Duration-Risk versus Local Supply Channel in Treasury Yields: Evidence from the Federal Reserve's Asset Purchase Announcements

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Discussion by

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Overview of the Paper

Premise: There are price effects from LSAPs through portfolio re-balancing.

- Duration-risk channel: Portfolio re-balancing is determined by total amount of interest rate risk $\Rightarrow$ Bonds of all maturities should be affected, but long-duration bonds more so.
- Local-supply channel: Treasury market is segmented by preferred-habitat investors $\Rightarrow$ Price impact is largest where the shortage in supply is biggest.

Question: Can we distinguish between these two channels?

Empirical challenges of event study:

- Price impact: Intraday price quotes for Treasury securities.
- Supply impact: Quantify local supply/duration risk "surprises."
- Control carefully for pre-announcement expectations.

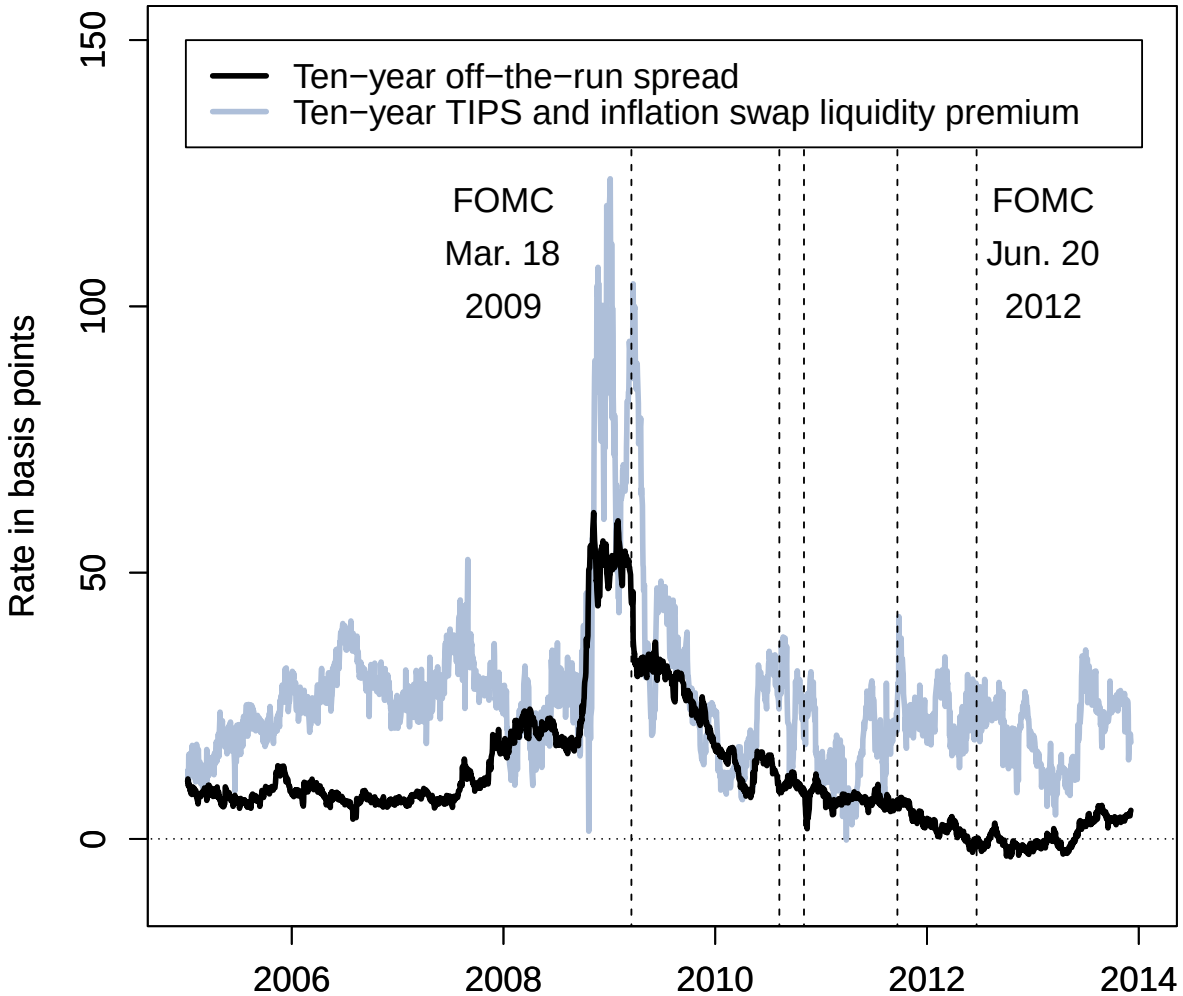
Findings: Both channels matter and about equally so. The average impact is -9 basis points per $100 billion surprise purchase.

