Does Monetary Policy Matter?

A Narrative Approach to Monetary Policy

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Outline

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Why Identification is Hard

- Goal: Evaluate causal effects of monetary policy

$$Y_t = \alpha + \beta MP_t + \epsilon_t$$

- Problem: Endogeneity and omitted variables
- Example 1: MP_t is a function of Y_t

$$MP_t = \gamma + \delta Y_t + \eta_t$$

- Example 2: Y_t is a function of MP_t and some other variables

$$Y_t = \alpha + \beta MP_t + \gamma X_t + \epsilon_t$$

In either cases, we cannot identify the causal effect of monetary policy on the economy.

Outline

What is the Narrative Approach?

- Identify exogenous shocks from text records
  - Use The Federal Open Market Committee (FOMC) transcripts of its meetings on deciding monetary policy
  - The full transcripts released with 5 years lag, encouraging participants to speak freely
  - The transcripts are compiled by the officials at the Fed and thus reliable

Criteria for Exogenous Shocks

A shock is identified as exogenous if both of the following arguments are mentioned in the transcripts:

1. "Current Level of Inflation/Unemployment is Unacceptable"
2. "Be willing to Accept a Recession/Higher Inflation as consequences of the policy changes"

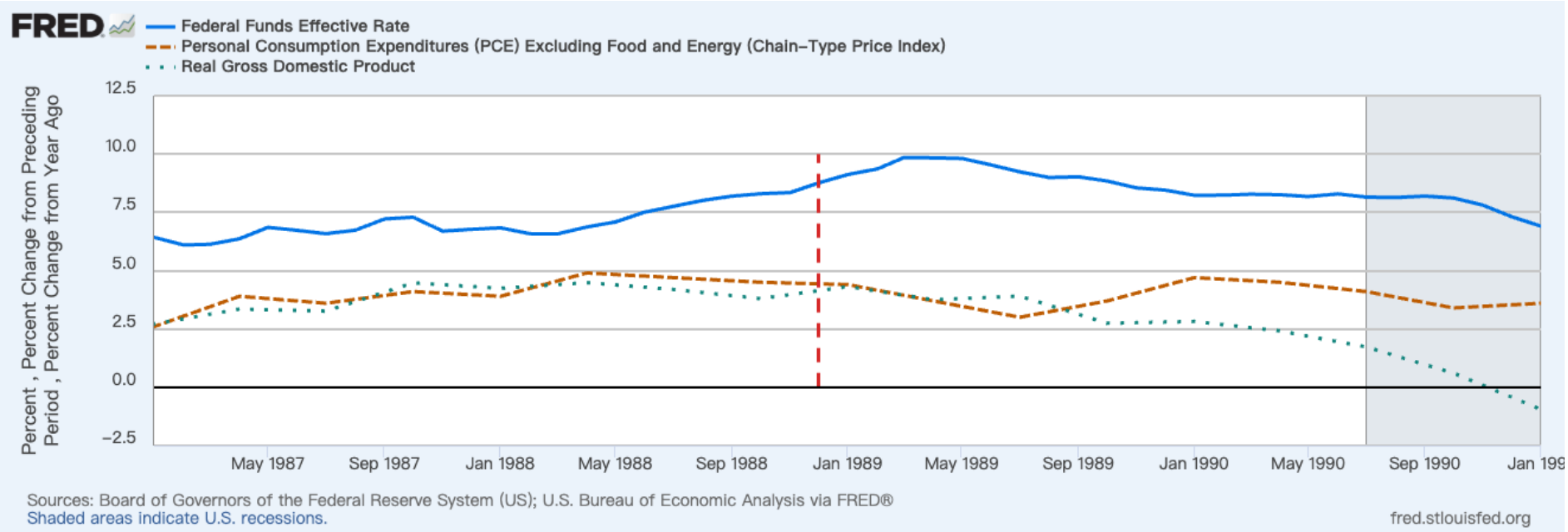
In other words, its a preference shock that is not driven by the current state of the economy.

Outline

December 1988 (Contractionary)

- Fed focused on inflation control and was willing to accept recession risk
- "In terms of our own inflation rate ... we have been stalled at a rate that I think is too high for most of us" (W. Lee Hoskins, Transcript, May 17, 1988, p. 5).
- However, the inflation and GDP growth rates did not experience a significant change at that time.

