The redistributive effects of monetary policy

Daniel Andrei

Discussion by Lorenzo Burlon (Bank of Italy)

"Aggregate and Distributive Effects of Unconventional Monetary Policies"
Gerzensee, 10 November 2017

THE PAPER IN A NUTSHELL

- Proposes a stylized model of the economy as a network:
  - endowment economy,
  - pure exchange of N goods among N agents (with money),
  - complementarity in consumption (network topology),
  - price takers, N markets.
- Crucial prediction: prices in markets "closer" to monetary shocks respond more.
- Empirical evidence for the US.

THIS PAPER IN A NUTSHELL

- Topical for the current policy debate.
- Points at topological concerns in the propagation of monetary stimuli.
- (Key propositions are clear and elegant.)

FOUR COMMENTS

1. Model: dynamics, production, network endogeneity.
2. Empirics: measurement, identification.
3. Policy implications.
4. (Additional comments: test design.)

MODEL

- Dynamics: Sticky prices might provide similar empirical implications.
  - Sectoral heterogeneity in price stickiness (Pasten, Schoenle, Weber, 2017);
  - Central banks buy (flex price) financial assets, effects "percolate" to (sticky price) goods.
- Production: stronger GE effects and better match with PPIs.
- Endogeneity of network:
  - networks are equilibrium products, especially w/o dynamics;
  - they respond (even strategically) to shocks.

EMPIRICS: MEASUREMENT

- Challenge 1: test a network model with no observable agent-by-agent (product-by-product?) data.
- Resort to use proxies:
  - input-output tables ('structural', Acemoglu et al. 2012) or
  - correlations ('reduced-form', Diebold and Yilmaz 2014).
- We observe only equilibrium outcomes:
  - no clear mapping between unobserved network structure and observed correlations (e.g., cyclical network);
  - little info on propagation from correlations.

Further issue: aggregation level (15 sectors weighed equally).

EMPIRICS: IDENTIFICATION

- Challenge 2: find exogenous monetary policy shock of central bank purchases.
- Monetary aggregates are endogenous to fundamentals of the economy: can cause reverse causality and hide omitted variables in regressions.
- Controlling for a few aggregate observables, however lagged, is not enough: no identification.
- Perhaps a narrative approach à la Romer & Romer? Case studies?

POLICY

- Redistributions and prices: marginal vs. inframarginal investors.
- Which monetary shocks? Transmission and effectiveness depend on instrument (channels, agents, implementation).
- Any actual policy recommendation?
  - No clear purpose for monetary policy in the model.
  - Randomize intervention location?

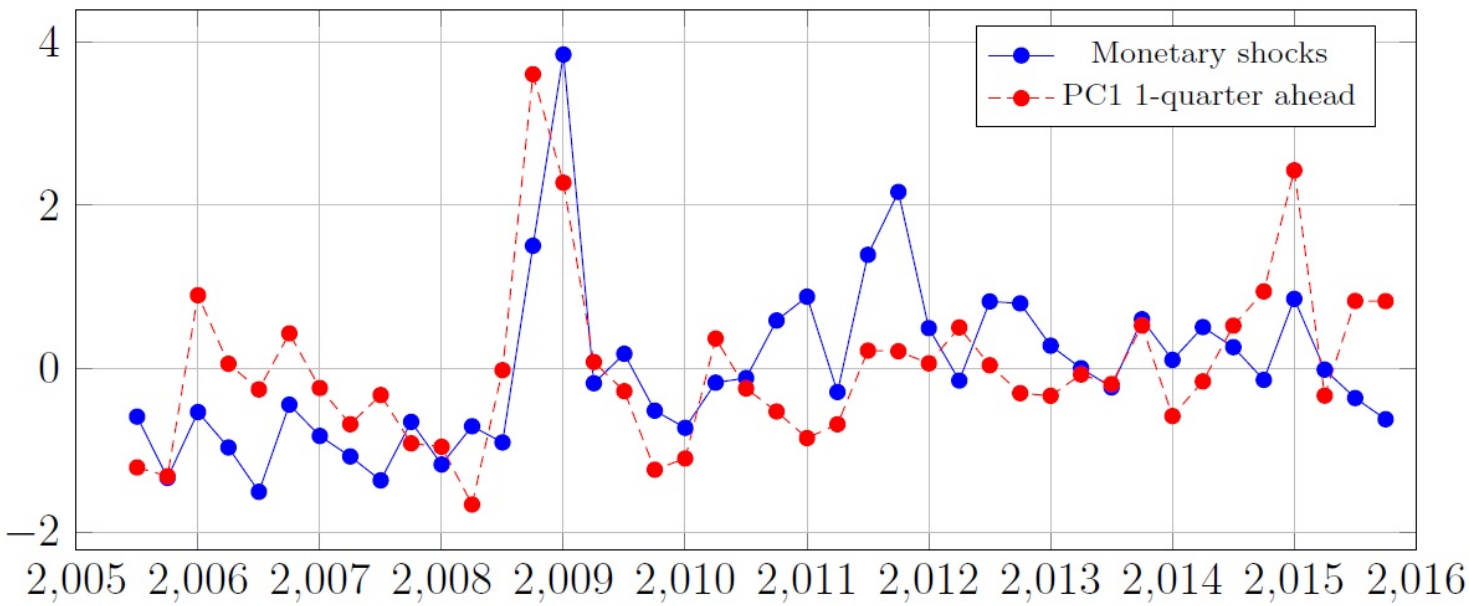
    $\longrightarrow$ LLNs may not apply in full with networks.
  - Target specific "key" players (Ballester et al. 2006)?