Should we have faith in such estimates? Is this the whole story?

Questions and Concerns

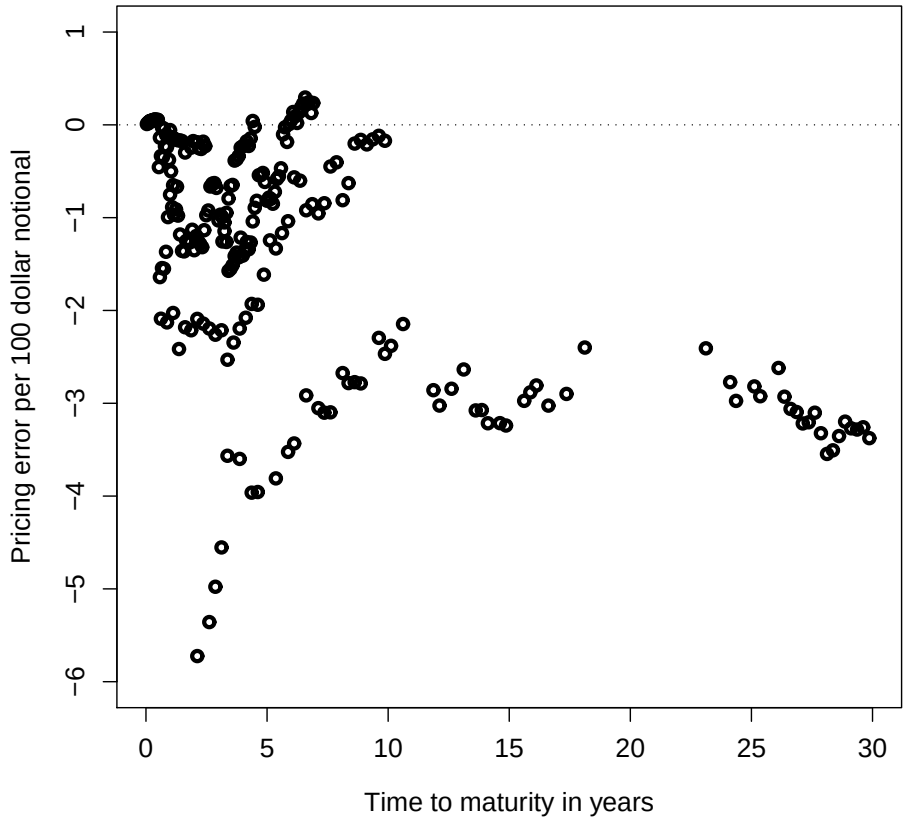
- Reliability of the response of long-maturity bonds.
- There is no control for changes in expectations for future monetary policy around the five announcements.
- The two-day event window is likely to overstate the reported effects.
- For March 18, 2009, there is no distinction between MBS and Treasury purchases.
- The response across markets could raise questions about the interpretation of the effects/channels asset purchases work through.