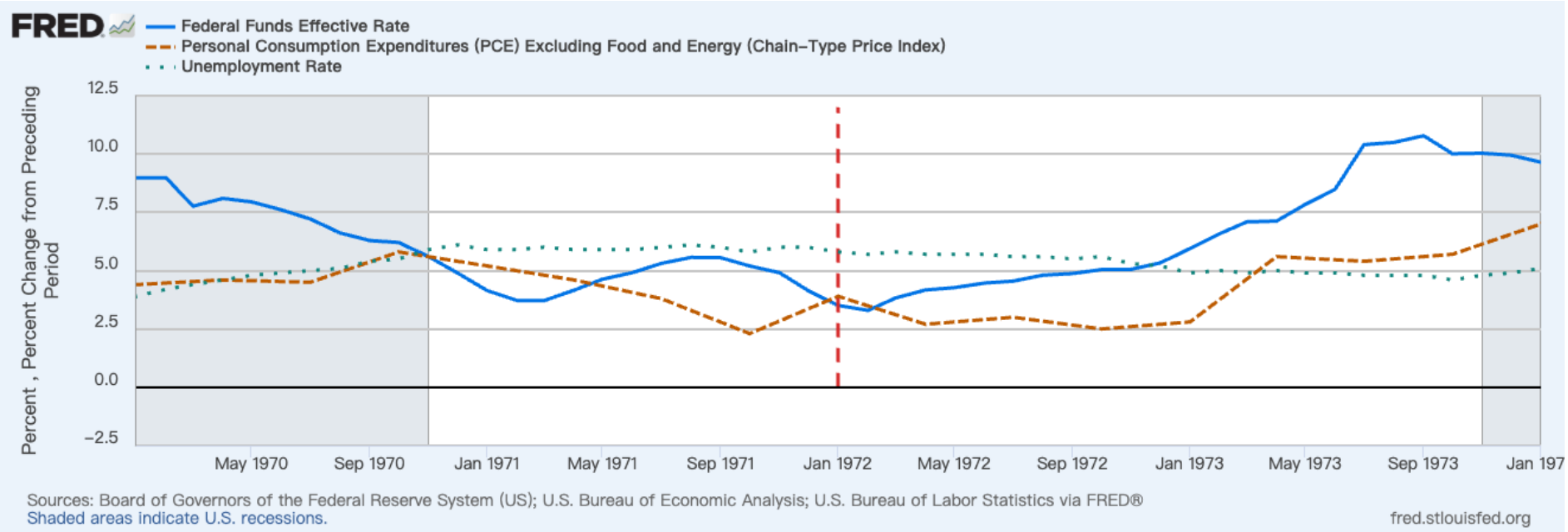
December 1988 (Contractionary)



January 1972 (Expansionary)

- Fed focused on high unemployment and was willing to accept higher inflation
- "believed the appropriate posture for the System at this point was one of doing what it could with the policy instruments at its disposal to foster and encourage economic expansion" (J. Dewey Daane, Memorandum of Discussion, December 14, 1971, p. 60).
- Again, the unemployment rate has not changed significantly at that time and the inflation even decreased in the previous months.

January 1972 (Expansionary)



Summary of Shocks

- Nine contractionary, one expansionary shock (1946–2016)
- Identified via consistent narrative standards

TABLE 2—MONETARY POLICY SHOCKS, 1946–2016

New Dates	Original Dates
Oct. 1947 (–)	Oct. 1947 (–)
Aug. 1955 (–)	Sept. 1955 (–)
Sept. 1958 (–)	
Dec. 1968 (–)	Dec. 1968 (–)
Jan. 1972 (+)	
Apr. 1974 (–)	Apr. 1974 (–)
Aug. 1978 (–)	Aug. 1978 (–)
Oct. 1979 (–)	Oct. 1979 (–)
May 1981 (–)	
Dec. 1988 (–)	Dec. 1988 (–)

Contractionary shocks are denoted (–) and expansionary shocks are denoted (+). In setting our original dates, we did not have a classification for expansionary shocks.

Outline

Jordà's Local Projection Method

Purpose: Estimate impulse responses of variables (e.g., GDP, inflation) to a monetary policy shock, without relying on a full system of equations.

