Discussion of "Banks' Financial Conditions and the Transmission of Monetary Policy: A FAVAR Approach"

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This paper has much to recommend it. The authors, Ramona Jimborean and Jean-Stéphane Mésonnier, make a solid contribution to the emerging literature on factor-augmented vector autoregression (FAVAR) models. They deftly handle their data and circumvent potential problems in the form of too many banks (to fit their framework) and the launch of the European Union (EU). They motivate and exposit the paper very well. Most importantly, I agree with their findings if not all inferences they draw from their findings.

My comments come in three parts: their contribution to the FAVAR literature, their contribution to the broader literature that tries to identify causal/structural bank lending and balance sheets and the transmission of monetary policy, and last but not least, their contribution to macroprudential supervision, the topic of this conference.

1. Contribution to FAVAR Literature

If this were Hollywood, FAVAR would be described as principal components (PC) analysis meets vector autoregressions (VAR). Given the lengths of most time series, VAR models are limited to half a dozen or so variables. Such parsimonious specifications clearly leave room for omitted variables and thus misidentification of shocks. Lately, macro econometricians have begun to use PC analysis to extract common components, or factors, from micro data sets (on banks or bonds, for example) and then add those factors to a VAR comprising macro factors or ordinary macro time series.

Given data-rich (and data-hungry) central bankers, FAVAR may become, if it is not already, the standard for macro and monetary econometrics. The FAVAR literature is small, however, because FAVAR programs are not available off the shelf. The Jimborean and Mésonnier paper is one of only about half a dozen such papers to date, including most notably Bernanke, Boivin, and Elias (2005). While Jimborean and Mésonnier are not the first to look for evidence of a bank lending channel using FAVAR models, they are the first to look at two bank factors that figure prominently in the literature on macroprudential supervision and in popular narratives of the crisis: liquidity and leverage.[1]

Their main findings are that (i) bank liquidity and leverage factors predict macro variables, including housing market proxies, and (ii) the impact of a monetary impulse on macro variables is invariant to bank factors. I will discuss their second finding more later in my comments. A curious aspect of their first finding is that the liquidity factor appears to predict macro factors *less* during the crisis. In their table 5, the liquidity factors are only significant in the pre-crisis period. By contrast, the leverage factors are significant over the full sample and pre-crisis period. That goes against the narrative that the U.S. bank crisis was a liquidity crisis, not a solvency (leverage) crisis.

Two cautions are worth noting in interpreting their results. First, to fit the FAVAR framework and work with a balanced panel, the authors wound up studying only 52 of their initial 620 institutions. Because they include only banks that are in the sample over the full sample period, they may have, as they admit in a footnote, sample selection bias. As a robustness check, they might be advised to follow Dave, Dressler, and Zhang (2009) and take a random sample of banks.

Second, while they are data rich, they are still degrees-of-freedom poor. As a result, they cannot include all the bank liquidity and leverage factors simultaneously in the FAVAR models. Thus, they cannot answer the natural question of whether liquidity matters given leverage, or vice versa.

[1]The FAVAR analysis in Dave, Dressler, and Zhang (2009) adds disaggregated bank lending data to investigate a lending channel of monetary policy in the United States.

2. Contribution to Literature Identifying Bank Lending and Balance Sheet Channels

The authors' second finding is that the impact of a monetary impulse on macro variables is invariant to bank factors. This finding seems to fit more with the literature investigating the causal/structural link between monetary and financial impulses and the macro economy, and I think it is here that their paper contributes the least. Their paper is essentially a FAVAR version of the VAR analysis by Ramey (1993).[2] Like the authors, Ramey tries to identify the credit channel of monetary policy by shutting down that channel (by zeroing out certain off-diagonal coefficient elements), then seeing whether the response of output to a monetary impulse changes appreciably. Like Jimborean and Mésonnier, Ramey finds that the impact of a monetary policy shock barely changes when most proxies for the credit channel are shut down. Her bottom line is as follows: "the marginal effect of some of the leading credit channels is negligible" (Ramey 1993, p. 43).