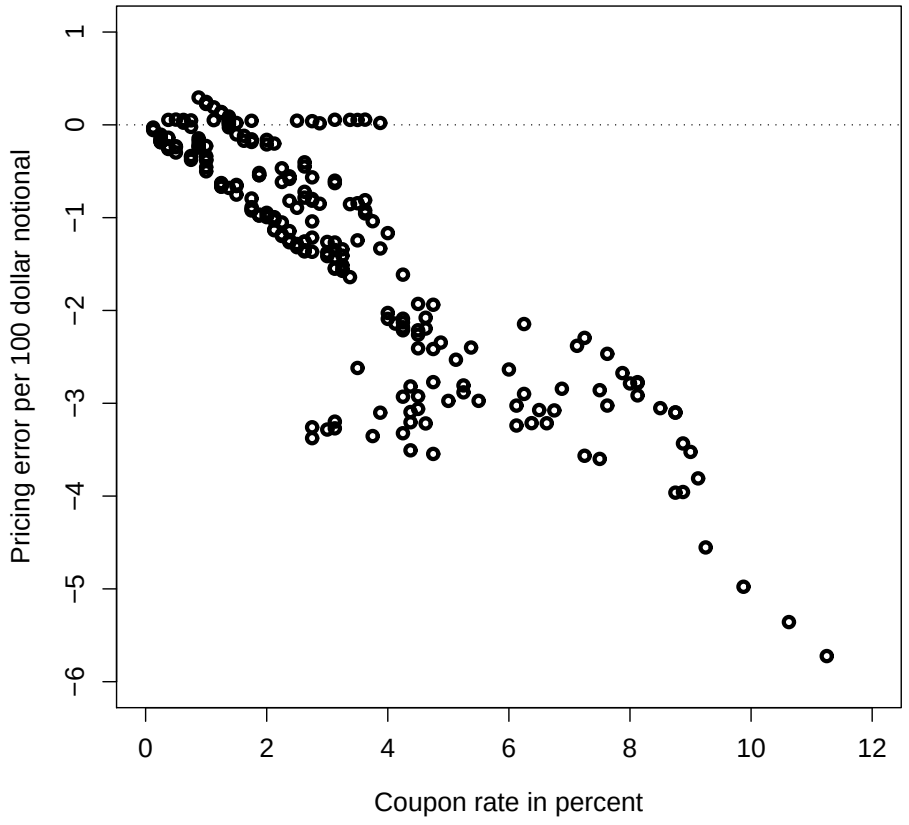
Market Functioning: Liquidity Premiums



- Market functioning according to most measures were poor around March 18, 2009 $\Rightarrow$ Results for that announcement should be interpreted with caution.
- However, for the other four days, market functioning appears to be at satisfactory levels.

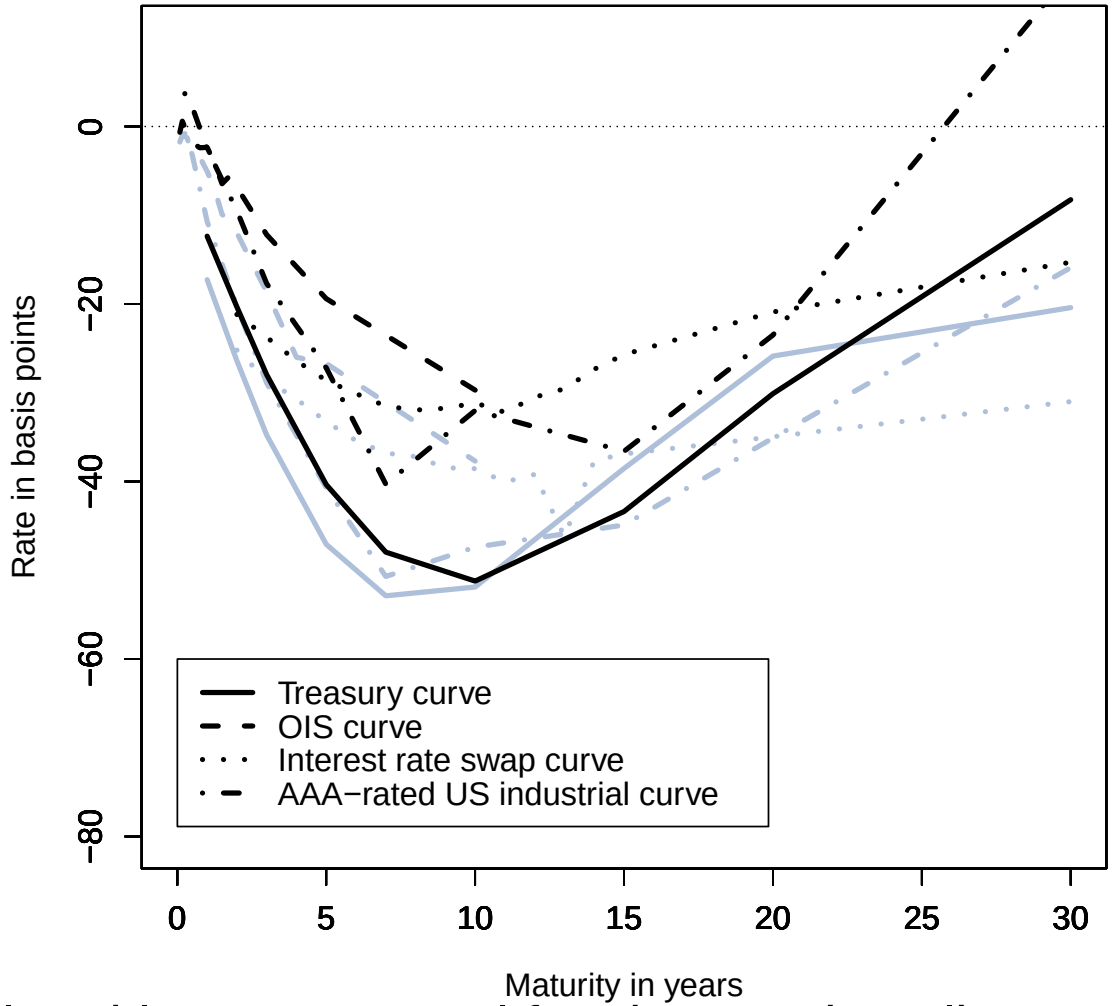
Evidence of Mispricing in the Treasury Market