Equation:

$$Y_{t+h} = \alpha_h + \beta_h \cdot Shock_t + \sum_{k=1}^{p} \phi_{k,h} \cdot Y_{t-k} + \sum_{k=0}^{q} \gamma_{k,h} \cdot Shock_{t-k} + \varepsilon_{t+h}$$

Components:

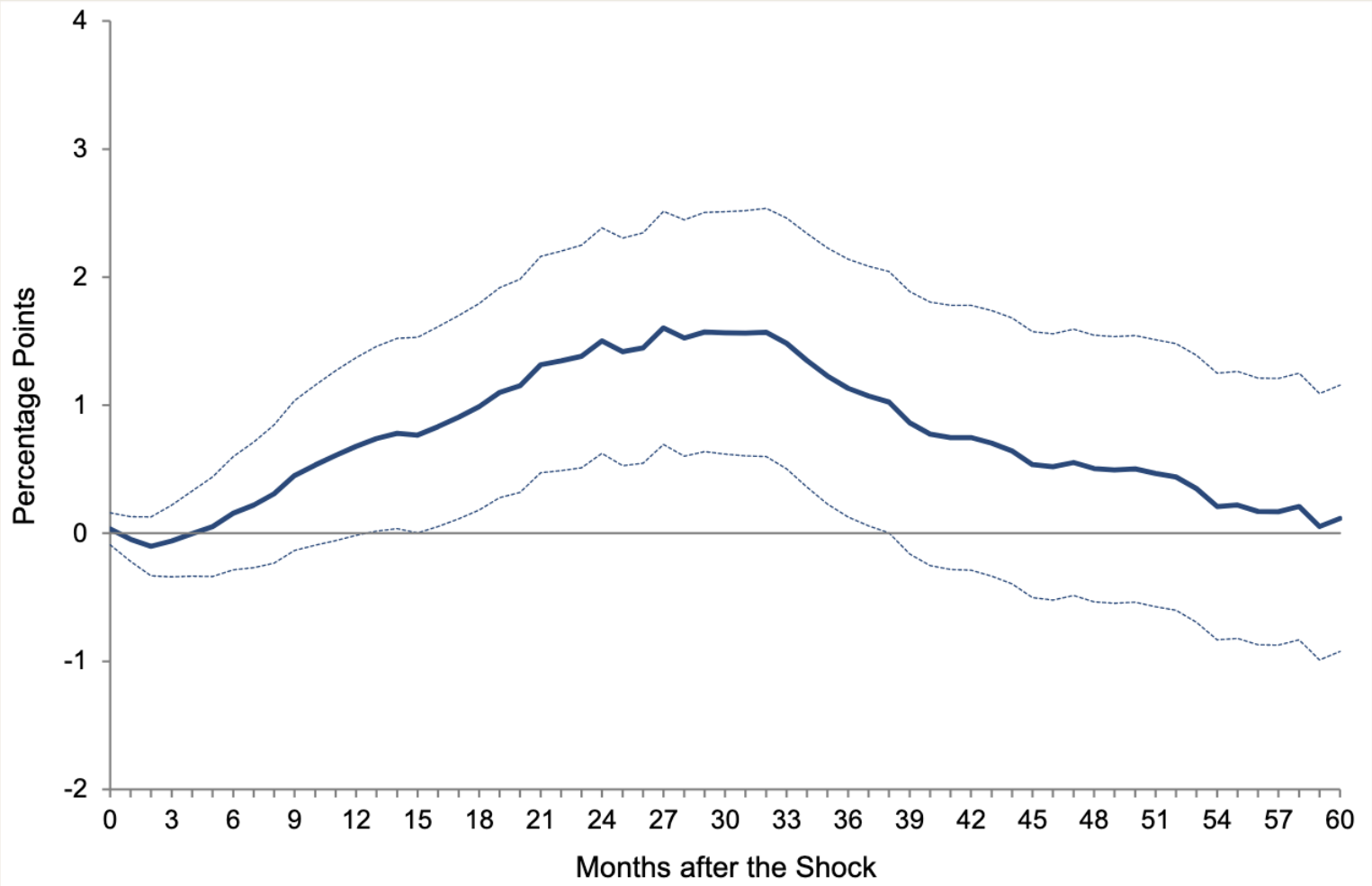
- Y_{t+h}: GDP with h periods ahead
- $Shock_t$: Narrative monetary policy shock at time t
- β_h: Estimated effect of the shock on Y after h periods (the impulse response)
- Lag terms: Control for past outcomes and shocks

Key Feature: One regression per horizon h — no need to invert a VAR.