    $\longrightarrow$ Need to know the trade structure (administrative data, network data sampling), networks endogenous to detection.

Thank you.

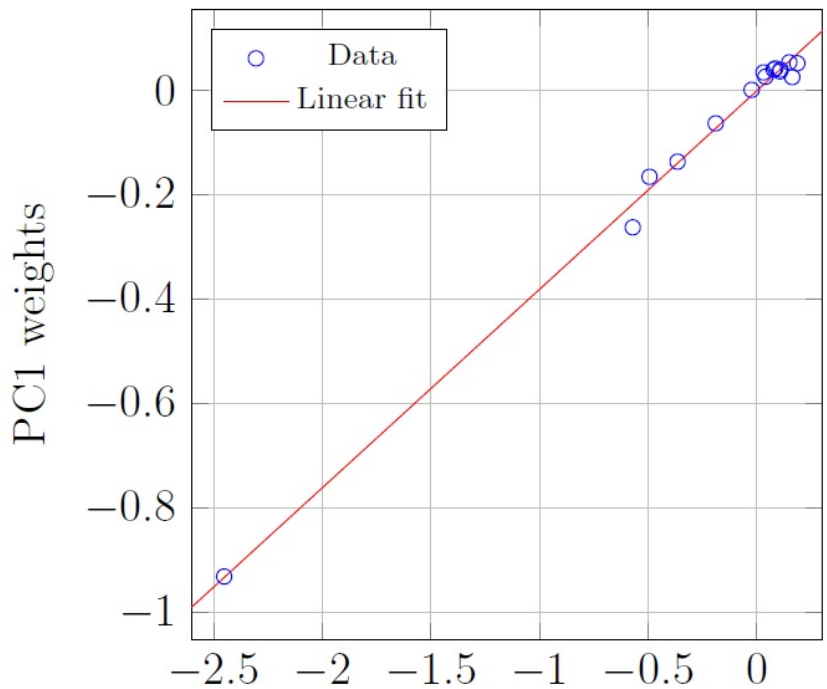
ADDITIONAL COMMENTS: TEST DESIGN

- Challenge 3: test empirical implications of a stylized model.
- Empirical exercises are not tests of model fit.
- Test 1: correlation between PC1 of price changes and changes in monetary aggregates signals that there is a business cycle that both prices and monetary aggregates follow.



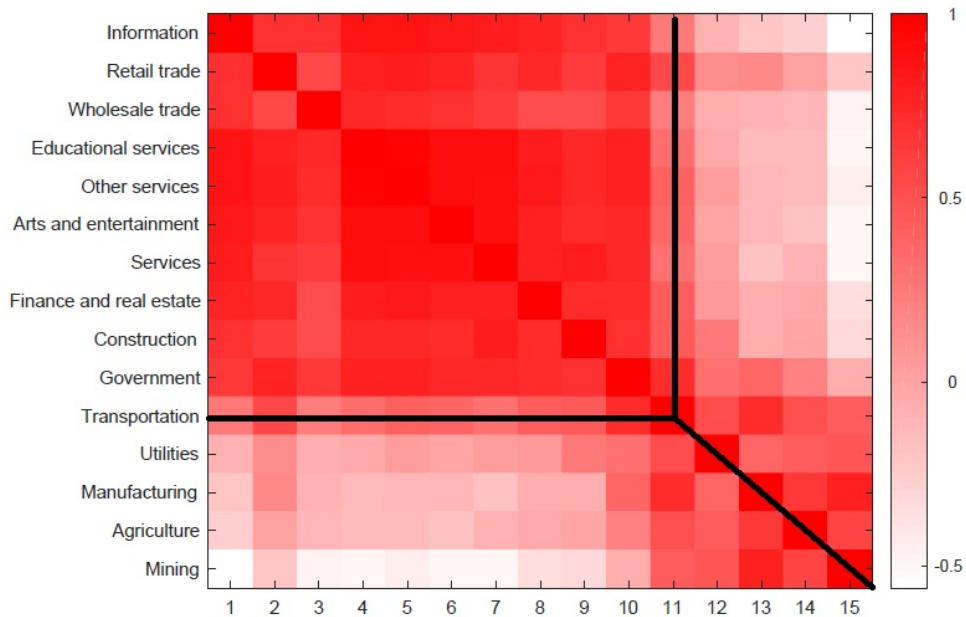
ADDITIONAL COMMENTS: TEST DESIGN

- Challenge 3: test empirical implications of a stylized model.
- Empirical exercises are not tests of model fit.
- Test 2: cross-sectional correlation between PCA weights and regression coefficients simply compares the coordinates of the projection of the same data onto two dimensions, a latent one (PC1) and an observable one (ΔM_t). Any other dimension somehow correlated with the latent one would work.



ADDITIONAL COMMENTS: TEST DESIGN

- Challenge 3: test empirical implications of a stylized model.
- Empirical exercises are not tests of model fit.
- Test 3: model predicts "funnel" structure of rearranged correlation matrix, data seems to suggest block-diagonal structure (in PC1, "upper" sectors must have higher weights).



ADDITIONAL COMMENTS: TEST DESIGN

- Challenge 3: test empirical implications of a stylized model.
- Empirical exercises are not tests of model fit.
- Test 4: correlation between coefficients from Δr and ΔM simply suggests that in the data industry returns are correlated with prices changes.