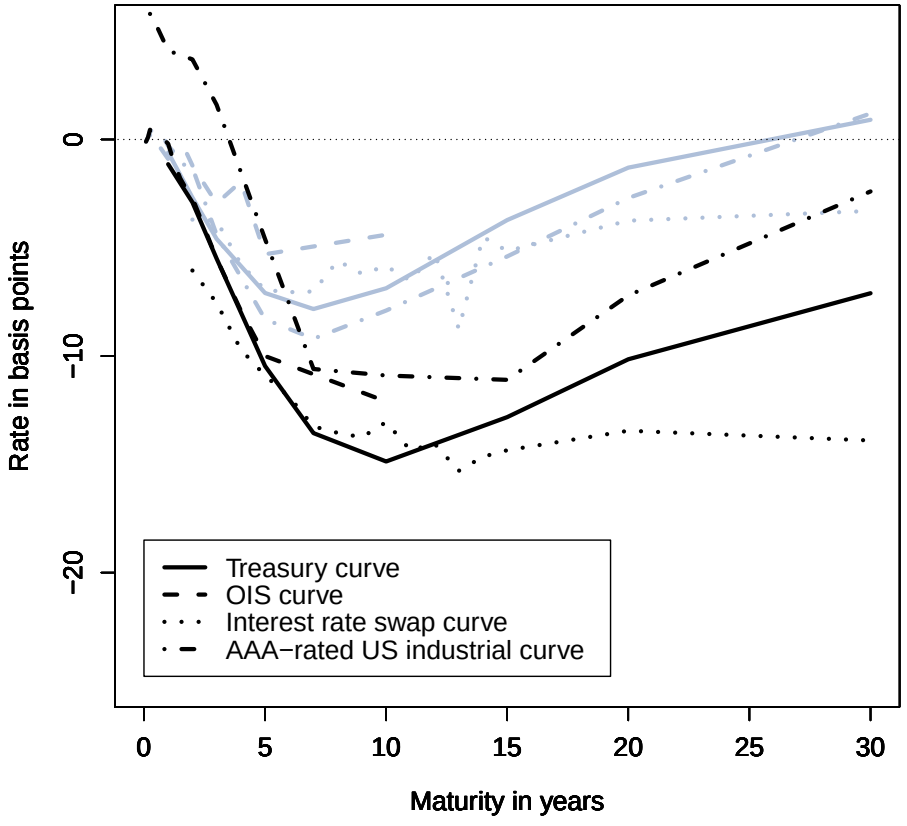
- Christensen, Lopez, and Rudebusch (CLR, 2013) use a shadow-rate AFNS model to price all Treasuries in the Fed's SOMA portfolio.
- Illustration of pricing errors in dollars per $100 notional across bond maturities (left) and coupon rates (right).
- As of January 2, 2013, some pricing errors are quite notable.
- Key point: Seasoned long-maturity Treasuries carry significant liquidity premiums. So how quickly and how much are these traded?

