Discussion of

Monetary Policy throught Production Networks: Evidence from the Stock Market

by Ali Ozdagli and Michael Weber

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  - **Issue:** However, there is heterogeneity across sectors/industries
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- **Idea/contribution:** exploit trade networks to investigate heterogeneous effects of MP shocks, i.e. direct vs indirect effects.

Heterogeneity from trade networks

In- and Out-Degree USE and MAKE I-O Tables 1997/2002

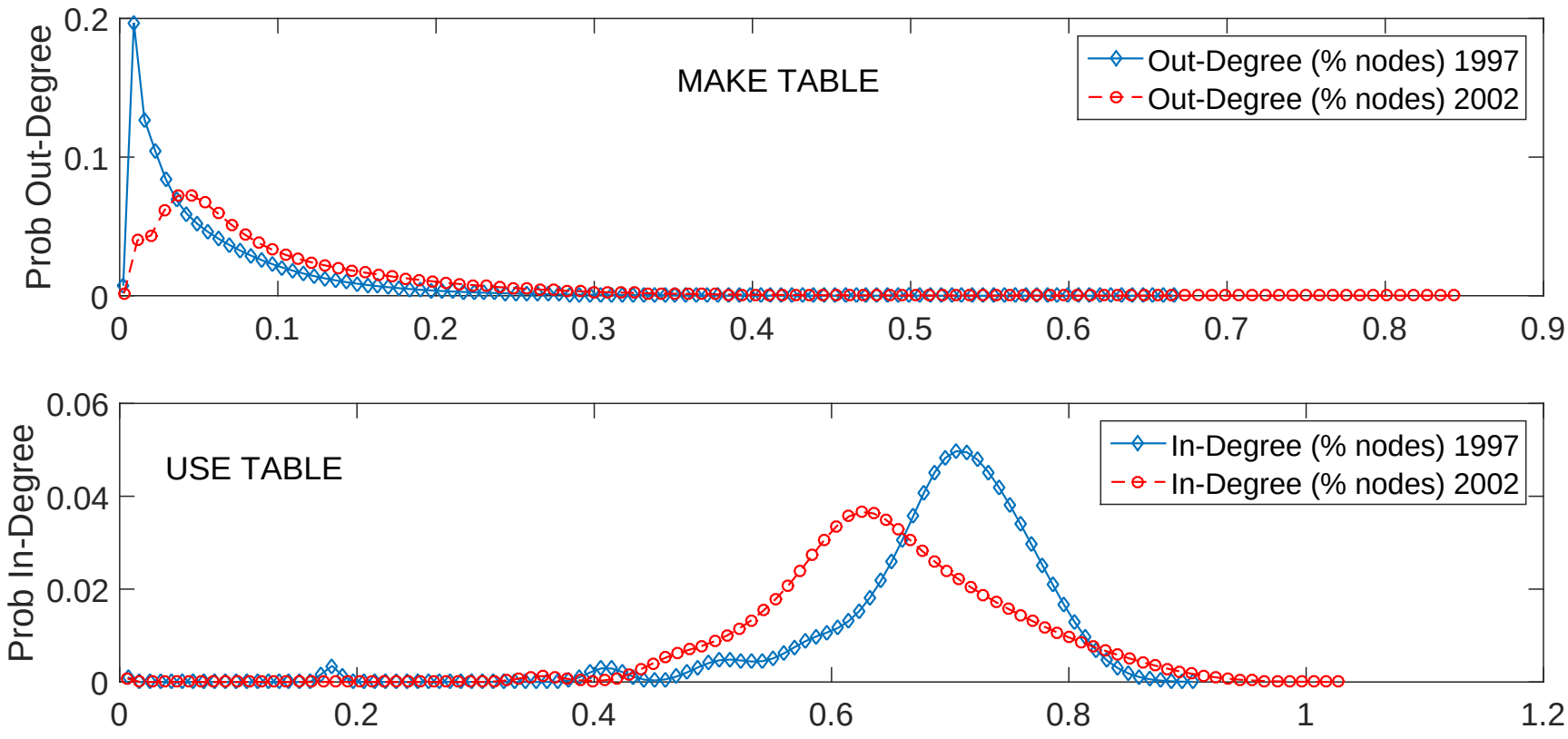

Figure: Probability Distribution Function of Out-Degree for MAKE Table (top panel) and In-Degree for MAKE Table (bottom panel).

