Discussion of the paper: Big Data Information and Nowcasting: Consumption and Investment from Bank Transactions in Turkey"

CCBA Conference on "Advanced analytics: new methods and applications for macroeconomic policy"

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[1] Views expressed here are not those of the FRB

What the paper does

- Use proprietary transaction data to "mimic" private domestic demand C): construct indicators for C (goods and services) and I (construction, machinery & equip), to predict/anticipate important GDP components
- Work hard to ensure that resulting measure are representative
- Put them at work to nowcast/forecast GDP growth in Turkey (interesting case)
- Use different approaches to incorporate this information
- Provide measures of usefulness of these indicators. Metrics is forecast performance (MAE)
- Interesting lit review on similar projects

What the paper finds

- Big Data Indicators (BDI) work
- BDI most useful at the beginning early in the quarter when other data sources not yet available
- Nonlinear/ML methods do not seem to help much

The nowcasting exercise, I

- Use different techniques
  - linear and nonlinear Bridge Equations (BEs): using Random Forests and Gradient Boosted Decision trees
  - linear mixed frequency DFM
  - linear mixed frequency BVAR

The nowcasting exercise, II: Bridge Equations

- Predictors included directly into BE
- Predictors converted to quarterly frequency
- Not clear how they deal with the ragged edge problem. Using AR univariate model for each series?

The nowcasting exercise, III: And the winner is ...

- Using MAE metrics, DFM clear winner
- Further refinements do not alter conclusion
  - Lasso (really needed with small info set here?)
  - Forecast combination (really needed when some models are clearly inferior?)

Additional questions

- Have you tried usefulness of BDIs for nowcasting C and I?
- How to interpret little usefulness of ML techniques here?
- Correlation across forecast errors?
- More details on the DFM model: how many factors, one or more, lags structure of the factors etc.
- interpretation BEs v. MF-DFM comparison: in turbulent times BEs might offer some more flexibility. Not in this case.

Summary

- Very interesting paper, very hard and careful work to construct these indicators
- Key is information content of BDIs
- Not sure about role of ML methods