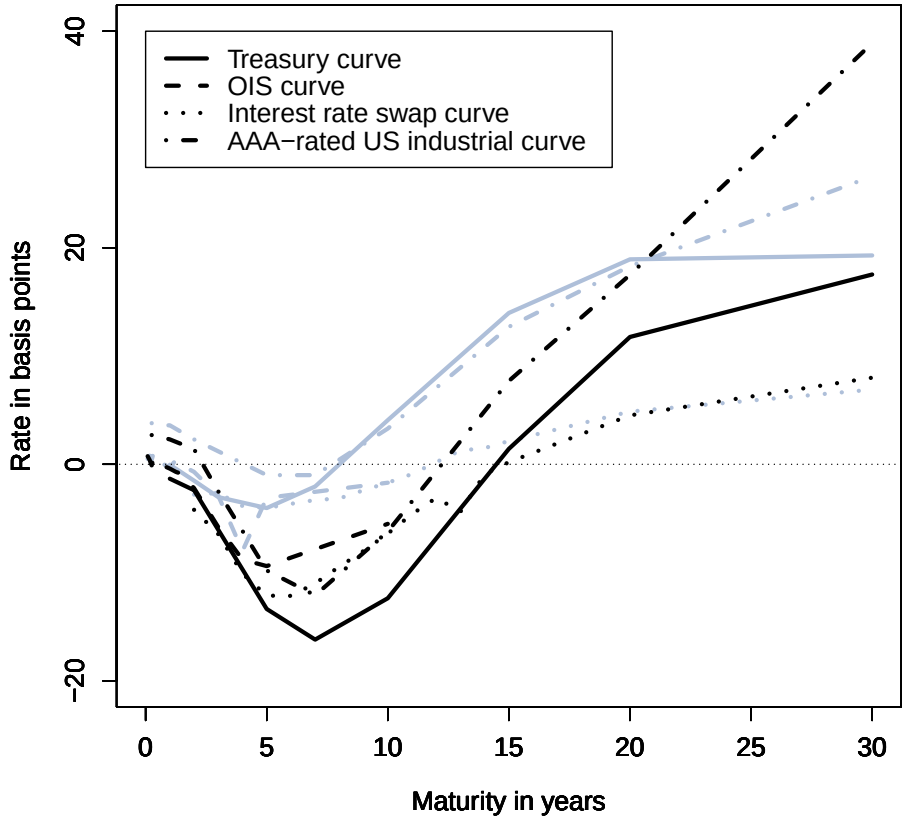
Yield Curve Responses, Mar. 18, 2009



- General problem: No control for changes in policy expectations.
- On Mar. 18, 2009, “extended period” language was introduced.
- Christensen and Rudebusch (2012) and Bauer and Rudebusch (2013) analyze LSAP1 announcements and find evidence of significant signaling effects.

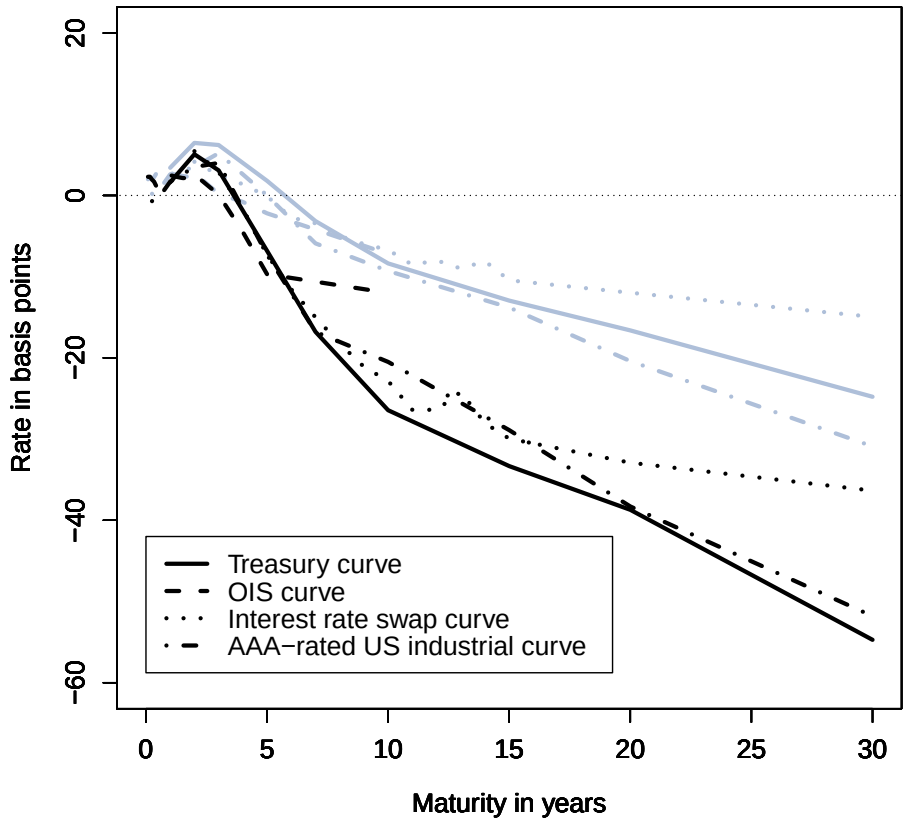
Yield Curve Responses, 8/10/2010 & 11/3/2010

