Reconciling the Effects of Government Spending: The Role of Information Frictions

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Motivation

- Recent large fiscal stimulus (GFC, Covid-19) → greater effort to understand the variations of how government spending influence the business cycle
- Fiscal policy theoretical and empirical 'morass' (Leeper, Traum & Walker, AER 2017)
- Information frictions matter for macroeconomic policymaking

Research Question: Do information frictions affect the transmission of government spending shocks? Yes.

- This paper documents a novel result that reconciles the Keynesian and neoclassical predictions of fiscal policy: by emphasising the importance of information frictions.
- Empirical: non-linear local projections framework with forecasters' disagreement as a measure of information frictions.
- Theoretical quantitative framework to explain the empirical findings on how information frictions could affect the consumption response to a government spending shock.

Empirical Methodology

Local Projections Structure

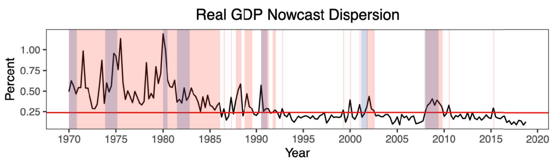
$$x_{t+h} = I_{t-1}[\alpha_{A,h} + \psi_{A,h}(L)z_{t-1} + \beta_{A,h}\text{shock}_t] + (1 - I_{t-1})[\alpha_{B,h} + \psi_{B,h}(L)z_{t-1} + \beta_{B,h}\text{shock}_t] + \varepsilon_{t+h}$$

- Follows Ramey and Zubairy (2018 JPE)
- High information frictions $I = 1$ when **disagreement** above median
- **shock**: Blanchard-Perotti (2002) government spending (state-dependent) shock
- z: control variables (lags of government spending and x)
- Data: US macroeconomic data and SPF disagreement (1970 - 2018)

Disagreement as a Proxy for Information Frictions

- There is a lot of disagreement in survey data, even on current conditions
- Time variation in disagreement driven by information frictions
  - Agents not fully informed all the time → Heterogeneity in beliefs changes over time
  - Consistent with information frictions predictions (Andrade et al., JME 2016)
    - Sticky information: slow diffusion of information (Mankiw, Reis and Wolfers, 2004)
    - Rational inattention: optimal attention allocation (Sims, 2003)

Disagreement Series: SPF Real GDP (1970-2018)



— Threshold: median disagreement ▬ Red shaded: high disagreement periods

▬ Grey shaded: NBER-dated recessions

Fit in the Literature

	Empirical		Theoretical
Info Frictions	• Carroll (2003) • Mankiw, Reis & Wolfers (2004) • Coibion & Gorodnichenko (2012, 2015)	• Falck, Hoffmann & Hürtgen (2018)	**Sticky Information** • Mankiw & Reis (2007) • Reis (2006, 2009)
	• Ricco, Callegari & Cimadomo (2016)	this paper	• Murphy (2015)
Fiscal Policy	• Auerbach & Gorodnichenko (2012,13) • Romer & Romer (2016) • Ramey & Zubairy (2018)	• Gali, Lopez-Salido, Valles (2007)	• RoT: Furnaletto (2011) • Deep habit formation: Ravn et al. (2007) • GHH preferences: Monacelli & Perotti (2008) • Christiano, Eichenbaum, Rebelo (2011)

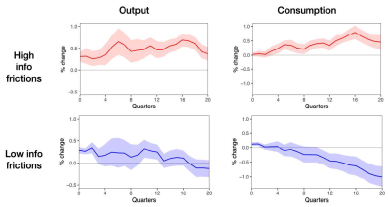
More Results in the Paper

- Empirical results: response of various macroeconomic variables to disaggregated shocks
- Empirical robustness checks: placebo tests (time periods as threshold), alternative measurements of disagreement
- Quantitative framework results: impulse response with varying degree of inattentiveness of other variables, impact multiplier with varying degree of information frictions
- Policy implications: Economic agents pay attention and respond variously to different fiscal shocks. Fiscal policymakers need to understand the decision making process of firms and households.

Key findings

Reconciling predictions on the effects of government spending

IRFs to a 1% government spending shock

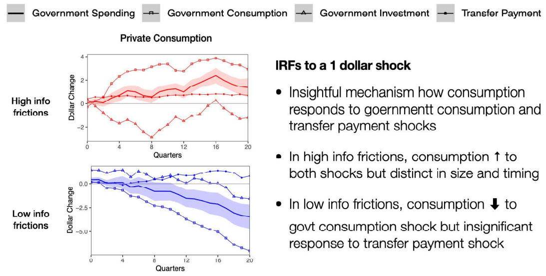


- In line with Keynesian predictions: output rises and consumption rises
- Blanchard and Perotti (2002)

- In line with neoclassical predictions: output rises and consumption falls
- Ramey and Shapiro (1998)

- Low info frictions: output rises, consumption falls (neoclassical)
- High info frictions: output rises, consumption rises (Keynesian)
- Responses of other macroeconomic variables in line with literature

Disaggregated components of government spending matters



IRFs to a 1 dollar shock

- Insightful mechanism how consumption responds to goernmentt consumption and transfer payment shocks
- In high info frictions, consumption ↑ to both shocks but distinct in size and timing
- In low info frictions, consumption ⬇ to govt consumption shock but insignificant response to transfer payment shock

- Government consumption, government investment and transfer payment
- Economic agents pay attention to different types of government spending

➡ Respond differently to the specific type of shock

Intuition for Response of *Consumption* to a Government Spending Shock

	Optimising Households	Limited Asset Market Participants	Aggregate
High info frictions	↓	⬆	↑
Low info frictions	⬇	↑	↓

Sticky Information General Equilibrium Model

- DSGE model with sticky information (see Mankiw and Reis (2007), Reis (2009)) + households with limited asset market participation.
- Information structure: expectations of each 'inattentive agent' are formed rationally, but they do not act on all information at each point in time.
- When information frictions are not severe, many households are able to identify a government spending shock: Ricardian effects dominates rule-of-thumbs households, leading to a fall in aggregate consumption.
- When information frictions impede households' ability to identify the shock, only few households save in advance of future taxes, leading to a rise in aggregate consumption.

Impulse Responses with Varying Degree of Inattentiveness