

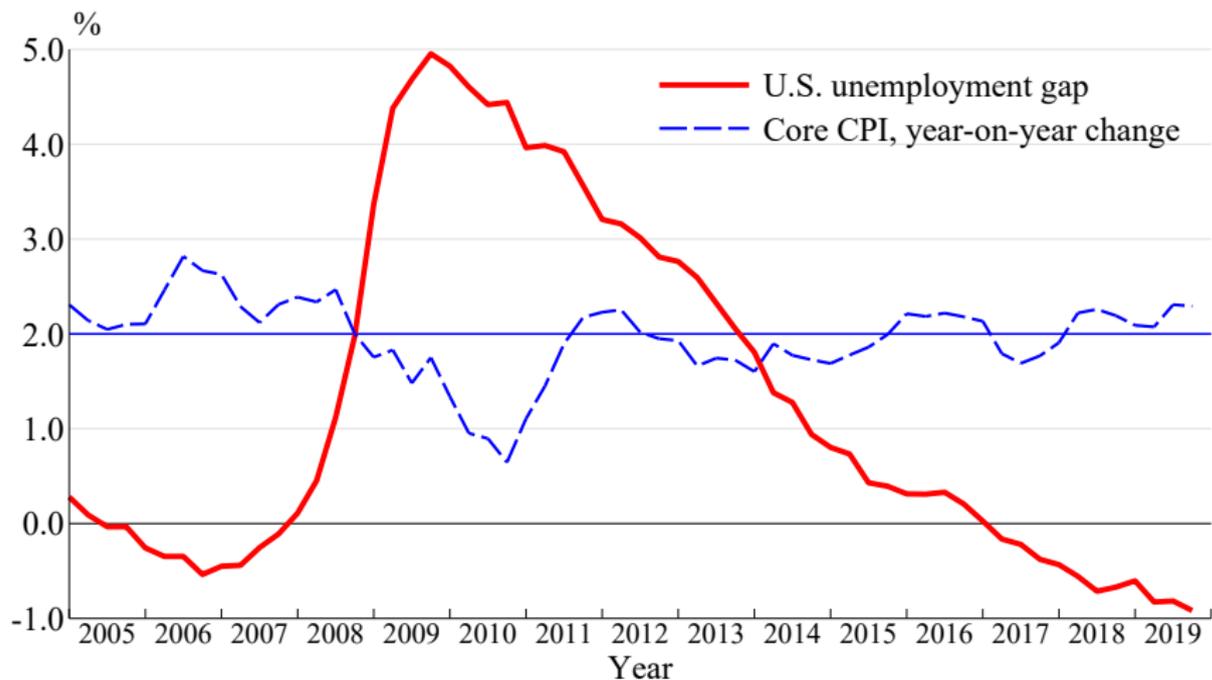
“The Missing Inflation Puzzle:
The Role of the Wage-Price Pass-Through”
by Sebastian Heise, Fatih Karahan, and Ayşegül Şahin

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What are the inflation puzzles?



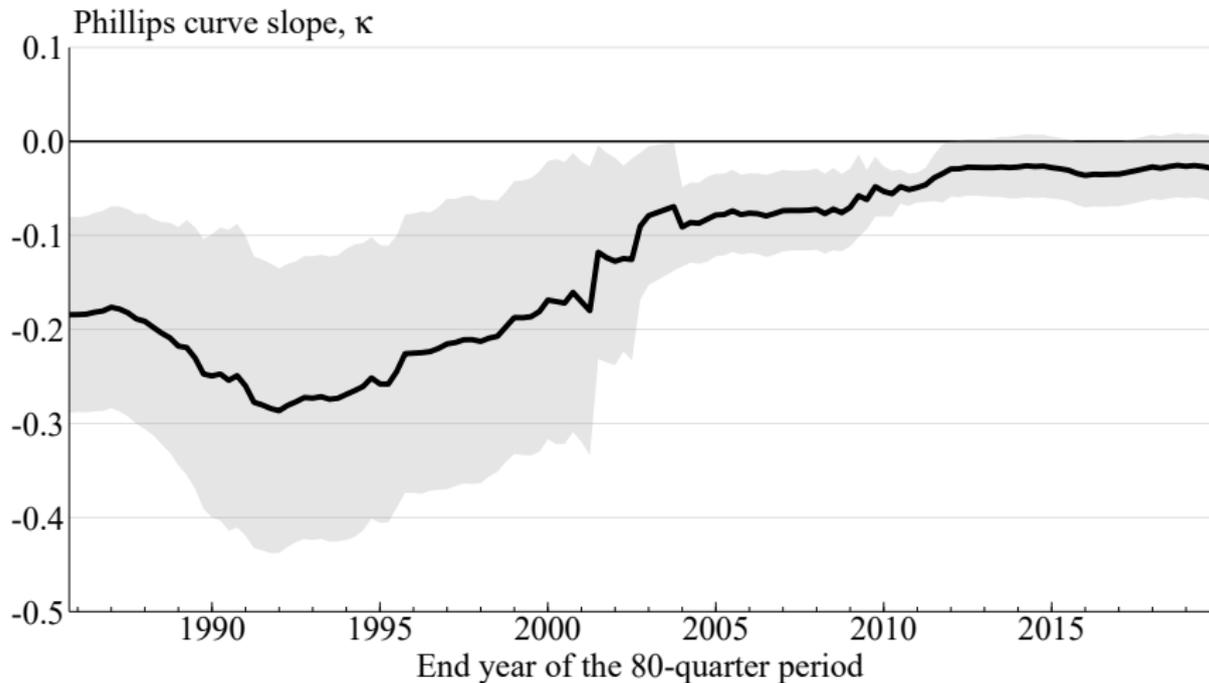
Why was inflation low during the latest expansion?