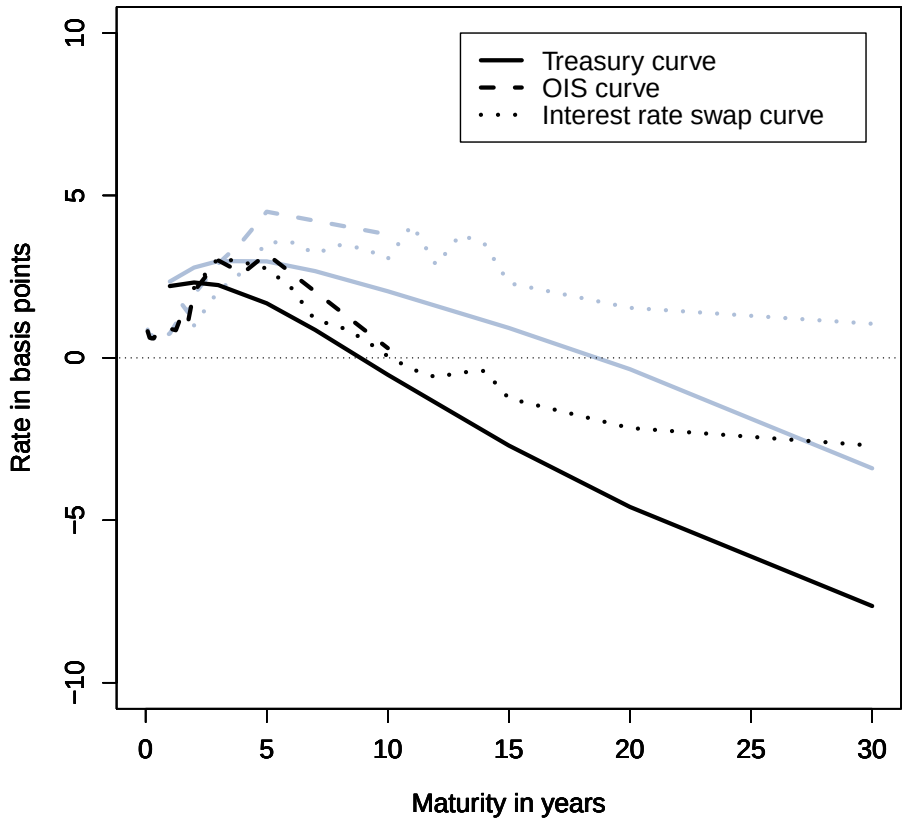




- Two-day (or “26 hour”) event windows may overstate the actual local supply or duration risk response.
- As for interpretations, note the very similar term structure response across Treasuries, OIS, AAA-rated corporate bonds, and interest rate swaps.

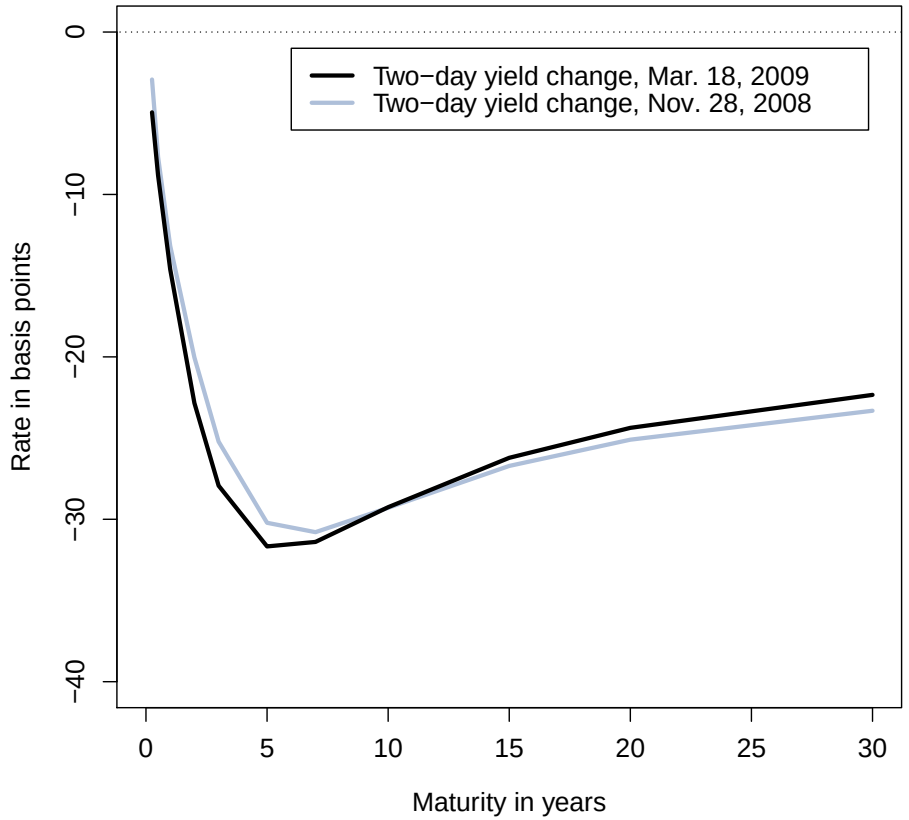
Yield Curve Responses, 9/21/2011 & 6/20/2012

