

Discussion of “The Effects of Quantitative Easing  
on Interest Rates: Channels and Implications for Policy”  
*by Krishnamurthy and Vissing-Jorgensen*

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Disclaimer:

The views that I express are my own and do not necessarily represent those of the Federal Reserve Bank of New York or the Federal Reserve System.

# Overview

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- Very nice paper with important implications for current Fed policy
  - Open-ended agency MBS purchases; upcoming conclusion of program to extend maturity of Treasury portfolio; market participants place high odds on additional Treasury and MBS purchases in 2013
- Clear and intuitive framework for evaluating the effects of the channels through which asset purchases – QE if you like – affect various interest rates
- Focus my discussion on the signaling, duration risk, and safety channels
  - Key ingredients to implicit conclusion that when liquidity is ample, Treasury purchases that don't alter expectations for the target rate, corporate defaults, or inflation only affect “safe” assets
- Interesting insight into fixed-income markets; particular policy relevance

# Signaling Channel

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- Define signaling channel as change in expected target rate path around QE events
  - Signaling can also affect uncertainty about the target rate path and thus term premia
- Measure change in expected target rate path using implied rates on fed funds futures out to two years + assumptions
- Assumptions are transparent and result in plausible estimates, but essentially ad-hoc
  - 2<sup>nd</sup> Method: Measure shift in timing of tightening due to QE, assume target expected to be held at 0% instead of 4% for that length of time, integrate to find effects on longer-term yields
  - Weird expected path!

## Signaling Channel (cont'd.)

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- Assume zero changes in fed funds futures risk premia – how far out is that tenable?
  - With longer-term OIS would attribute nearly all QE effect on Treasury yields to signaling channel
  - Evidence from MEP announcement reveals supply effects on even short-dated futures risk premia
- Estimated effects on expected target rate path aren't necessarily due to QE; contemporaneous FOMC actions and communications surely altered expectations
  - December 2008 FOMC: target rate lowered to 0 to  $\frac{1}{4}$  percent, “exceptionally low...for some time”
  - March 2009 FOMC: “exceptionally low...for an extended period”

# Safety/Duration Risk Channels

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- CDS-adjusted Baa corporate bond yields did not fall by more than the estimate of the effects of the signaling channel → no duration risk channel operative
- Conclusion implies that when liquidity is ample, Treasury purchases that don't alter expectations for the target rate, defaults, or inflation only affect “safe” assets
- Strong conclusion about market segmentation. How robust is it?
- Questions about details of the CDS-adjustment to Barclays' corporate bond indices
  - How well-matched are the samples of companies?
  - How well-matched are the maturities of the bonds and CDS?
  - Barclays' indices include senior and subordinated bonds, and bonds with call/put provisions
  - Worth thinking about whether these details matter

## Safety/Duration Risk Channels (cont'd.)

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- Large variation in changes in CDS-adj yields for Baa, Ba and B ratings categories

Corporate Yields-Credit Default Swaps

	Aaa long	Aa long	A long	Baa long	Ba long	B long
11/25/2008	-27	-28	-6	-6	27	802
12/1/2008	-25	-24	-30	-28	-34	27
12/16/2008	-41	-29	-27	-22	24	297
1/28/2009	37	32	23	27	10	206
3/18/2009	-14	-20	-21	-13	-10	-21
Above 5 dates	-70	-69	-61	-41	18	1311**

- Each of these ratings categories is presumed to have zero safety premia
- Variation implies factors other than safety premia drove changes in CDS-adj yields on QE days. Why assume net effect of these other factors is precisely zero for Baa?

## Safety/Duration Risk Channels (cont'd.)

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- Alternative identification of safety premia, suggested by K-VJ: difference b/w Treasury yields and rates on derivatives with similar short-rate exposure

### 2-day Changes in 10-year Rates and Spreads (bps)

	10-year Rates			10-year Spreads	
	Tsy	Swap	OIS	Tsy-Swap	Tsy-OIS
Sum QE1	-105	-101	-92	-4	-13
Sum QE2	-27	-27	-27	0	0

- Maturity-matched Libor swap and OIS spreads indicate limited safety channel effect
  - Robust to controlling for credit risk in the underlying reference rate on Libor swaps (3-month Libor)
- Maybe swaps also have safety premia. If so, why don't Aaa-, Aa-, A-rated CDS?



