Research Proposal

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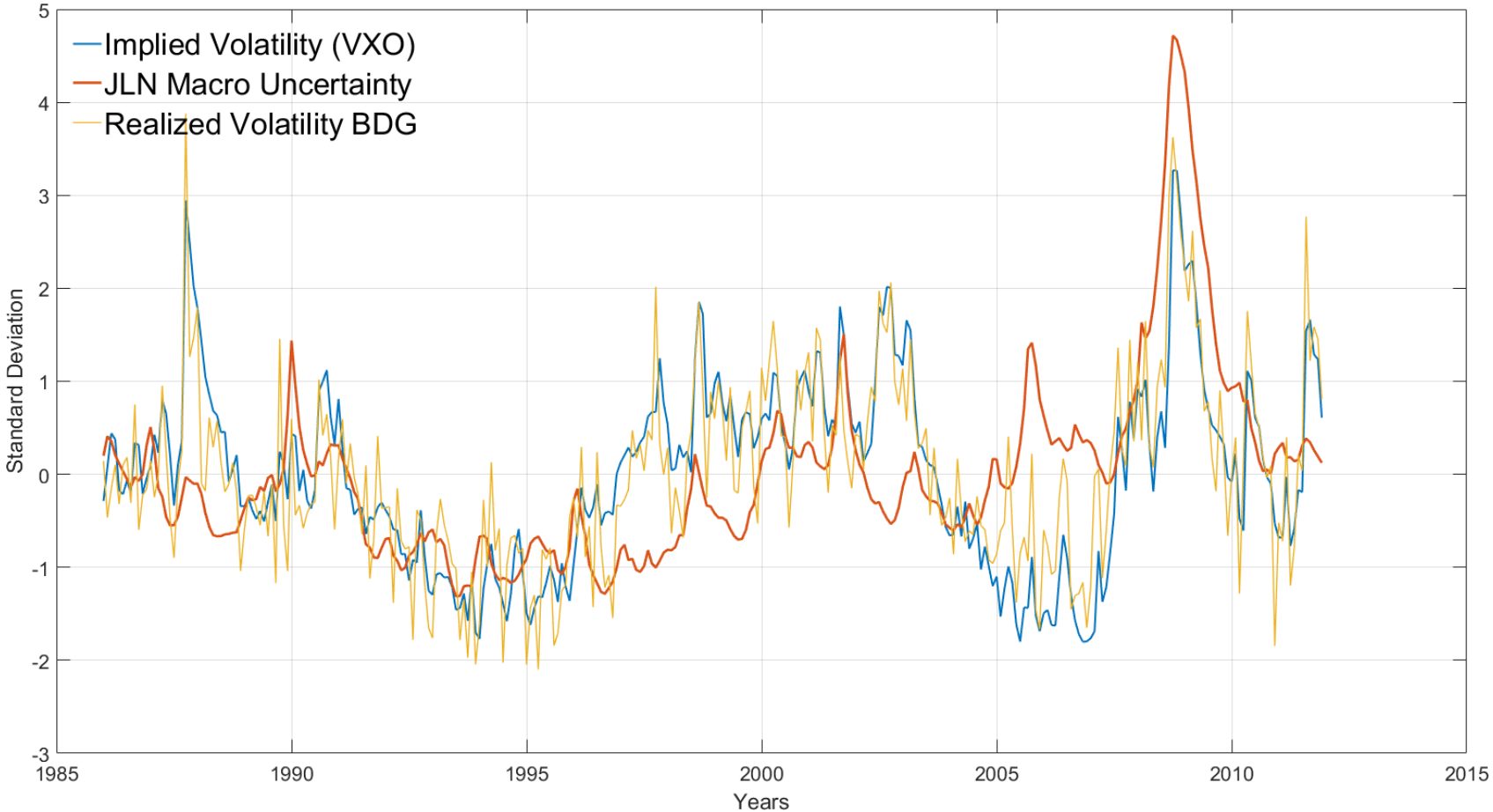
Dissertation Workshop

Relevance



	VXO	JLN	BDG
IP	-0.2358	-0.4935	-0.2822

Uncertainty as a driver of the business cycle

The acute instability that featured financial markets during the 2007-09 crisis and the relation with its unprecedented severity and duration have set doubts on known sources of economic fluctuations.

Since then, uncertainty has been proposed as a new potential driver of the business cycle.

Empirical literature has been called to answer the following positive questions

- Is uncertainty just an endogenous response to 1st-moment shocks?
- Does uncertainty plays an autonomous and active role as a driver of the cycle?

Uncertainty as a theoretical concept

- Frank Knight in 1921 defined **uncertainty** as people's inability to forecast the likelihood of events happening.

- Today, uncertainty is represented by the expected volatility of the unforecastable part of key macroeconomic variables.
  - Uncertainty $\neq$ Volatility (!)

Uncertainty as an empirical measure

- Uncertainty cannot be directly observed

- A series of different proxies
  1. Financial realized volatility
  2. Financial implied (expected) volatility
  3. Disagreement among a group of forecasters
  4. Cross sectional dispersion of firm profits
  5. Narrative approach

- Jurado et al. (2015) provided a generalized measure of macro uncertainty which is consistent with its theoretical concept.

Research Question

- Which is the **causal effect** of uncertainty on economic activity?
- In other words, which is the effect of an **uncertainty shock** on macroeconomic variables?
- Ideally, I would like to estimate through a **semi-structural model** a series of *primitive* and *exogenous* changes in agents' ability to forecast economic variables.
  - In this specific case, structural models tend to impose the result by construction.

Main Related Literature

- Stock and Watson (2012) - Brookings;
- Jurado, Ludvigson, and Ng (2015) - AER;
- Caldara, Fuentes-Albero, Gilchrist, and Zakrajsek (2016) - EER;
- Berger, Dew-Becker, and Giglio (2019) - R&R REStud;
- Cascaldi-Garcia and Galvao (2019) - forthcoming JMCB;
- Ludvigson, Ma, and Ng (2017) - NBER working paper.
- Carriero, Clark, and Marcellino (2019) - forthcoming REStat
- Carriero, Clark, and Marcellino (2018) - working paper

Challenges

1. It is a **latent variable**
   - it cannot be directly observed
2. Potential **reverse-causality** with current shocks
   - uncertainty responds on impact to any 1st-moment shocks
   - aggregate variables respond on impact to uncertainty shocks
3. Potential **endogeneity** with any news shocks
   - Signal regarding future states of the economy may affect current uncertainty
4. It is deeply confounded with **financial shocks**
   - Exogenous changes to the supply of any form of lending

Latent Variable

Exercise where VXO innovation is completely unrelated to JLN innovation

Reverse causality with current shocks

Proxy SVAR with synthetic instrument, narrative approach

Endogeneity with news shocks

SPF have the right timing

Romer and Romer, and Valerie Ramey control for future signals

Robustness check for Barsky and Sims shocks but squared!

Financial Shocks vs Uncertainty Shocks

Internal instrument cash flow