Response of Unemployment

- Unemployment ↑ by 1.6 pp after 27 months

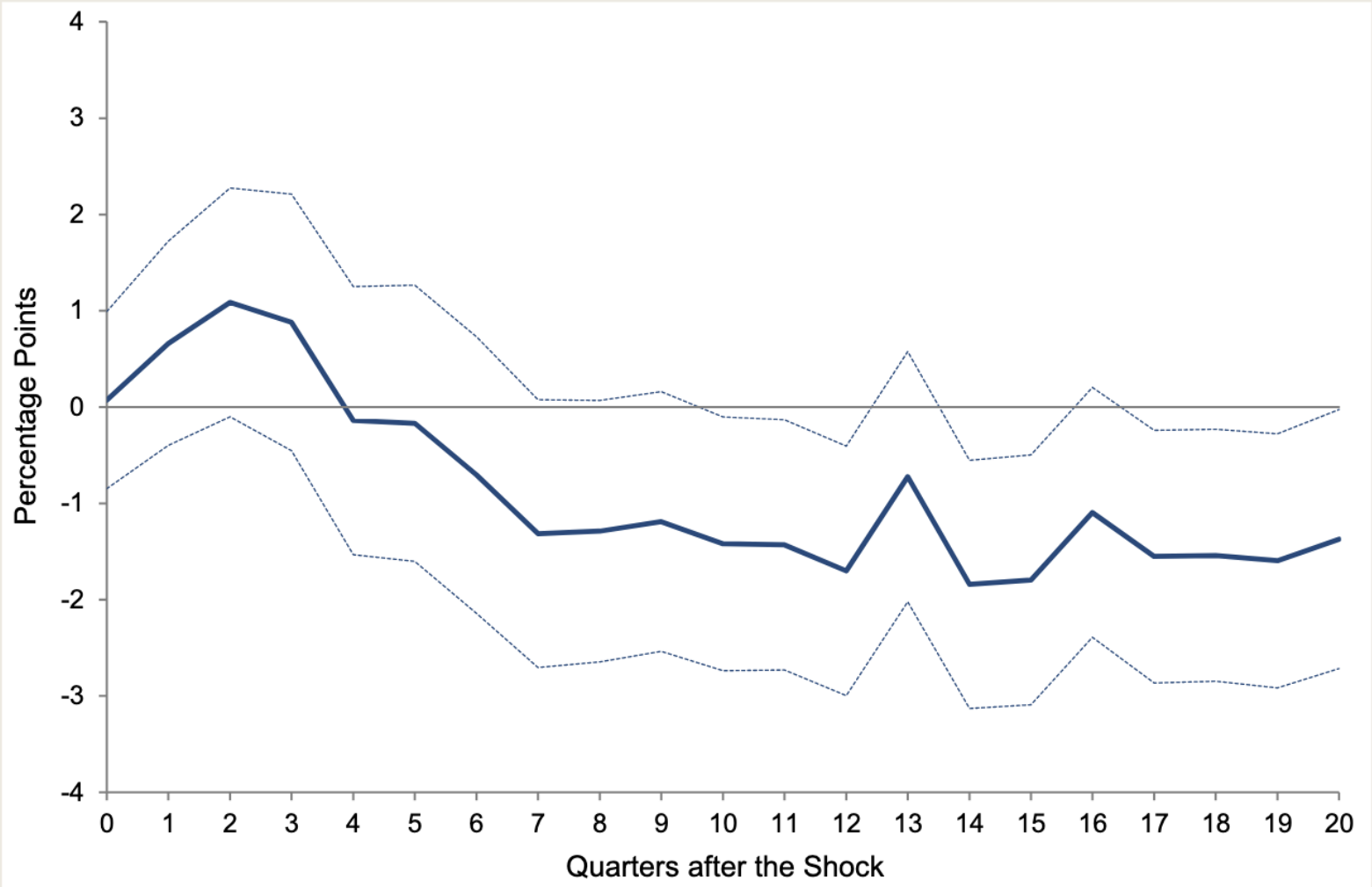
FIGURE 1. RESPONSE OF THE UNEMPLOYMENT RATE TO A MONETARY POLICY SHOCK