Authors' framework

Main ingredients:

1. One period model as background (see, e.g Acemoglu et al. 2015 and Carvalho 2014), MP shocks as demand shocks.

2. MP shocks identification from financial market instruments, i.e. futures on policy rates, (see e.g. Svensson 1994, Soderlind and Svensson 1997, Cochrane and Piazzesi 2002, Piazzesi 2002, Gürkaynak et al. 2005, etc.)

3. Spatial autoregressive process to identify direct vs indirect effects of MP shocks (see LeSage and Pace 2009 Ch.1)

Comment 1: One period model...

No depository institutions or borrowing/lending intermediaries:

- Money supply through cash-in-advance constraint; $p = M$ monetary neutrality (Appendix extensions $p = f(M)$)

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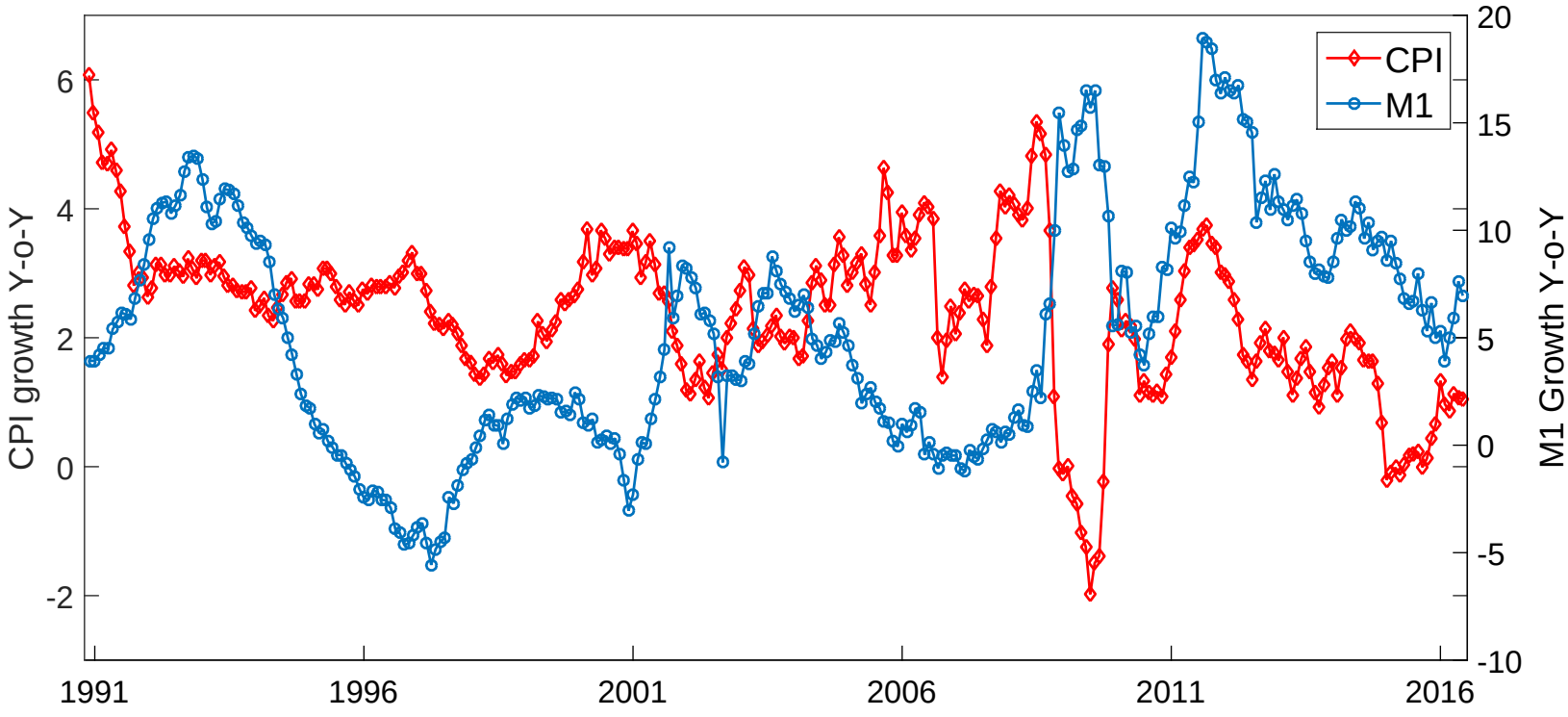

Figure: Money Stock M1 (light-blue line) and the CPI index (red line), Y-o-Y growth, 12:1990-01:2016.

