Discussion of “Interest Rate Risk and Bank Profitability”

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Views expressed in this presentation are my own, and do not reflect the opinions of the Federal Reserve Bank of New York or the Federal Reserve System.

Summary of the paper

Basic idea:

- Study relationship between bank stock returns and the *surprise* component of changes in the Federal Funds rate and the term spread.
  - Surprises are identified via 30-minute changes in Fed Funds futures and longer term yields around announcements, following Kuttner (2001).

Main findings:

- Consistent negative relationship between bank stock returns and unanticipated changes in the level of fed funds rates and slope of yield curve.
  - Unexpected 25bp fall in Fed funds rate $\Rightarrow$ 1.7% increase in bank stock prices.
- Relationship less negative for banks with high maturity mismatch. Amongst other results, more negative relationship for banks with high level of deposit finance.

Overall reactions

- Although still in preliminary form, this is a well-done and interesting paper, which I very much enjoyed reading.

- Important topic: Bank sensitivity to interest rates is important for understanding the transmission of monetary policy (e.g. bank lending channel), and for financial stability.

- Focus on rate *surprises* using high-frequency data is attractive. Helps isolate "pure" changes in rates, rather than endogenous changes in interest rates driven by changes in economic conditions or other factors.

- My main comments focus on thinking about the appropriate interpretation and framing of the results. Also have some miscellaneous comments, such as questions about construction of maturity gap variable….

What is the appropriate benchmark?

- Would like to see more discussion of what an appropriate "null hypothesis" would be. Should we be surprised about the results in the paper???
- **Bernanke and Kuttner (2005):** BK examine effects of Fed funds surprises on stock market as a whole. Similar methodology (although don't study spreads).

  $\Rightarrow$ Main finding : 25bp fall in F.F. rate increases stock prices by 1%. (Effect is larger for industries with a higher beta.)
- **This paper:**

  stock returns $= -6.5 * \Delta ff - 3.2 * [\Delta 2yr - \Delta ff] = -3.3\ \Delta ff - 3.2 * \Delta 2yr$

  $\Rightarrow$ 25bp fall in F.F. increases bank stocks by 3.3% x .25 = 0.8%. Similar to BK??
- Key question I'd like paper to answer, are bank stock price responses *different* to comparable non-financial firms (e.g. with similar betas / factor loadings).

Economic interpretation of results

- *Why* are bank stock prices affected by F.F. shocks? Several possible stories:
  - FF shocks change current bank profits, or expected future bank profits.
  - FF shocks influence riskiness of bank activities and cash flows
  - FF shocks change stochastic discount factor used to discount future cashflows.
  - FF shocks change market expectations about Fed's view of the economy.
- BK decompose announcement effect into three discounted sums of changes, in: (i) future dividends, (ii) future excess returns, (iii) future risk-free rates.
  - Notably, BK find discount rate changes are an important component of the total announcement effect. Would be interesting to replicate analysis for banks.
- Would be helpful to understand economics at a deeper level also. Is stock price reaction (even for non-banks) consistent with standard NK DSGE model? With long-run monetary neutrality?

Other comments and questions

Construction of maturity gap:

- Paper should comment on fact gap is constructed using call (rather than Y-9C) data. (Stock returns reflect entire consolidated entity, not just the bank sub.)
- How do authors treat mortgages in gap calculations? These loans have long maturity, but shorter (and variable) effective duration due to prepayment.
- Use Fed Economic Value Model (EVM) a la Sierra & Yeager (2004)??

Miscellaneous:

- How large is announcement effect on longer rates? Is the action almost all in the F.F. rate? Some summary statistics would help.
- Enjoyed analysis at end of paper studying effect of interest rate shifts on accounting earnings. Could even be expanded & spun off as separate paper?
  - Findings seem consistent with some regressions I've run finding NIM is positively related to the yield spread [see next slide].

Effect of interest rate spreads on net interest margin

Dependent variable: Net interest margin (percent)	
	[1]
AR - 1	0.6031
	[0.0782]***
Spread [10 year - 3 month]	0.0086
	[0.0023]***
Time Trend	-0.0046
	[0.0012]***
Loan controls	
RRE Ratio	0.0020
	[0.0008]**
CRE Ratio	0.0006
	[0.0006]
C&I Ratio	0.0030
	[0.0010]***
Credit Card Ratio	0.0109
	[0.0024]***
Trading Ratio	-0.0014
	[0.0010]
Securities Ratio	0.0010
	[0.0005]*
Firm fixed effects	Yes
Observations	1326
Adjusted R-squared	0.94

Methodology:
Fixed effects panel regression based on quarterly Y-9C filings by large BHCs

Interpretation:
100bp increase in spread increases NIM by 0.86 / (1-0.60) bp, or 2.15bp (about 3% of NIM).

Summing up

- This is an interesting and carefully executed paper on an important topic.
- Makes a nice contribution to the existing literature.
- Looking forward to seeing future versions….