Response of Inflation

- Inflation ↓ by 1.5 pp after 9 quarters

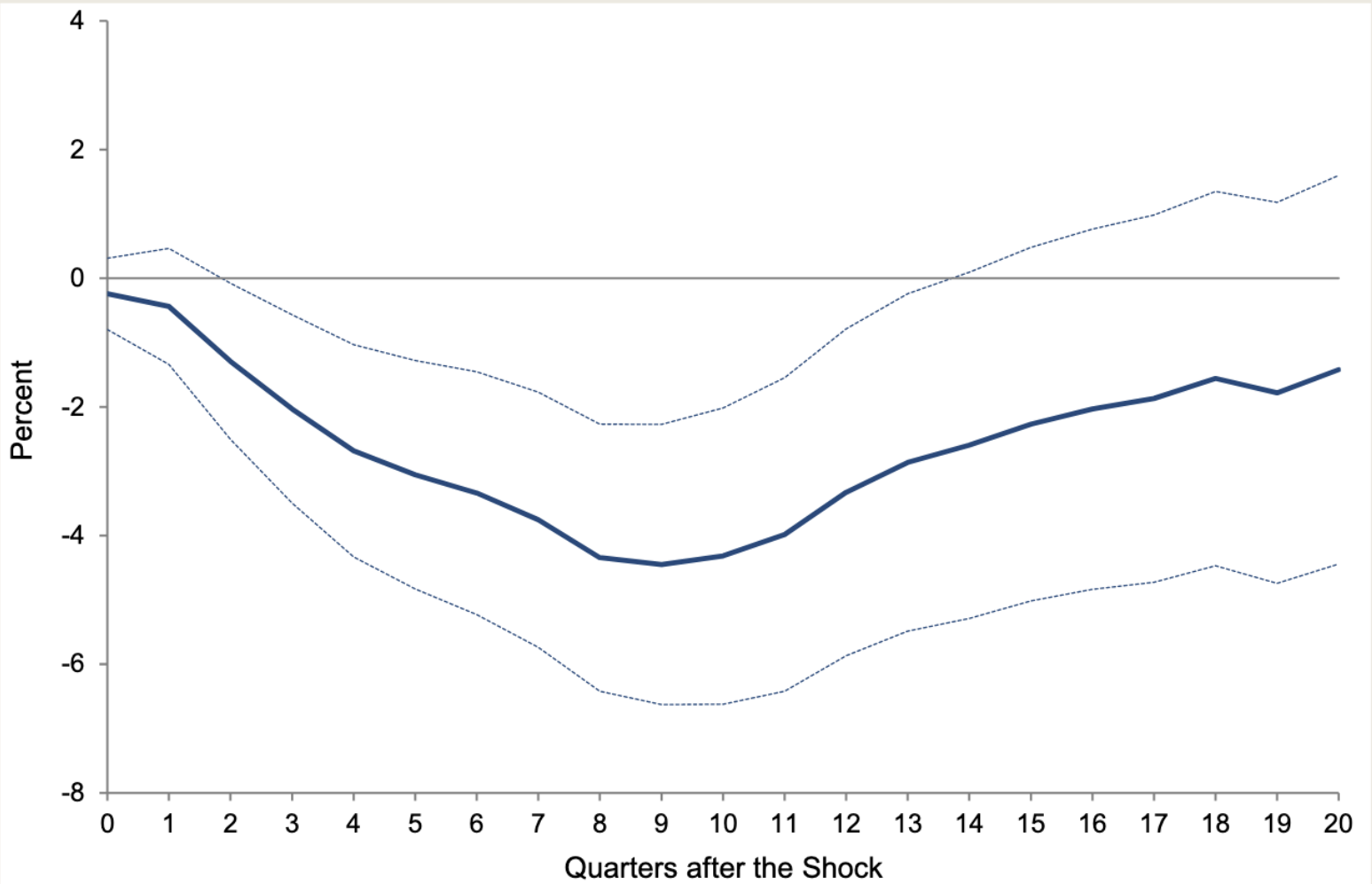
FIGURE 5. RESPONSE OF GDP PRICE INDEX INFLATION TO A MONETARY POLICY SHOCK



Response of GDP