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- Money supply through cash-in-advance constraint; $\hat{p} = \hat{M}$ monetary neutrality (Appendix extensions $\hat{p} = f(\hat{M})$)

Comments: Does this constraint really capture demand effects of MP shocks?

- $\hat{p} = f(\hat{M})$ likely not stable over time and possibly weakened (reversed?)
- Cash-in-advance constraint as effective "substitute" for the role of depository institutions? perhaps too "simplistic"?

Comment 2. MP shocks identification...

MP unexpected shocks identified as changes in the current month federal funds future after the FOMC press releases.

Expected shocks = actual - unexpected shock.

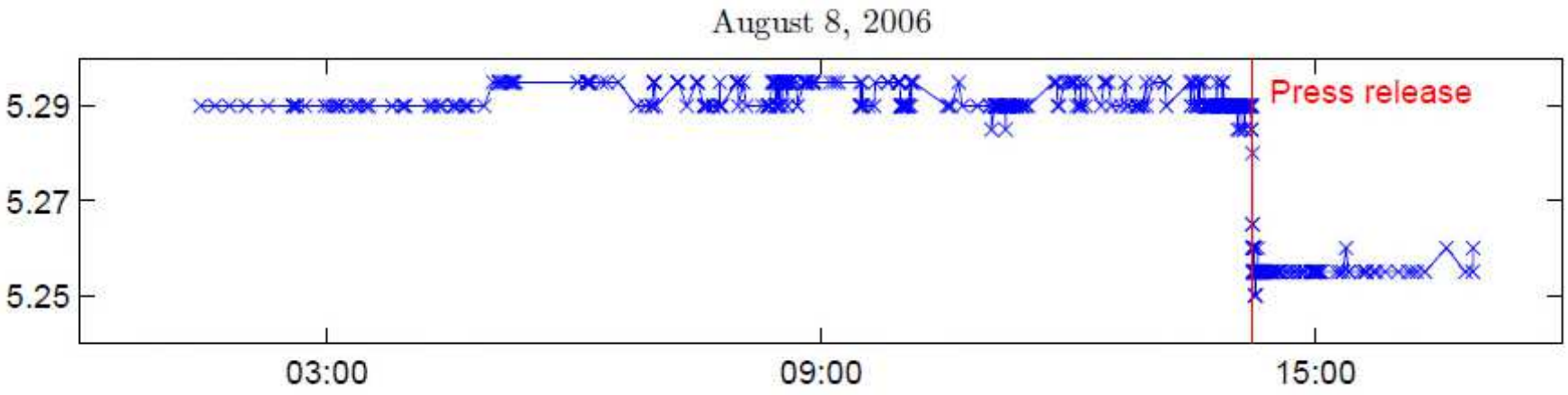

Figure: Change in the current month futures Aug 8th 2006, no Actual change

Comment 2. MP shocks identification...

DJ-CNBC SURVEY: Majority Of Banks See Steady Fed Tuesday

By Michael S. Derby

Of DOW JONES NEWSWIRES
682 words
4 August 2006
17:48
Dow Jones Capital Markets Report
CM
English

NEW YORK (Dow Jones)--Economists at Wall Street's biggest banks expect the Federal Reserve to hold steady its key overnight interest rate when policy makers gather next Tuesday.

A Dow Jones Newswires/CNBC survey of 22 of the 23 primary dealers found that a majority of respondents believe the central bank will keep its overnight target rate fixed at 5.25%. The dealers, who conduct business directly with the Fed and underwrite Treasury debt auctions, were surveyed after the release Friday of weaker-than-expected July employment data.

Figure: Dow Jones Newswires, Aug 4th 2006, no expected change from primary dealers.

Comment 2. MP shocks identification...

Why markets reacted to something expected?

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Why markets reacted to something expected?

Comments: Truly (exogenous) policy shocks?

- Futures returns changes possibly due to different information sets between policy maker and investors, i.e. information alignment.
- Unexpected shocks potentially reflects changes in risk premia and/or beliefs about economic growth.
- Possibly test for the predictability of unexpected shocks using past information!!