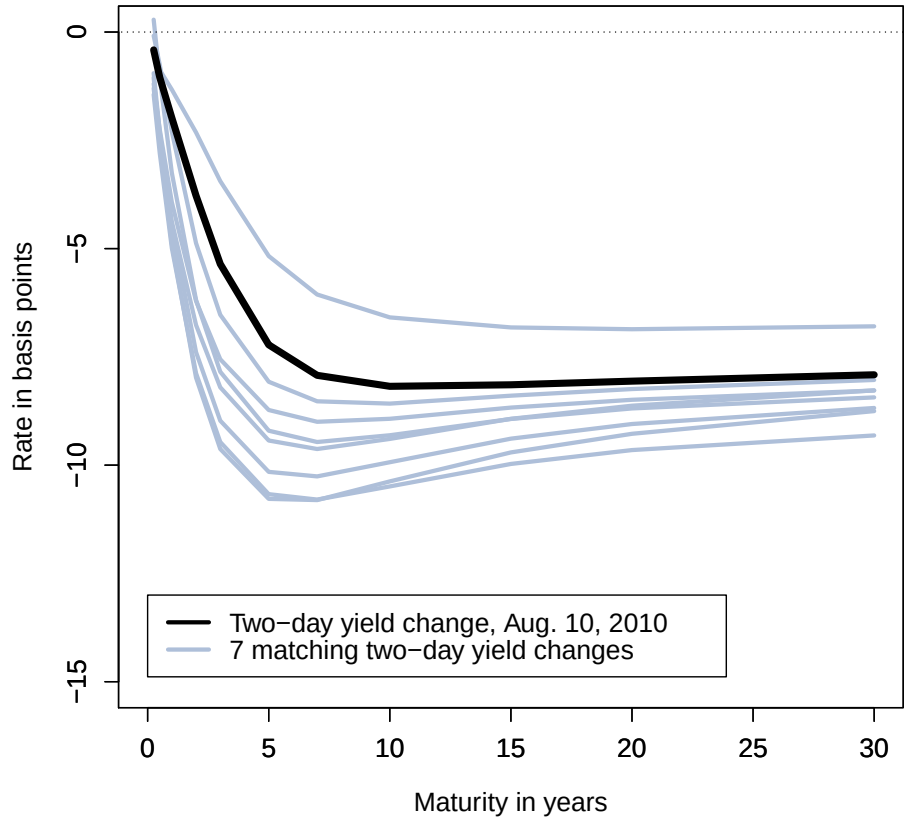




- In general, the yield responses in the 15-30 year maturity segment are more erratic.
- With a very similar response across most segments of the U.S. fixed-income markets, is “local supply effects” the appropriate description/channel?
- Finally, how unique are these yield curve changes?

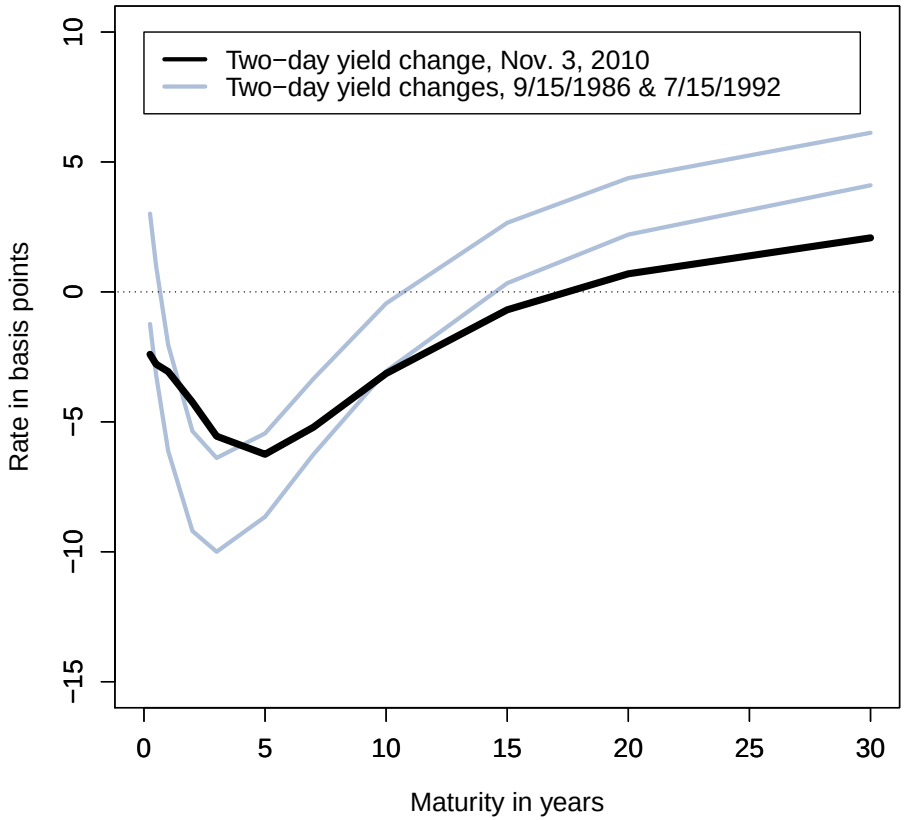
Matching Yield Changes, 3/18/2009 & 8/10/2010