- GDP ↓ by 4.4% after 9 quarters

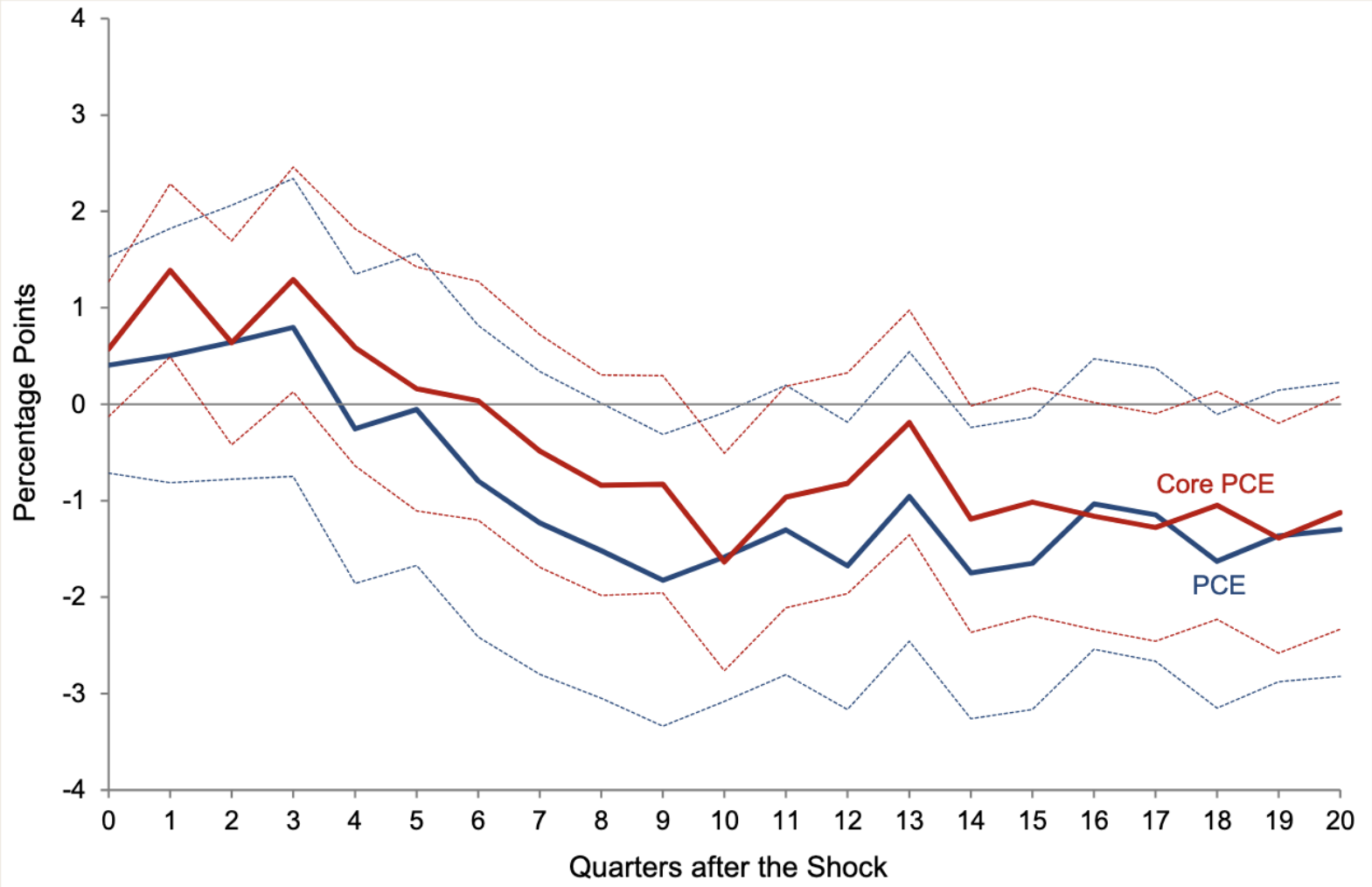
FIGURE 3. RESPONSE OF REAL GDP TO A MONETARY POLICY SHOCK



Robustness Checks

- Different inflation indices (PCE, Core PCE)