Comment 3. Spatial autoregressive process... Specification

The SAR model is given by (see Ch. 1 in LeSage and Pace 2009)

$$y = \beta v + \rho W' y + \epsilon,$$

such that the DGP is

$$y = \left(\mathbb{I}_n - \rho W'\right)^{-1} \beta v + \left(\mathbb{I}_n - \rho W'\right)^{-1} \epsilon, \quad \epsilon \sim N(0, \sigma^2 \mathbb{I}_n),$$

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Comments: Specification

- The DGP implies $E(y) = 0$,
- Constant idiosyncratic risk? maybe $\sigma^2 V$ with $V = (v_1, ..., v_N)$ (See Ch. 5 in LeSage and Pace 2009, code online).

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- Assuming Bayesian procedure; prior for ρ? sensitivity?
  - $\rho_0 \sim U\left(\lambda_{\text{min}}^{-1}, \lambda_{\text{max}}^{-1}\right)$ with λ eigenvalues of W,
  - $\rho_0 \sim U\left(-1, 1\right)$,
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- Sampling ρ, analytical vs Metropolis-Hastings? If M-H convergence properties?

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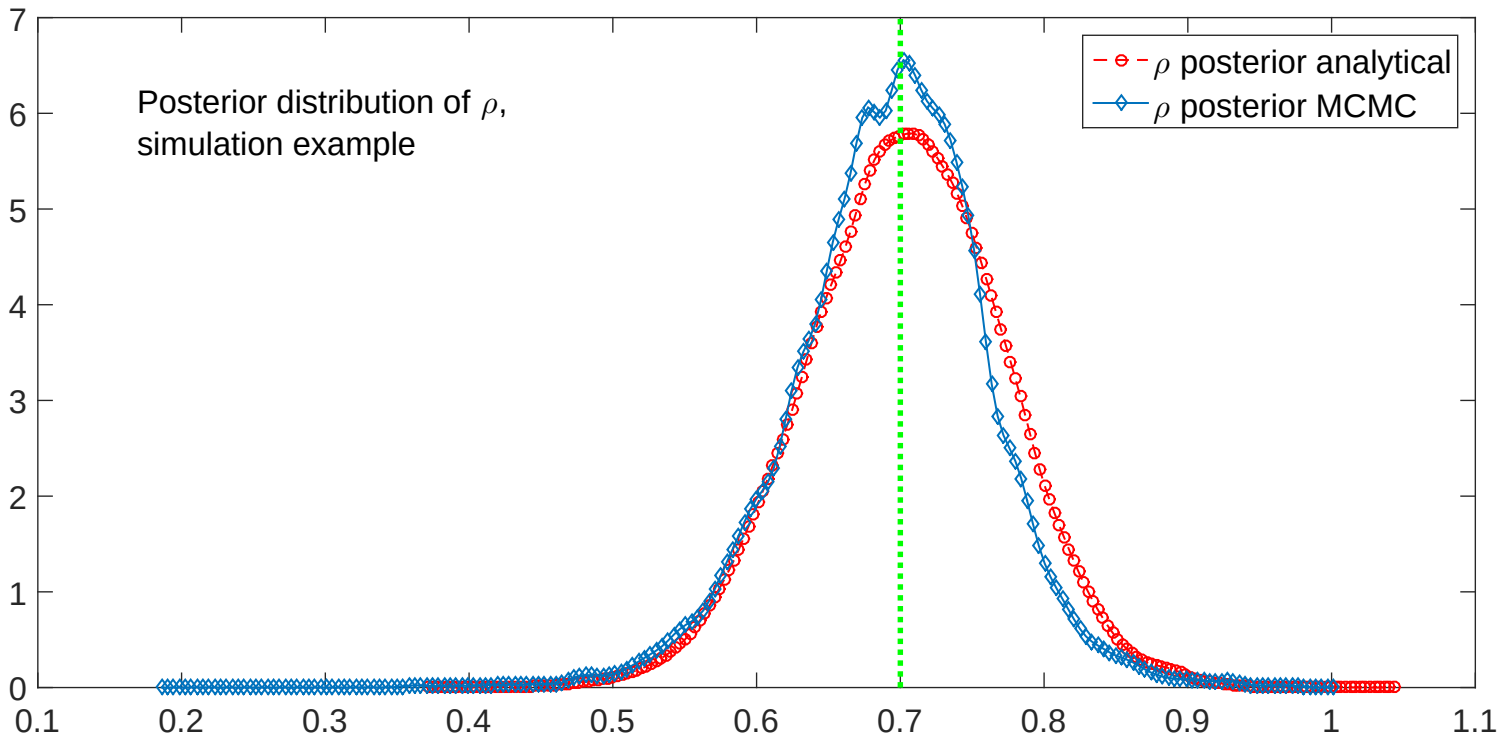

Figure: Posterior distribution of ρ from the M-H step (blue line) and the direct sampler (red line). Simulated SAR with $\rho = 0.7$.

