Discussion of

"Watching Paint Dry? Monetary Policy Conditions and Balance Sheet Policies"

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Summary

Beyond the Shadow Rate

Motivation

- Policy rates alone fail to capture stance in QE/QT world.
- Shadow rates revert mechanically to policy rate once ELB lifts
  $\Rightarrow$ no longer informative

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Contribution

- New **Monetary Policy Condition Index** (MCI):

$$\mathrm{MCI}_t \;=\; \underbrace{b\, m_{1t}}_{\substack{\text{2-yr yield} \\ \text{(policy rate proxy)}}} \;+\; (1-b)\,\underbrace{(-m_{2t})}_{\substack{\text{Balance sheet} \\ \text{(\% of GDP)}}}$$

$\Rightarrow$ Unified indicator across conventional and unconventional regimes.

Methodology

- Weight b estimated in Bayesian VAR with output, inflation, financial conditions (Gibbs sampler + Metropolis-Hastings)
- Identification of shocks via sign restrictions → demand, supply, risk aversion, monetary

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Findings

- Prior: $b \approx 0.95$ (calibration) $\rightarrow$ Posterior: $b \approx 0.81$
  $\Rightarrow$ Balance sheet plays larger role than prior literature suggests
- MCI tracks shadow rate before and at ELB but diverges afterward.
- Historical perspective: QE crucial in post-GFC recovery; pandemic easing supported growth but fueled inflation; post-pandemic conventional tightening partially offset by the large balance sheet

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On the Index

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  - Rate hikes $\rightarrow$ short-term rates, lending and expectations (Bernanke & Gertler, 1995; Mishkin, 1996)
  - QE/QT $\rightarrow$ term premia, portfolio balance and reserves + state-dependent, non-linear effects (Krishnamurthy & Vissing-Jorgensen, 2011; D'Amico & Seida, 2023; Wei, 2023)
  - $\exists$ "information effects" complicating aggregation (Jarociński & Karadi, 2020).

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  - ∃ "information effects" complicating aggregation (Jarociński & Karadi, 2020).
- The proposed framework over-aggregates results. Suggestions:
  - Some of these aspects could be better contextualized
  - Explore alternative functional (non-linear) forms for m_t

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- **Single dimension** that ignores
  - Composition: longer-duration purchases reduce term premia more strongly (Vayanos & Vila, 2009; Gagnon et al., 2011).
  - Duration: the maturity mix of Fed/TSY debt holdings shapes yield curve effects (Greenwood, Hanson & Stein, 2015).
  - Forward guidance vs QE: affect different parts of the curve (Campbell et al., 2012; Swanson, 2021, Odendahl et al., 2024).
  - Liquidity tools: alter funding conditions beyond balance sheet size (Ihrig et al., 2020; Arslan et al., 2022).

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- Some of these concerns are addressed in Sections 5.2-5.3. However:
  - extensions rely on strong priors - how do you calibrate the priors of ε, b_1, b_2 and b_3? - or are assumption-driven - survey-based B^*
  - not covering forward guidance or heterogeneous facility

Main Comments

On the VAR framework

Estimation of b

- Concerns:
  - Posterior highly prior-driven, calibration of prior means based on two papers only $\rightarrow$ it should be better grounded
  - Flat likelihood $\rightarrow$ weak identification (Canova & Sala, 2009; Baumeister & Hamilton, 2015)
  - Diffuse prior $\rightarrow$ $b < 0.6$ (MLE): balance sheet almost as important as interest rate
- Potential solutions:
  - Pre-sample training priors (Doan, Litterman & Sims, 1984)
  - Empirical Bayes/marginal likelihood calibration (Giannone, Lenza & Primiceri, 2015; Chan, 2022)
  - Hierarchical shrinkage priors (Giannone, Lenza & Primiceri, 2019)
  - External instruments to discipline prior on b (Stock & Watson, 2018)

Main Comments

On the VAR framework

Weak inference due to balance sheet

- Balance sheet only informative post-2008 ⇒ short effective sample
- Series is highly persistent (near unit root) ⇒ hard to disentangle shocks from slow trends
- Small sample + persistence ⇒ unstable coefficients, flat likelihood, inference highly sensitive to priors (Inoue & Kilian, 2002; Baumeister & Benati, 2013; Rossi, 2019)

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Endogeneity MCI $\iff$ financial conditions

- b is partly estimated from financial variables (FCI).
- MCI shocks are then used to explain financial conditions ⇒ simultaneity
- Central banks both influence **and react to** financial markets ⇒ causal direction blurred
- MCI may embed FCI by construction

⇒ Solutions: use external instruments or HFI (Gilchrist & Zakrajšek, 2012; Miranda-Agrippino & Ricco, 2021; Caldara & Herbst, 2019)

Additional comments

VAR

- Information effects: MCI shocks may conflate stance with central bank information (Nakamura & Steinsson, 2018; Jarociński & Karadi, 2020)

  ⇒ see comments on HFI and proxies above
- Policy proxy: 2-year yield bundles stance with expectations, might not be super clean policy measure

  ⇒ additional controls for expectations?
- Covid: Do you control for it?

  ⇒ Covid priors (Lenza & Primiceri, 2022)?

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MCI

- Time variation: very promising ⇒ modeling it in the VAR?
- Additional robustness: risk that the MCI replicates the shadow rate pre-ELB and fudges the balance sheet post-ELB
  ⇒ run VAR with shadow rate and balance sheet separately

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