

People's Understanding of Macroeconomic Shocks

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Research question

Do Households Understand Macroeconomic Shocks?

And does it matter for their behavior?

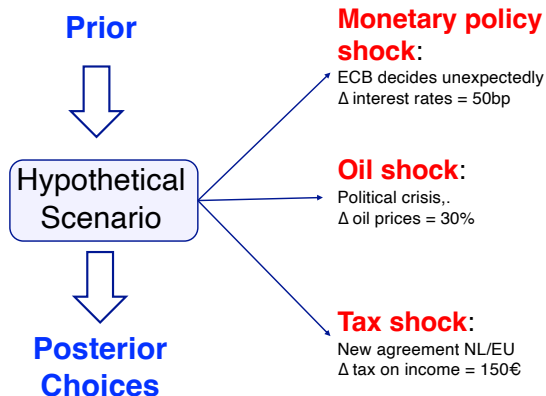
What I do

Novel survey with hypothetical scenarios

- Simulate macro shocks
 - Monetary policy shock
 - Oil price shock
 - Tax shock
- Quantify impact of macro shocks on **inflation and unemployment expectations**
- Impact on intended **spending & saving** choices

The survey

Conducted through the LISS Panel (Netherlands)

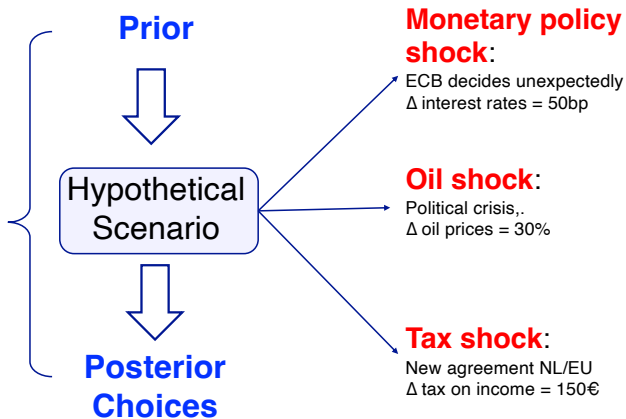
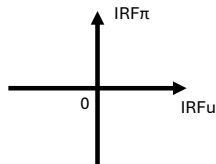


Effects of shocks: hh's beliefs

Posterior – Prior =

IRF π , IRF u

Study their joint
sign

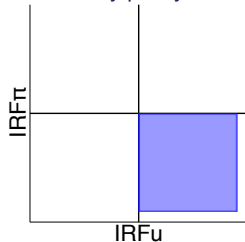


Beliefs vs Benchmark

How do π and u react to macro shocks?

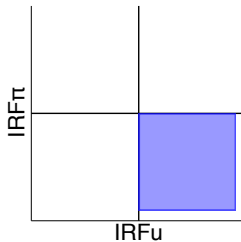
Macro theory + evidence from **empirical literature** = benchmark to compare households' responses.

Monetary policy shock



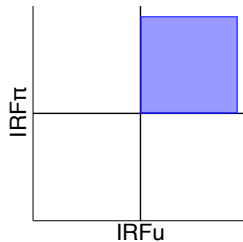
► Monetary policy

Tax shock



► Tax shock

Oil shock



► Oil shock

3 Results

1. Inconsistency
2. Heterogeneity
3. Inertia

Result 1): Inconsistency

The majority of hh responses are **inconsistent with benchmark**

- 60% oil shock → 90% policy shocks ▶ Inconsistency
- "supply side view" ▶ Supply side view

Result 2): Heterogeneity

Alignment with theory correlated with **hh characteristics**

Higher socioeconomic status (income, education, homeownership) → more likely to align with theory

► Heterogeneity

Result 3): Inertia

- **Inertia**: 35-45% don't update their beliefs ▶ Inertia
- Even more inertia regarding how personal choices (saving/spending) react to shocks
- **Consistency with benchmark → less inertia in saving & spending** ▶ Impact on choices

Why is this important?

Contribution

- Shocks: impact on **expectations and behavior**
- **Heterogeneity**: match responses with demographics

Policy implications

- Misinterpretations and inertia weaken **policy transmission**
- Belief heterogeneity → **distributional consequences**

Thank you very much!

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Appendix

Scenario: Monetary policy shock

Monetary policy shock

Shock: ECB $\uparrow$ interest rates from 4.5 to 5% Exogeneity:
"No other major economic events occur at the same time"

- **Textbook predictions**

nominal interest rate $\uparrow \rightarrow$ real ex-ante interest rate $\uparrow \rightarrow$
consumption $\downarrow$ (intertemporal substitution) $\rightarrow$ investment $\downarrow$
(where present) $\rightarrow$ aggregate demand $\downarrow \rightarrow$ **inflation** $\downarrow$ &
unemployment $\uparrow$

- **Support from VAR literature**

Jarociński and Karadi (2020) and Miranda-Agrippino and Ricco (2021)

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Scenario: Tax shock

Tax shock

Shock: increase in income tax

Shock size = €150 (=1% more income tax on median salary)

Exogeneity: environmental agreement EU/Netherlands

- **Textbook predictions:**

tax $\uparrow$ $\rightarrow$ disposable income $\downarrow$ $\rightarrow$ consumption $\downarrow$ $\rightarrow$
aggregate demand $\downarrow$ $\rightarrow$ **inflation** $\downarrow$ $\rightarrow$ labor demand $\downarrow$ $\rightarrow$
unemployment $\uparrow$