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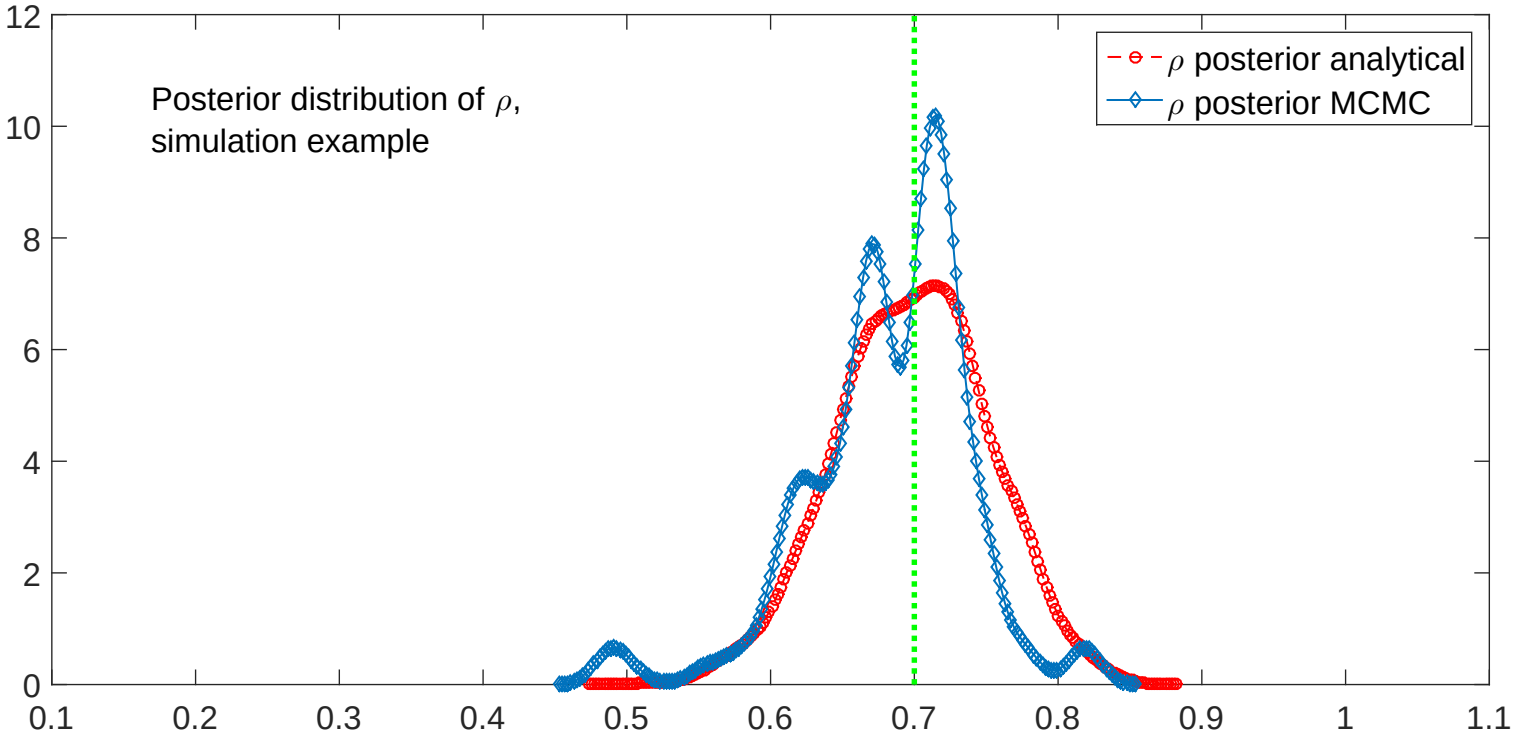

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Conclusions

Really interesting paper which I recommend to read