# Local Supply Effects/Preferred Maturity Habitats

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- Evidence from QE events indicates signaling and duration risk channels together are not sufficient to explain movements in Treasury yield curve
- Local supply effects, concentrated in sectors of Treasury yield curve where the Fed is expected to buy or sell
- Effects pass-through to other benchmark rates – e.g., swaps – that are not obviously safe, and are used to price a very broad range of USD fixed-income assets
- Does this evidence fit easily into the K-VJ framework? Not obvious – at least calls for more explicit focus on preferred maturity habitats within the class of safe assets

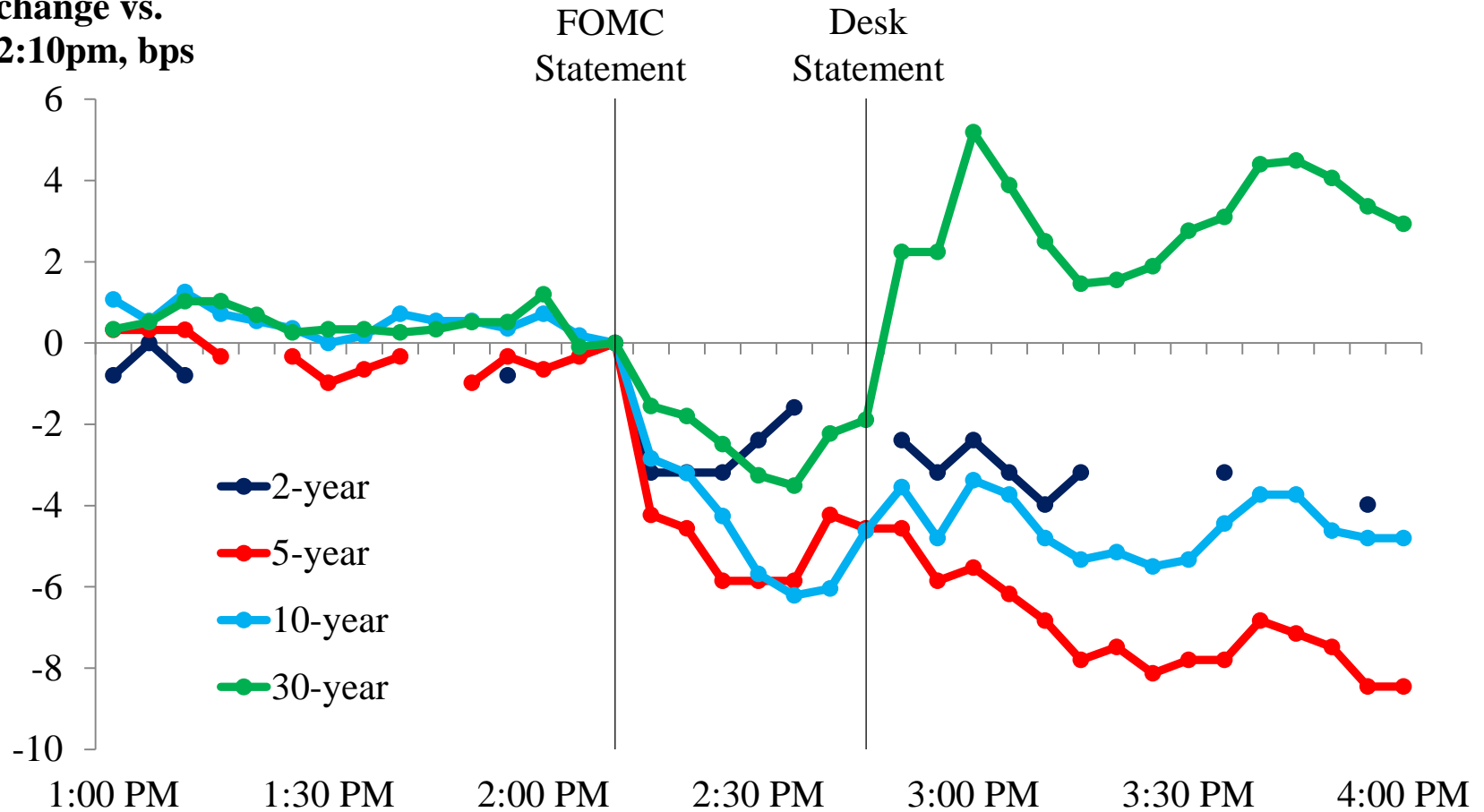
# Timeline of August 2010 FOMC-Related Announcements

