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

Second Annual Roundtable on Treasury Markets and Debt Management
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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

• 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

• 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
  – 2nd 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.)

• 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 ¼ percent, “exceptionally low…for some time”
  – March 2009 FOMC: “exceptionally low…for an extended period”
Safety/Duration Risk Channels

- 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.)

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

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<tr>
<th>Corporate Yields-Credit Default Swaps</th>
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<td>Aaa long</td>
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- 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.)

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

<table>
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<th>2-day Changes in 10-year Rates and Spreads (bps)</th>
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- 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

• 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

• 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
Treasury Yields around September 2011 FOMC (MEP)

2d change, bps

maturity (years)

-0- to 3-years (sales)
-3- to 6-years
-6-years + (purchases)
-Libor Swaps

Sales
Purchases
Summary

• 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?

$$\Delta corp\_bond_{n,t} = a + b*\Delta target_t + c*\Delta cds_{n,t} + e_t$$

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

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

$$\Delta corp\_bond_{n,t} = 1\text{-}day \ change \ in \ corporate \ bond \ yield \ by \ category \ (Barclays, \ BoG)$$
Treasury Yields Reaction to September 2011 FOMC (MEP)

2d change, bps

maturity (years)