- **Support from VAR literature:**

Effect on unemployment Blanchard and Perotti (2002),
Mertens and Ravn (2012), and Mountford and Uhlig
(2009); effect on inflation Cloyne et al. (2023)

Scenario: Oil shock

Oil price shock

Shock: price of oil from \$85 a barrel to \$115

Exogeneity: political crisis in the Middle East

- **Textbook predictions:**

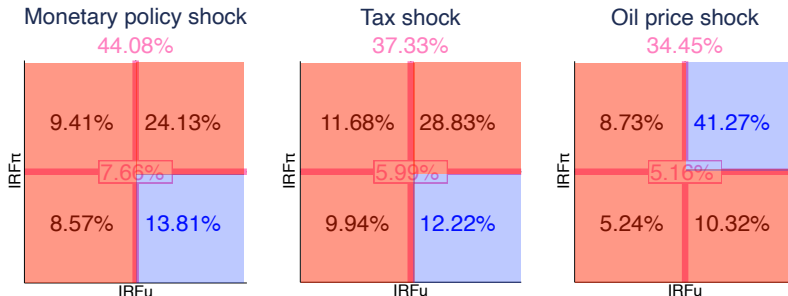
oil price $\uparrow \rightarrow$ firms' marginal costs $\uparrow \rightarrow$ firms optimally reset
prices $\uparrow \rightarrow$ labor demand $\downarrow \rightarrow$ **inflation $\uparrow$ &
unemployment $\uparrow$**

- **Support from VAR literature:**

Känzig (2021) and Neri et al. (2023)

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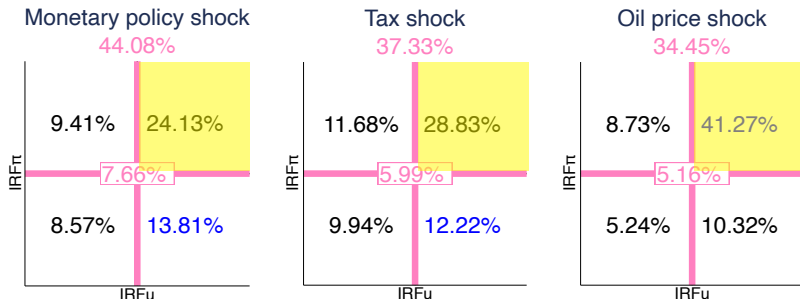
Inconsistency



- The majority of hh responses are **inconsistent with theory**
 - 60% oil shock $\rightarrow$ 90% policy shocks

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Supply side view



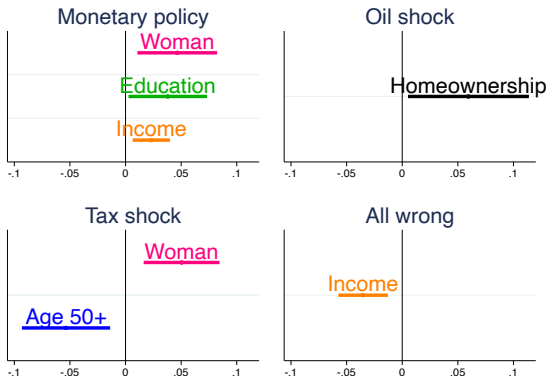
- Most popular sign combination: $IRF_u > 0$, $IRF_{\pi} > 0$
- All shocks: inflationary & recessionary

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Heterogeneity

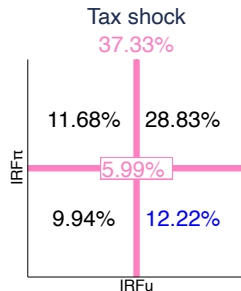
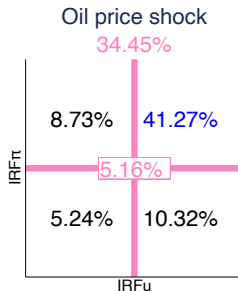
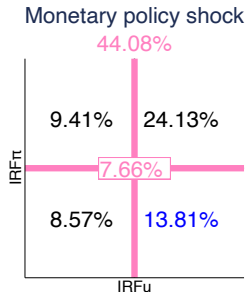
$$\text{dummy for theory consistency} = \gamma X + \epsilon$$

Age, gender, family, net income, employment, homeownership, sentiment, education



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Inertia



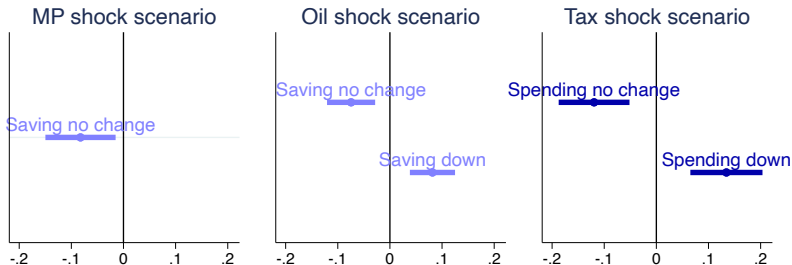
- **Inertia**: 35-45% don't update their beliefs

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Impact on choices

Survey question: spending/saving, increase/decrease/no change in response to the shock

$$\text{dummy for behavior} = \beta \text{ dummy for consistency} + \gamma X + \epsilon$$



Consistency with theory reduces inertia.

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