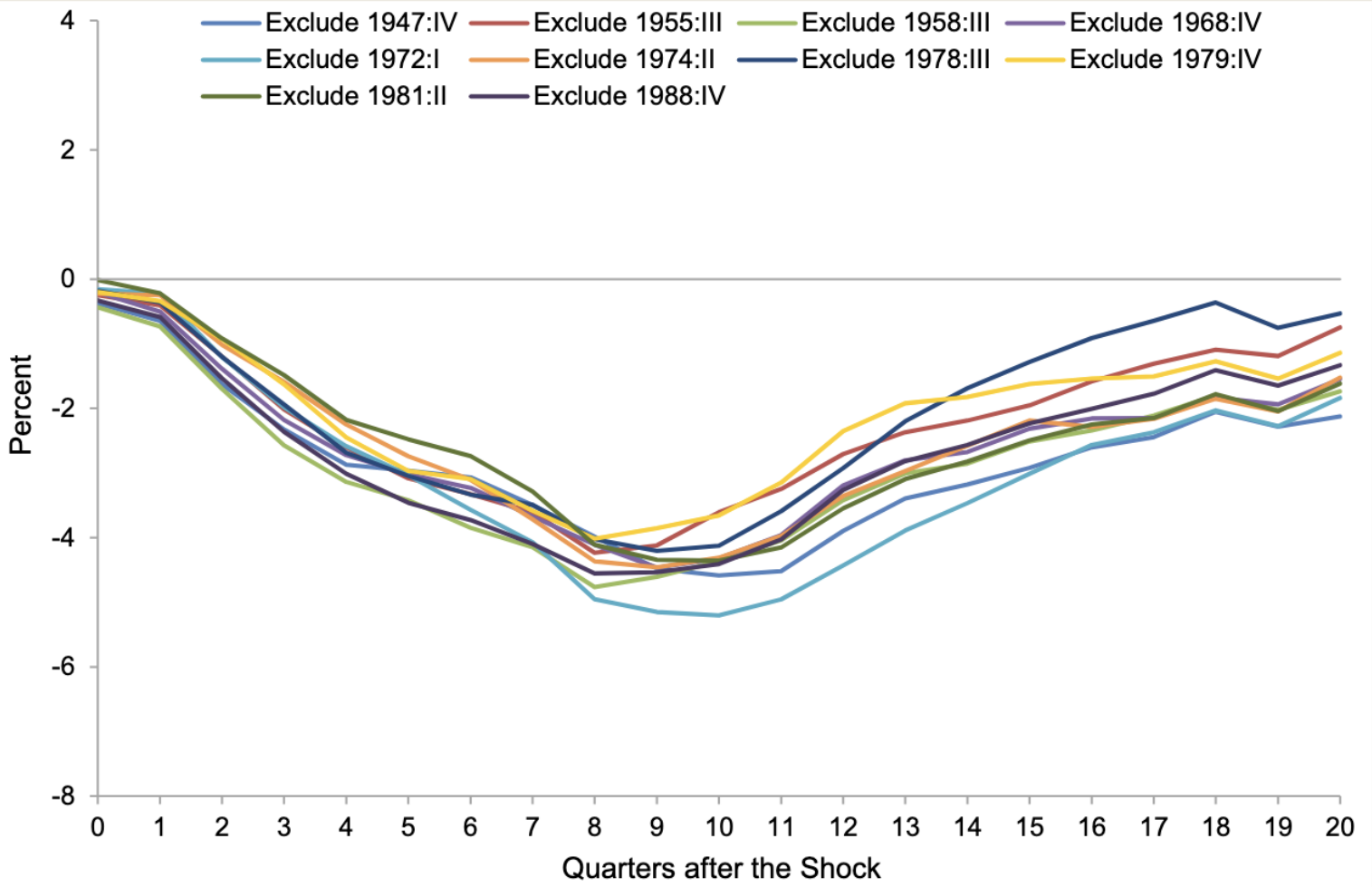
FIGURE 7. RESPONSE OF PCE AND CORE PCE INFLATION TO A MONETARY POLICY SHOCK



Robustness Checks

- leave-one-out

FIGURE 4. RESPONSE OF REAL GDP TO A MONETARY POLICY SHOCK, LEAVING OUT ONE SHOCK AT A TIME

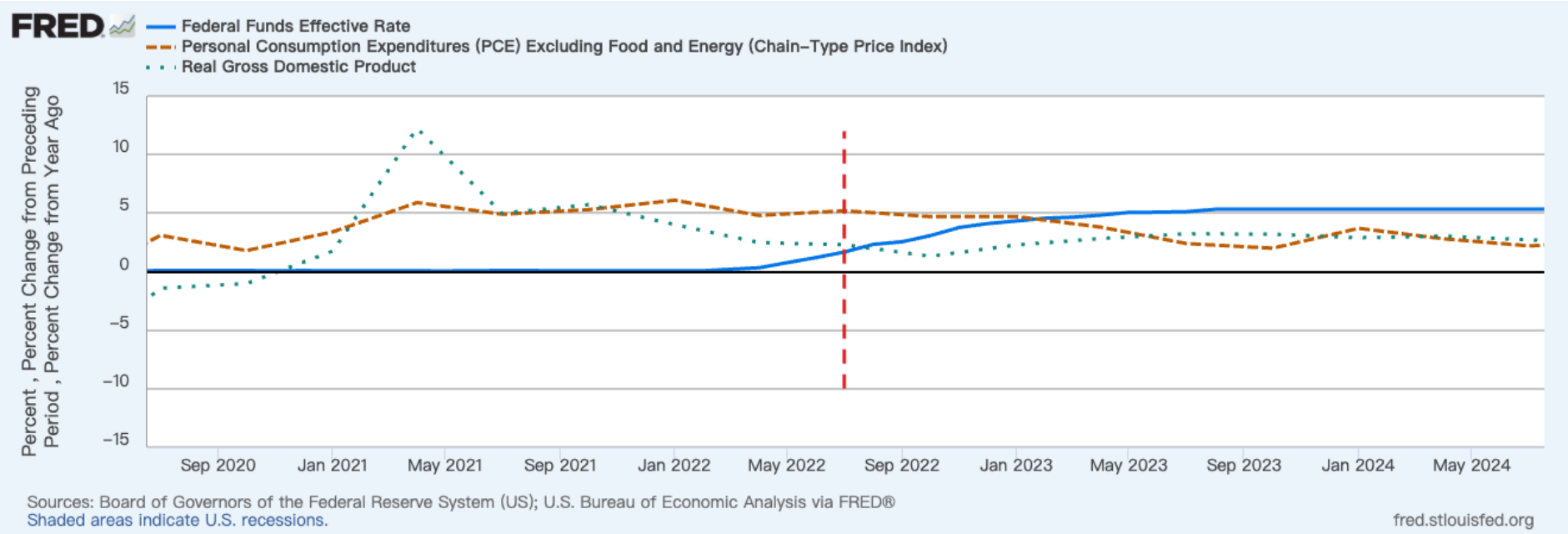


Outline

July 2022: Another Exogenous Shock?

- "Participants observed that inflation remained unacceptably high" ("Minutes," July 26–27, 2022, p. 8).
- Fits Romer-style criteria
- However, the inflation rate was already high for months and the real GDP growth rate slowed down.

July 2022: Another Exogenous Shock?



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Criticism of Narrative Approach

- Criteria still ambiguous
  - Admittedly, it is possible to have a more decisive judgment after reading the full transcripts
- Reverse causality risk remains
  - The changes in preferences may also be driven by economic conditions, or others things that we do not include in traditional rules, say financial conditions.
- No formal counterfactuals
  - The narrative approach still does not provide a formal counterfactual for the identified shocks.

Inaction as a Shock?

- In the 2022 case, the Fed suddenly decided to stop tolerating high inflation and thus was counted as a shock.
- Then What about the inaction of the Fed in 2021 when the inflation started to rise?
  - But some people argue that the Fed did not change its preference because it believed the inflation was transitory.