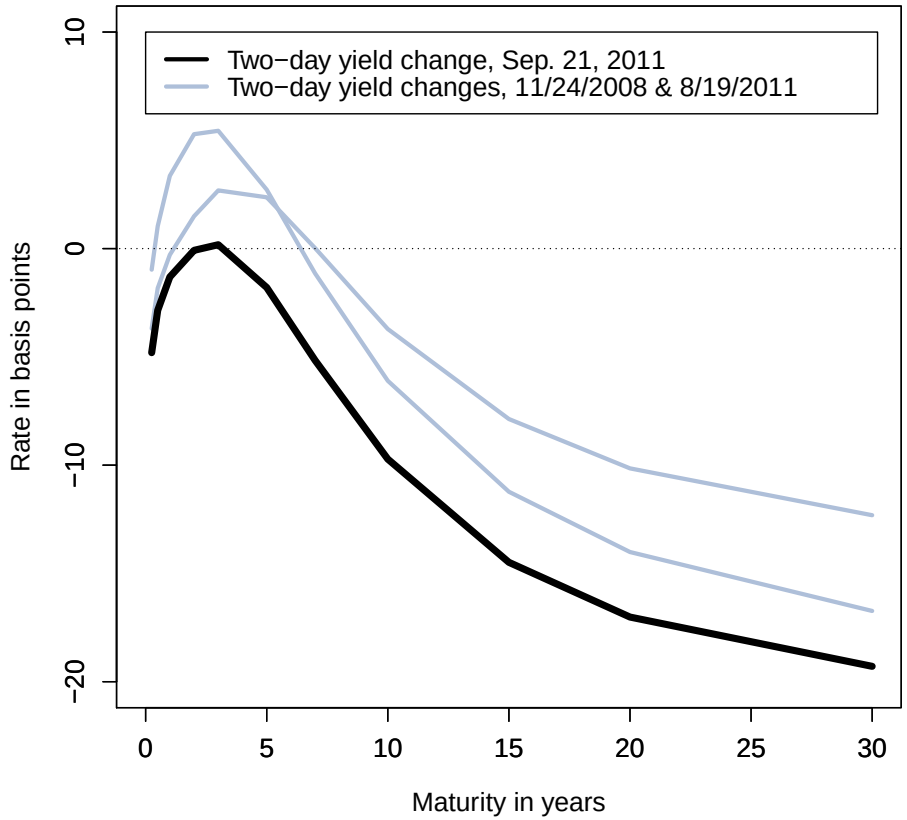




- I use CLR's shadow-rate AFNS model estimated using daily GSW Treasury yield data to find days with matching yield curve changes (out of a total of 6,736 observation dates).
- Mar. 18, 2009 two-day changes are matched well by Nov. 28, 2008.
- For Aug. 10, 2010, there are 7 close matches for the observed yield changes: 8/29/1988, 11/17/1992, 9/1/1995, 5/19/2003, 9/24/2003, 6/1/2005, 9/10/2009, and 10/29/2012.

Matching Yield Changes, 11/3/2010 & 9/21/2011





- There are also a couple of matching yield curve changes for the responses on Nov. 3, 2010, and Sep. 21, 2011.
- Finally, the yield curve changes on Jun. 20, 2012, have close matches on 9/15/1988 and 10/25/2012 (not shown).
- Thus, there is nothing unique about the particular yield curve changes on these five announcement dates. Hence, it cannot be excluded that other factors caused the observed yield changes.

Conclusion

- This paper uses intraday quotes for the universe of Treasury bonds to detect evidence of local supply and/or duration risk channels in the yield response around Fed asset purchase announcements.
- There might be concerns about the liquidity of the seasoned long-duration Treasuries that are an important part of the analysis.
- By using “26 hour” event windows, the local supply and duration risk effects might be overstated.
- In light of a uniform response pattern across many segments of the U.S. fixed-income markets to four of the five announcements, it appears that a broader interpretation of the results would be appropriate.
- Finally, it would strengthen the story significantly if there were some controls for changes in policy expectations around the announcements.