Possible explanations, from the Phillips curve perspective:

$$\pi_t = \beta \mathbb{E}_t \pi_{t+1} - \kappa \underbrace{(u_t - u_t^n)}_{\text{Unemployment gap}} + \text{Supply shocks}$$

- 1 Anchored inflation expectations, $\mathbb{E}_t \pi_{t+1} \searrow$
 - Central banks have become more transparent.
 - They communicate their inflation target more effectively.
- 2 Decline in the natural rate of unemployment, $u_t^n \searrow$
 - The employer–employee matching process has improved.
 - LinkedIn and other online job services facilitate employment flows.
- 3 Deflationary **supply shocks**
 - Transitory sectoral shocks recur frequently (somewhat implausible).
 - In other words, we've been “lucky.”
- 4 A flatter Phillips curve, $\kappa \searrow$
 - Perhaps, the most popular explanation for the missing inflation puzzle.
 - **This paper explains why the Phillips curve flattened.**

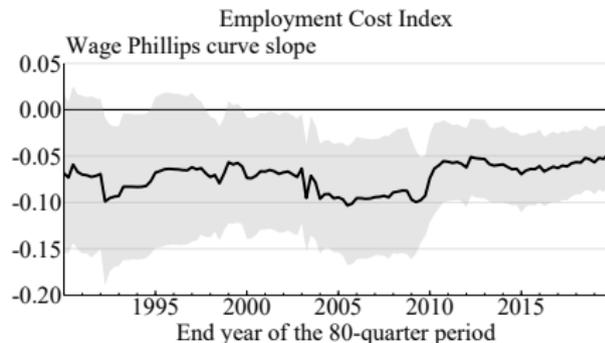
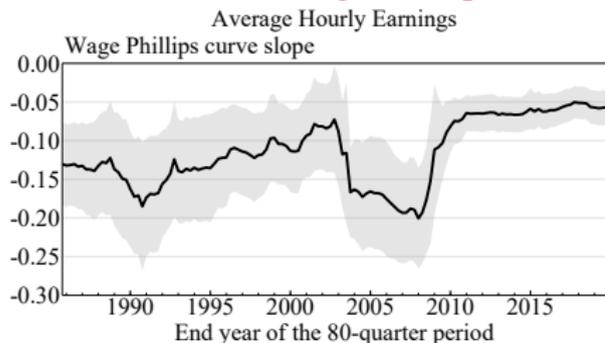
The Phillips curve has flattened nearly tenfold.



Many practitioners see wage pressures as a key link.

$$\underbrace{-\kappa \equiv \frac{d \pi_t}{d u_t}}_{\text{Slope of price Phillips curve}} = \underbrace{\frac{d \pi_t}{d w_t}}_{\text{Wage-price pass-through}} \times \underbrace{\frac{d w_t}{d u_t}}_{\text{Slope of wage Phillips curve}}$$

The wage Phillips curve has not flattened as much.



This paper therefore focuses on the wage-price pass-through.

This paper presents evidence from disaggregated industry data.
I instead look at the aggregate pass-through.

