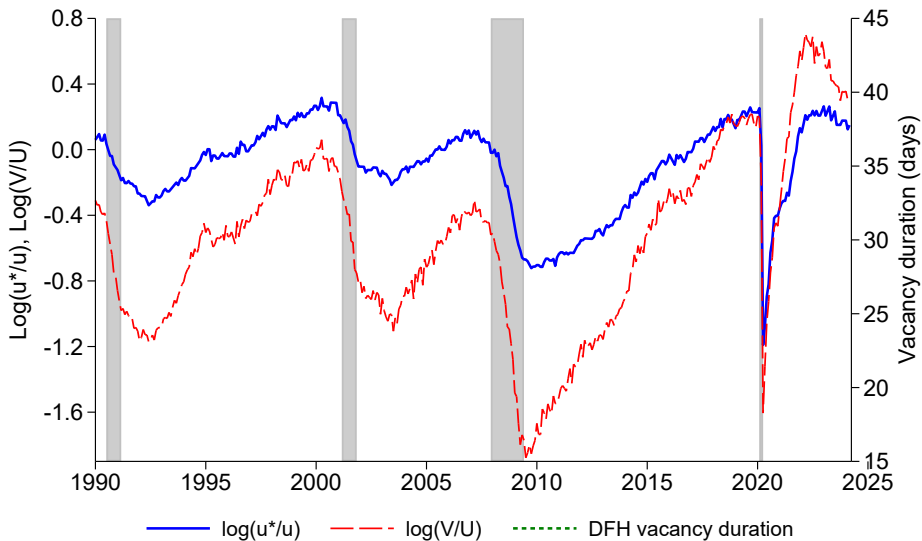


Business Inflation Expectations: “please assign a percent likelihood to the following changes to unit costs over the next twelve months.”

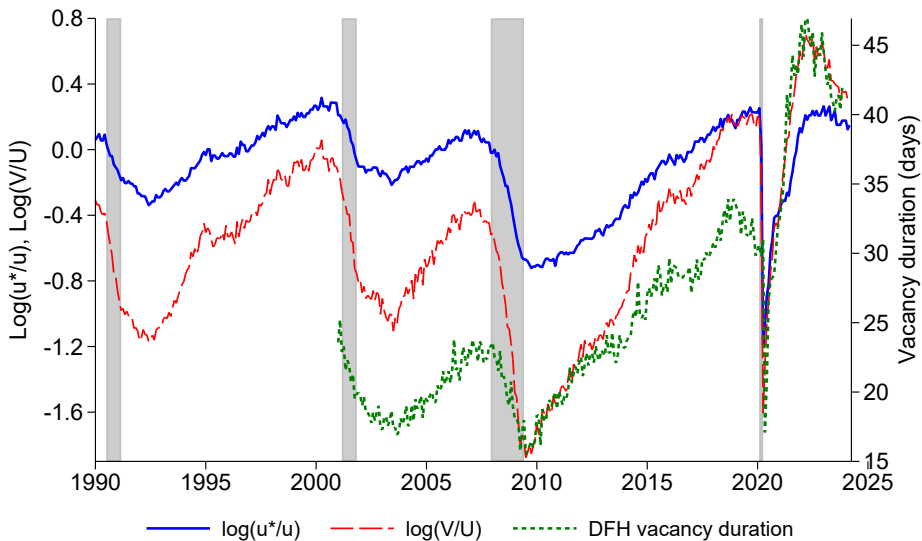
ALTERNATIVE MEASURES OF TIGHTNESS



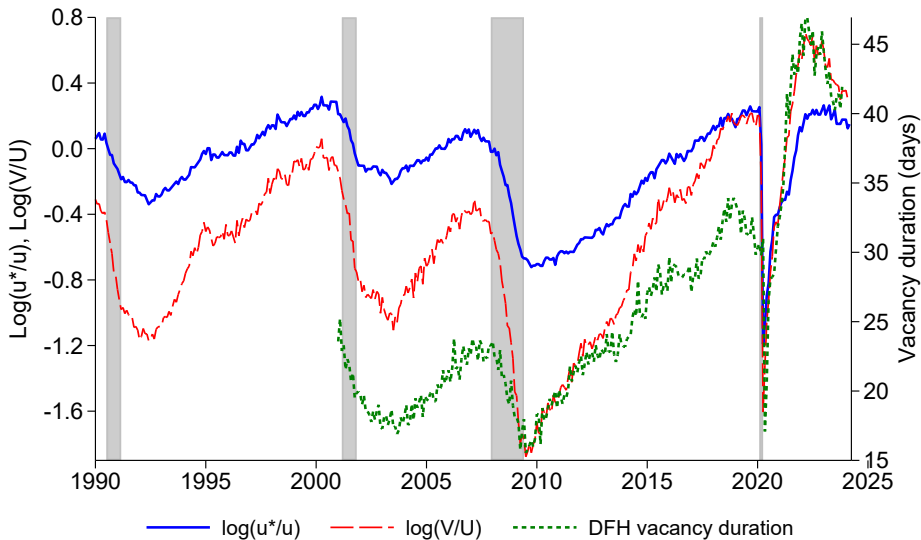
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Strong cyclical correlation with u^*/u but qualitatively different post 2020.