  - Others refered to the so-called "Make-up" policy, meaning that the Fed was willing to accept higher inflation for a while to make up for the previous low inflation.
- Maybe we can also create a new set of criteria for inaction shocks, but it is even harder than identifying action shocks.

Toward Better Identification

- Use the structural break test to identify exogenous shocks
- Explore textual AI
  - However, Romer and Romer mentioned that in some experiments, the correlation between AI-generated results with that by human auditors is very low.
- Include the narrative approach in the structural equations estimations

Outline

Key Takeaways

- Narrative approach solve major identification issues
- The empirical results show that Monetary policy has real, lasting effects on the economy
- July 2022 may be a modern test case when the full transcripts released in 2027
- Narrative approach still evolving and helpful with new models and technologies

Bibliography

- Romer, Christina D., and David H. Romer. "Does Monetary Policy Matter? The Narrative Approach after 35 Years." Working Paper. Working Paper Series. National Bureau of Economic Research, April 2023. https://doi.org/10.3386/w31170.
- Jordà, Òscar. "Estimation and Inference of Impulse Responses by Local Projections." American Economic Review 95, no. 1 (March 2005): 161–82. https://doi.org/10.1257/000282053828518.

Note: The full transcripts of the FOMC meetings are available at `https://www.federalreserve.gov/monetarypolicy/fomc_historical.htm`

Questions?

Thank you!