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- 2:15pm: FOMC statement: *reinvesting agency principal into “longer-term Treasury securities”*
- 2:45pm: Open Market Desk at FRBNY technical statement: *Desk will “concentrate its purchases in the 2- to 10-year sector of the nominal Treasury curve”*
- FOMC statement reportedly surprised markets
- Desk statement reportedly led markets to revise down expectations for purchases of Treasuries with > 10-years to maturity, and thus expectations for duration removed
  - Duration risk channel effect should lead Treasury yields across the curve to rise

# Treasury Yields around August 2010 FOMC

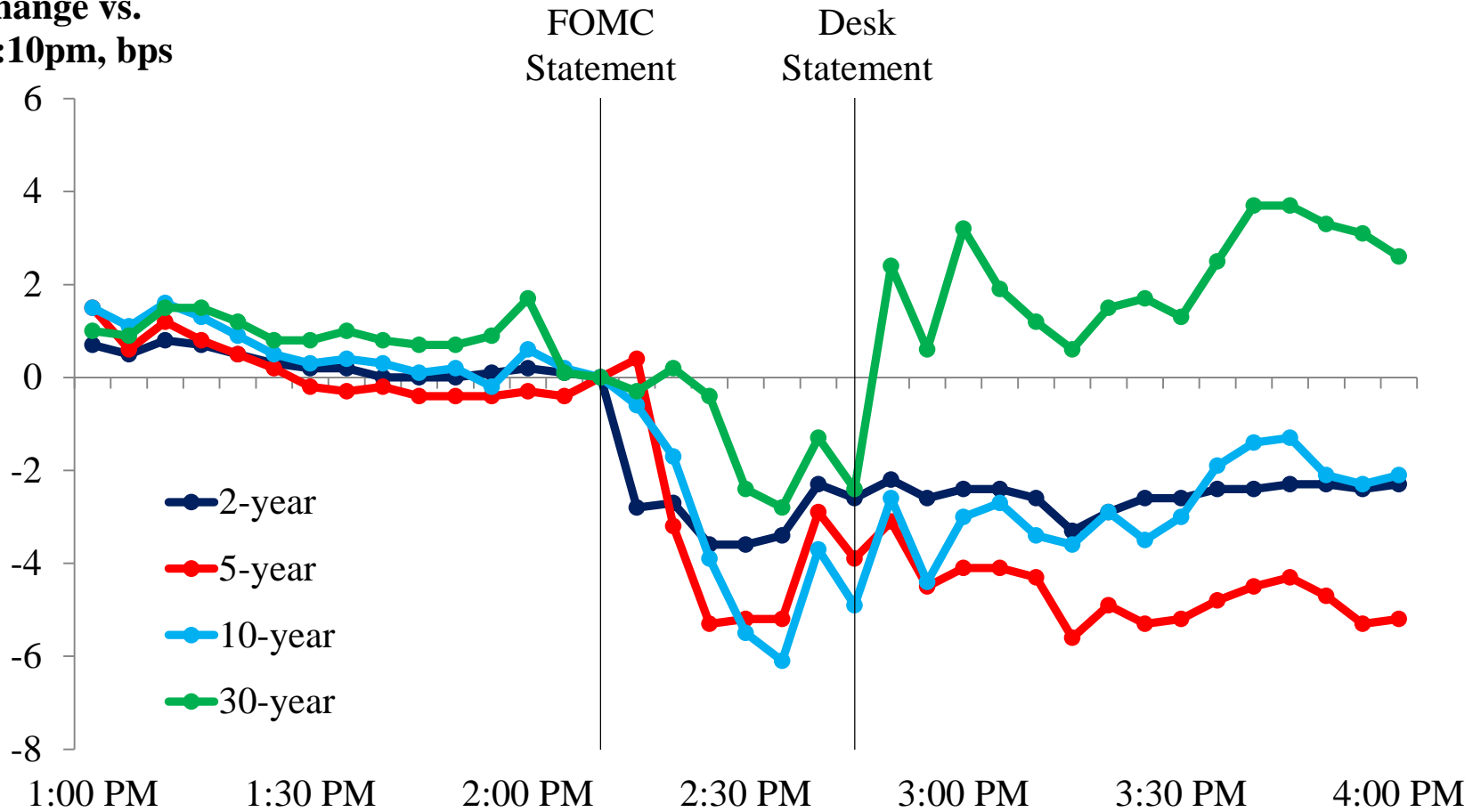
change vs.  
2:10pm, bps



Source: Bloomberg

# Libor Swap Rates around August 2010 FOMC

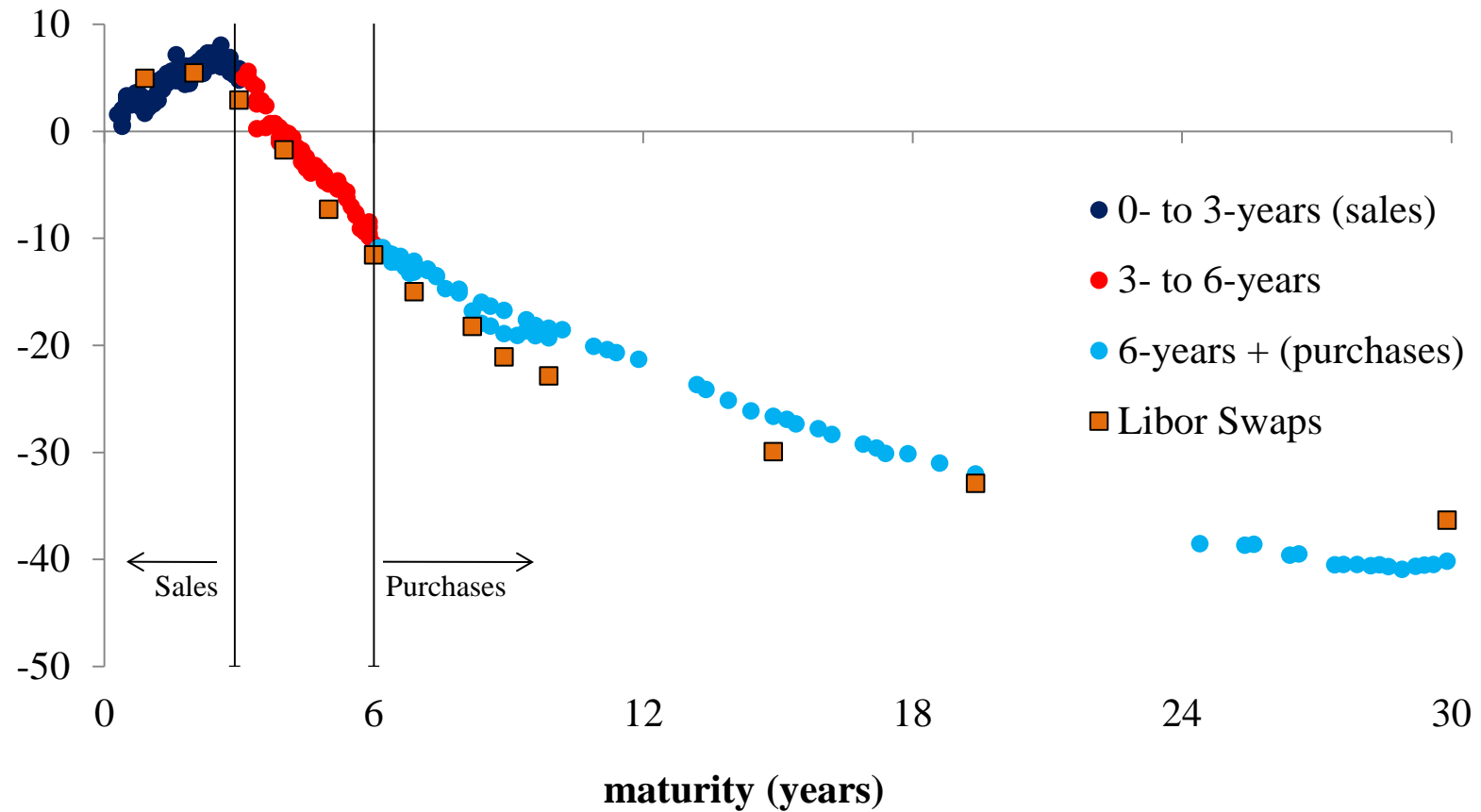
change vs.  
2:10pm, bps



Source: Bloomberg

# Treasury Yields around September 2011 FOMC (MEP)

2d change, bps



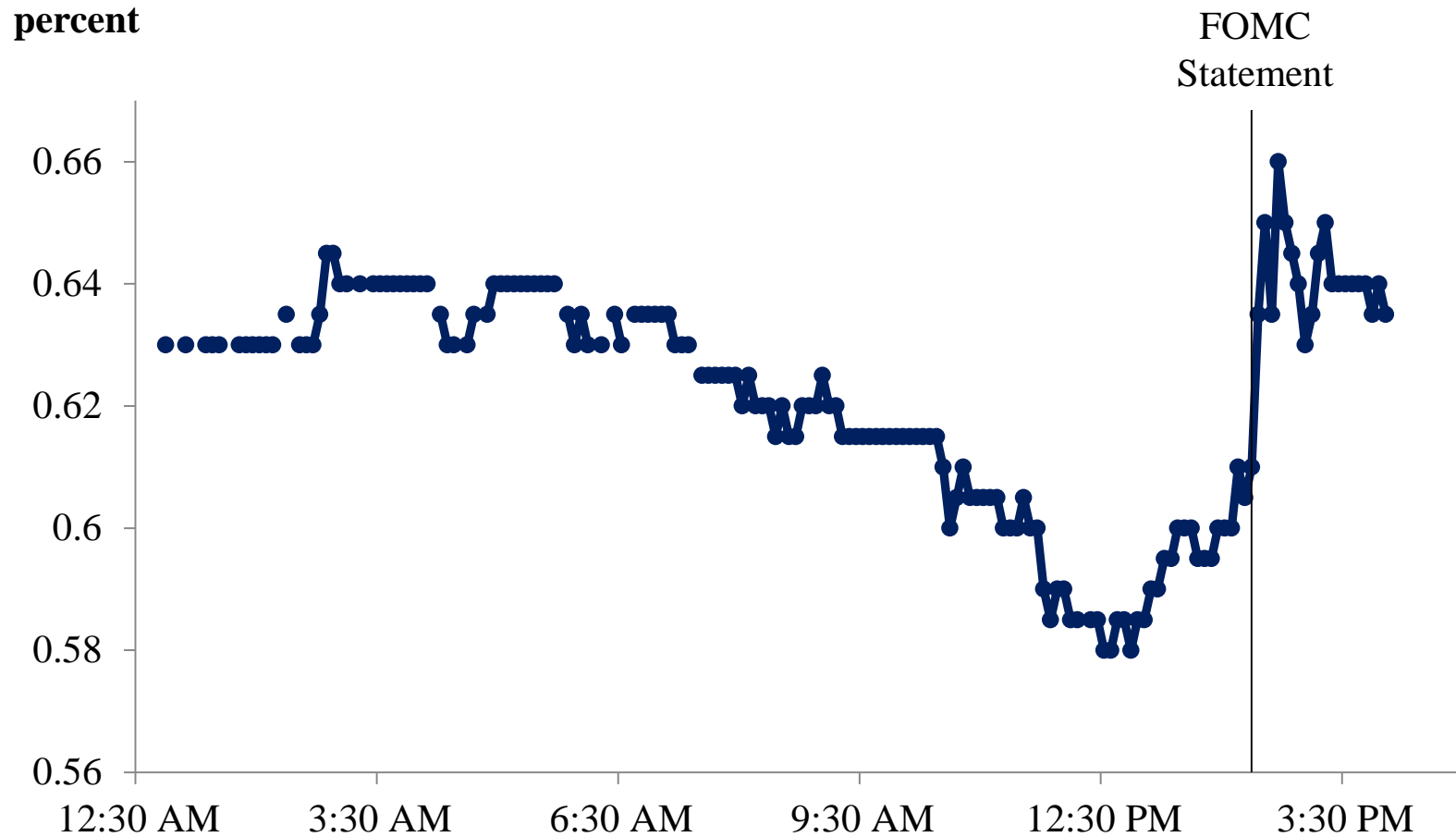
# Summary

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- Great paper. Rich with evidence on QE effects on broad array of interest rates