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- Fix wage $W_t = W$ (simplicity), define recruitment share of cost $R(\theta_t) = kq(\theta_t)^{-1} / C_t, R' > 0$.

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- Log wholesaler price: $c_t = \ln(C_t/C^*) = \underbrace{R(\theta_t)h(\theta_t)}_{\text{Sources of non-linearity}} \ln(\theta_t/\theta^*)$.

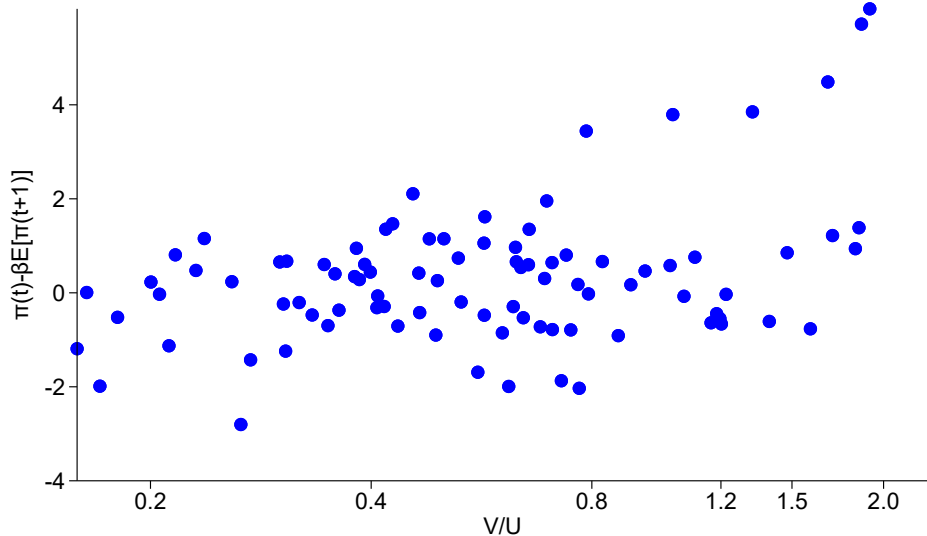
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- Retailers buy wholesale good, differentiate, and resell.
- Retailer marginal cost PC: $\pi_t = \lambda (\mu_t^* + c_t) + \beta \mathbb{E}_t \pi_{t+1}$.
- Using $c_t = R(\theta_t) h(\theta) \ln(\theta_t/\theta^*)$:

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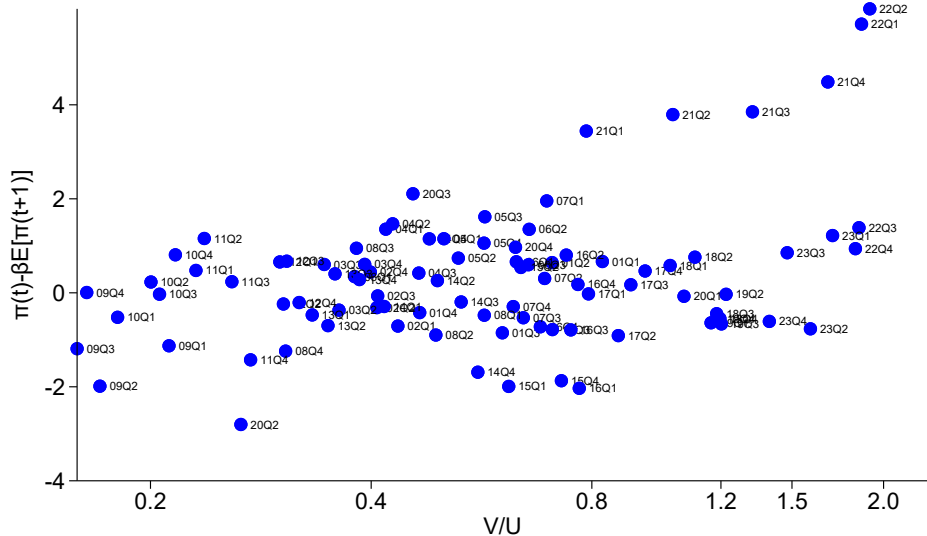
- Two sources of non-linearity:
 - ① At high θ , job-filling rate less sensitive to additional vacancies.
 - ② At high θ , recruiting is larger share of marginal cost.