In his comment on Ramey, then-professor Bernanke (1993) admonishes that trying to uncover structural relationships using reduced-form timing relationships is futile. He admits that the same point applies to much of the 1990s' literature on credit channels, including Bernanke and Blinder (1992) and Romer and Romer (1990).

In light of the Bernanke (1993) critique of Ramey (1993), Jimborean and Mésonnier are careful not to infer too much from their reduced-form timing relationships; they merely conclude that central bankers need not monitor bank liquidity and leverage positions when forecasting how their actions will affect the macro economy. To be safe, I wish the authors had included a warning in their conclusion *not* to make any structural inferences from their findings on the transmission of monetary policy.

The authors were a little light with the literature review. Except for a paper by Ashcraft, they neglect recent studies by EU researchers, such as Jiménez et al. (2010), that use bank- and borrower-level data to identify bank loan and balance sheet effects. The identification in those borrower-level studies is very fine, and

[2] Actually, Ramey (1993) used a vector error-correction augmented VAR.

the authors consistently turn up evidence of credit effects. Including those studies in the literature review would give the audience the proper perspective on their strictly time-series evidence Jimborean and Mésonnier provide.

3. Contribution to Macroprudential Supervision

The authors conclude that the predictive power of bank factors suggests a potential scope for "macroprudential policies aimed at dampening the procyclical effects of wide-ranging changes in banks' balance sheet structure." That conclusion seems premature. Finding a predictive relationship between liquidity and leverage does not, following the logic above, imply a causal relationship, so a central banker would not necessarily want to embark on liquidity and leverage policies based on those predictive relationships. On a different point, the authors tell central bankers to monitor bank liquidity and leverage factors to better predict macro outcomes. If they are advising central bankers to pay *more* attention to those factors, it would be useful if the authors could tell central bankers to what factors they can pay less attention. Central bankers, like everyone else, have limited attention. In that regard, it would be helpful if the authors could find some variables that are insignificant, given liquidity and leverage factors.

Actually, their second finding does suggest something central bankers can ignore in their deliberations: the feedback from monetary policy to the bank factors and thence the macro economy. There seems to be a little tension between their first result and the second. The first result says the bank factors do predict macro outcomes, so macroprudential supervision (of those factors) is advised. The second result says those factors do not affect how monetary transmission is associated with macroeconomic outcomes. It seems curious to say to the central banker in charge that tight liquidity or high leverage may be a drag on economic activity, but that drag can be ignored in setting the course for monetary policy.

At first blush, there also seems to be tension between their results and those of Peek, Rosengren, and Tootell (1999). Peek, Rosengren, and Tootell (1999) find that confidential, supervisory measures of U.S. bank health predict U.S. macro variables and that that those bank health variables predict U.S. monetary policy. The first result

in Jimborean and Mésonnier seems consistent with the first result in Peek, Rosengren, and Tootell (1999). Their second result appears contradictory but in fact is not because Jimborean and Mésonnier are essentially looking at a second, or cross-derivative, comparative dynamic result while Peek, Rosengren, and Tootell (1999) are looking at a first derivative.[3]

In sum, I would say that Jimborean and Mésonnier make valuable contributions to the FAVAR and macroprudential literature. They contribute less to the literature on identifying structural/causal relationships between monetary policy and the macro economy, but they were careful not to promise too much in that dimension. I recommend their paper.

References

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[3]Letting M denote the monetary policy variable, Y economic activity, and H the bank health or factors, Peek, Rosengren, and Tootell (1999) look at $\delta \mathrm{Y}/\delta \mathrm{M}$ and $\delta \mathrm{M}/\delta \mathrm{H}$, while Jimborean and Mésonnier look at $\delta^2 \mathrm{Y}/\delta^2 \mathrm{M}$.

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