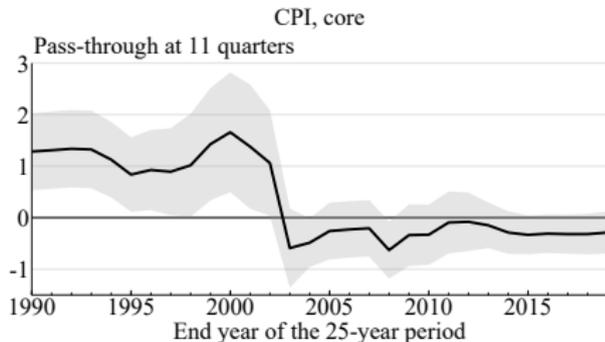
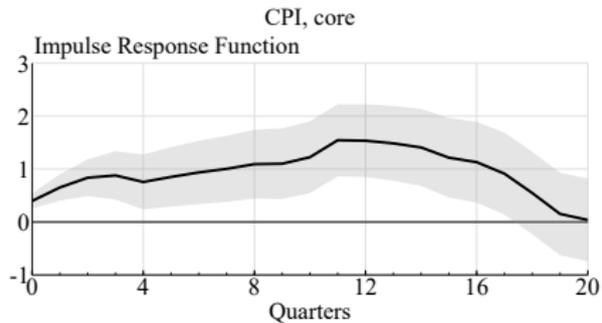
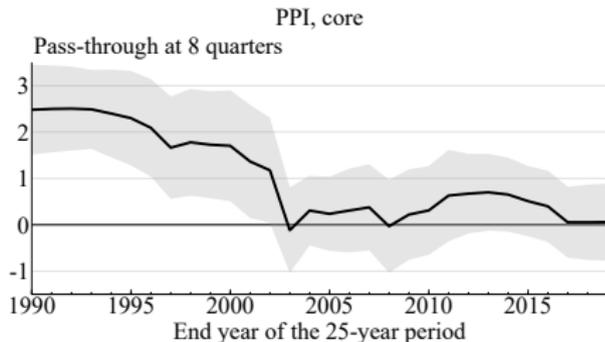
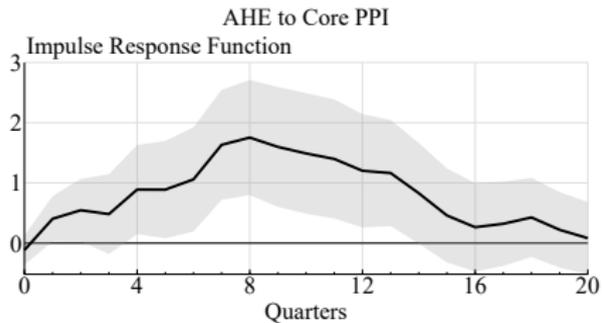
I estimate Jordà's local projections (for each quarter $h = 0, \dots, 20$):

$$\pi_{t+h}^{\text{price}} = \alpha + \beta_h \pi_t^{\text{wage}} + \sum_{j=1}^8 \delta_j \pi_{t-j}^{\text{price}} + \sum_{j=1}^8 \zeta_j \pi_{t-j}^{\text{wage}} + \eta \mathbf{z}_t + \varepsilon_t.$$

Caveats of relying on aggregate data:

- There are no shocks or instruments \rightarrow simultaneity problem.
- Can be interpreted as a VAR with Cholesky identification, but the timing restriction is questionable.
- I interpret β_h as reflecting conditional correlations.

Aggregate pass-through is large in the full sample.
But it declined to nearly zero in the recent period.



Why did the pass-through decline? This paper offers compelling explanations.

- 1 The labor share has declined.
 - An intuitive explanation that holds across a range of models.
- 2 Import penetration increased as China joined the WTO.
 - Generally, globalization has made domestic conditions less relevant.
- 3 Market concentration has also increased.
 - This is a relatively contentious finding; more on the next two slides.

Difficult to distinguish one factor from another:

- These changes took place more or less simultaneously.
- They affected a broad range of industries.
- And they are often due to the same ultimate causes.

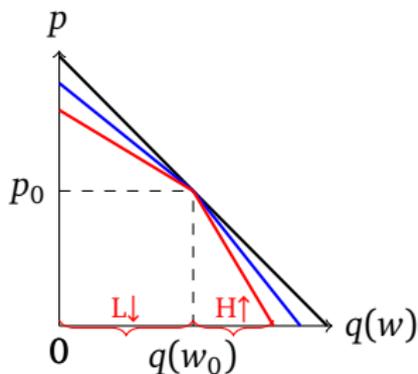
Concentration and markups

In standard models with constant markup,

$$p_t = \frac{1}{1 - 1/\varepsilon} mc_t,$$

where $\varepsilon > 1$ is the elasticity of substitution (demand elasticity).

- A smaller $\varepsilon \rightarrow$ less competition \rightarrow a greater markup.



But markups may vary:

- E.g., oligopolistic competition with kinked demand.
- Intuition: firms forego markup to preserve their market share.
- As competition intensifies, pass-through from rising wages goes up.

Comments

1. The relationship between concentration and markups may be nonlinear.

- Otherwise, wage increases will eventually erode the markup.
- The oligopolistic competition may itself be unstable.

2. The nature of inflationary shocks matters.

- Aggregate versus idiosyncratic shocks.
- Persistent versus transitory shocks.
- Demand versus supply shocks.

3. It is difficult to separate market concentration from import penetration.

- The model requires that foreign producers do not face the same wage shock.

Other thoughts:

- Monetary policy with strong commitment can stabilize inflation.
→ Theoretical pass-through is not identifiable in the data.
- The wage-price pass-through may be nonlinear.

In lieu of conclusion

As we're going through the Covid-19 crisis, its longer-term effects may include:

- a reversal in the globalization trends;
- less reliance on foreign trade.

This paper motivates some important questions:

- Is wage-price pass-through going to rebound?
- Will the Phillips curve become steep again?
- What is the optimal balance between the short-term benefits of monetary and fiscal accommodation and the long-term costs?