RESIDUAL INFLATION AND V/U



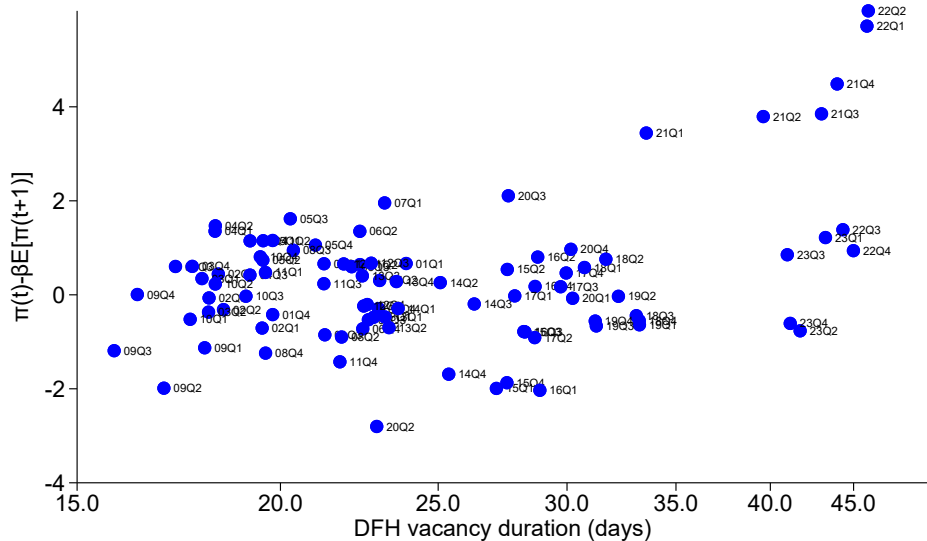
Notes: $\beta = 0.99$, π = 1-quarter GDP price index inflation, $E_t[\pi(t+1)]$ = SPF median 4-quarter ahead GDP price index inflation.

RESIDUAL INFLATION AND V/U



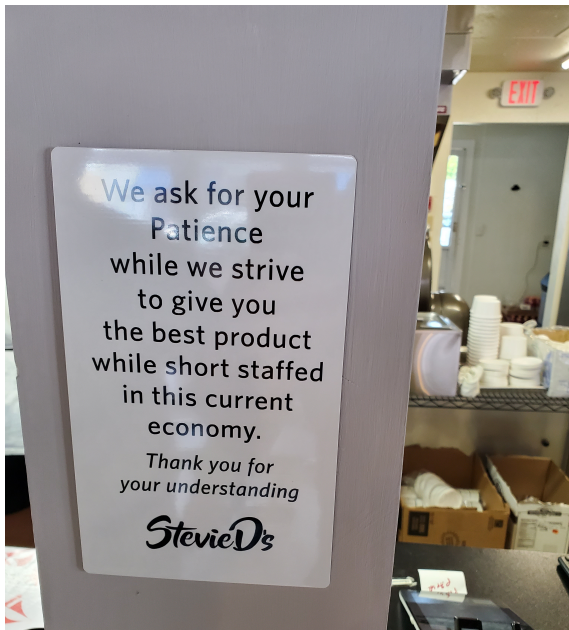
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RESIDUAL INFLATION AND VACANCY DURATION



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ANECDOTES FROM EARLY JULY 2021



We ask for your
Patience
while we strive
to give you
the best product
while short staffed
in this current
economy.

*Thank you for
your understanding*

StevieD's

ANECDOTES FROM EARLY JULY 2021

Sorry We're Closed At This Location Due
To The Lack Of Employees This Season.

But.....

We're 4 miles away at our Barn Distillery
located @ 441 Rt. 1 in York.

We have limited our hours for Tastings, Swag
and Bottle Sales to 11am—5pm 7 Days a week
Hope to See Ya Soon!

Ps. If you would like to join our staff give a call 207-363-9322



SUMMARY

- There is a viable case for non-linearity in the Phillips curve.
- Hard to rule out/in with one or two historical episodes.
- House price inflation certainly seems sensitive to conditions.
- Certainly also scope for supply shocks + expectations.