- Very useful framework for thinking about channels and comparing effects of Treasury and agency purchases
- Skepticism re: conclusion about pass-through of Treasury (and MBS) purchases
- Some interesting evidence around the safety/duration risk channels that I'd like to see the paper confront
- Evidence suggests value in further analysis of safety premia
  - More explicit emphasis on preferred maturity habitats within the class of safe assets
  - Are interest rate swaps safe?

Additional Slides

# Change in ED8 around the Sep 2012 MEP announcement



Source: Bloomberg



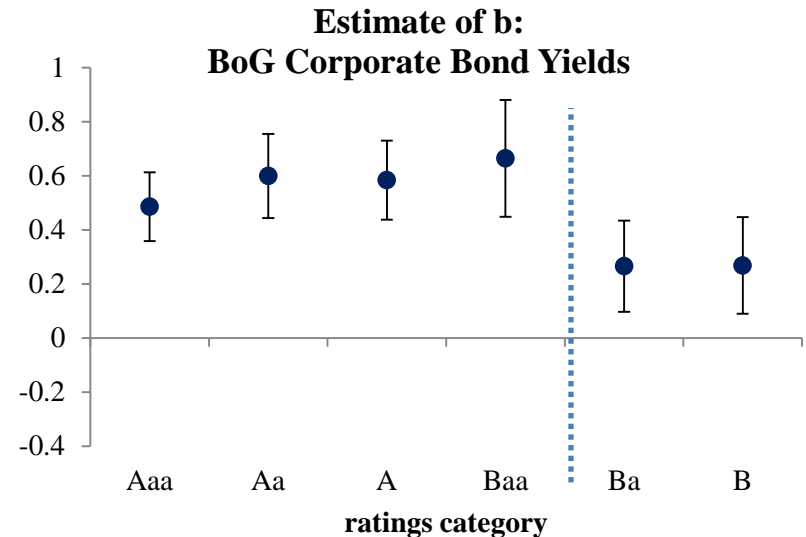
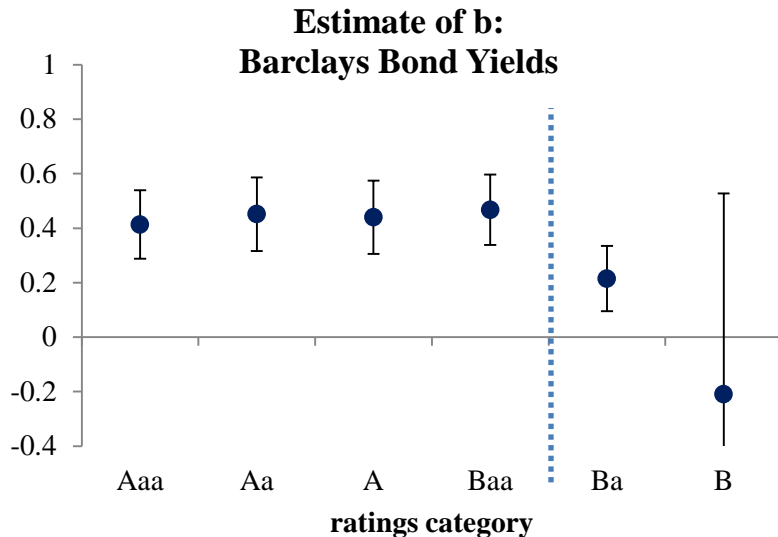
# What About Conventional Monetary Policy?

$$\Delta\text{corp\_bond}_{n,t} = a + b*\Delta\text{target}_t + c*\Delta\text{cds}_{n,t} + e_t$$

$\Delta\text{target}_t$  = 30-minute change in 2-year Treasury yield around FOMC

$\Delta\text{cds}_{n,t}$  = 1-day change in median CDS spread by category

$\Delta\text{corp\_bond}_{n,t}$  = 1-day change in corporate bond yield by category (Barclays, BoG)



# Treasury Yields Reaction to September 2011 FOMC (MEP)

2d change, bps

