Testing the Portfolio Rebalancing Channel of Quantitative Easing

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June 29, 2024

Motivation

- There have been many papers about QE
- That propose various channels of transmission, e.g.,
  1. Portfolio rebalancing
  2. Monetary policy/signaling
  3. Liquidity
  4. Confidence/uncertainty
  5. Bank lending
- Mostly based on high-freuquency event studies that indirectly proxy for the proposed channels
- $\rightarrow$ We do not know to what extent which channels are at play

This Paper

1. Provides direct evidence for the portfolio rebalancing channel
   - Novel shock to Treasury purchases: Actual - Expected purchases
   - Bond funds holding shocked Treasuries rebalance into corporate bonds
   - Corporate bonds that are "rebalanced into" have lower yields
2. Quantifies the effect on corporate bond yields
   - \$100 billion Treasury QE $\rightarrow \downarrow$ corp bond yield by 7.87 bps in the first month
3. Analyses the effect on firm financing and real outcomes

Overall Assessment

- Very impressive paper! Important question, careful empirics, and a calibrated model
- Convincingly establishes the portfolio rebalance channel
- Three suggestions
  1. Interpretation of magnitudes
  2. Who rebalances?
  3. Optimal design of QE

1. Interpretation of Magnitudes

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- How to interpret this magnitude?
- Roughly: Response to unexpected TSY purchases*TSY purchased

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- But: Response to unexpected TSY purchases
  $=$ QE's implementation effect through portfolio rebalancing
  ? QE's total effect through portfolio rebalancing?

1. Interpretation of Magnitudes

- How about the announcement effect?
- Implementation happens after QE announcement set expectations about future interest rates, uncertainty, liquidity etc.
- E.g., Mario Draghi's "Whatever it takes"
- Suggest to discuss:
  - Is the current estimate a lower bound of the total effect of portfolio rebalancing?
  - Under what assumptions is it a proxy for the total effect?
    - E.g. No interaction effect with other channels with announcement effects, investors have rational expectations?
  - Can the magnitudes be reconciled with other magnitudes in the literature?

1. An Example

- Recall: \$100 billion Treasury QE $\rightarrow \downarrow$ corp bond yield by 7.87 bps
- 300 billion Treasuries bought in March 09 $\rightarrow$3*7.87=23.6 bps
- Roughly in the right ballpark as event study results, e.g.,

Figure: 2-day Announcement Effect on Corp Bond Yields

	Intermediate-term					
Date[b]	*Aaa*	*Aa*	*A*	*Baa*	*Ba*	*B*
Nov. 25, 2008	−17	−15	−18	−18	1	−47
Dec. 1, 2008	−21	−15	−18	−8	−5	6
Dec. 16, 2008	−19	−21	−24	−27	−28	−42
Jan. 28, 2009	12	8	7	3	−32	−25
Mar. 18, 2009	−43	−50	−39	−26	−18	−22
Sum[c]	−88**	−93**	−92**	−76**	−82***	−130***

Krishnamurthy and Vissing-Jorgenssen (2011)

- Is the estimated effect in addition to the announcement effect? Or is the estimated effect similar to the announcement effect because most of the purchases and rebalancing were expected at announcement?

2. Who Rebalances?

- The sensitivity of rebalancing is an important parameter
- Currently, the sensitivity of rebalancing is based on bond mutual funds that hold both Treasuries and corporate bonds
- Mutual funds are an important active player with observable holdings
    - Hedge funds likely rebalance but are not observable
    - Insurance companies and pension funds less likely to actively rebalance
- But how about investors' rebalancing across mutual funds?

2. Who Rebalances?

- But how about investors' rebalancing across mutual funds?
    - Fund A holds Treasuries + Corporate bonds
    - Fund B holds Treasuries
    - Fund C holds Corporate Bonds
- Currently only consider Fund A's rebalancing, which may not be representative of investors' rebalancing between Fund B and Fund C
- Depends!
    - E.g. Investors' preferences versus funds' preferences
    - E.g.Who is selling Treasuries to the Fed and has deposits to spend etc.
- (Many corp bond funds hold Treasuries but many Treasury funds do not hold corp bonds)
- Suggest: incorporate changes in flows between fund types

3. Optimal Design of QE

- The portfolio rebalancing channel is very general and not limited to QE with Treasuries
- There should be also portfolio rebalancing with the purchase of MBS, which likely also impacted corporate bond yields
- Could extend the analysis to understand the effect of QE with Treasuries versus QE with Treasuries + MBS
  - Commonly cited reason for different effects between QE1, QE2, QE3
- Could even compare the effect of QE with Treasuries with direct QE with corporate bonds as in March 2020 on corp bond yields
  ,
- Would be very helpful for policymakers in designing QE going forward

Conclusion

- A real tour de force: Important question + careful empirics + calibrated model
- Sheds new light on the transmission of QE and informs the design of QE going forward
- Three suggestions
  1. Interpretation of magnitudes
  2. Who rebalances?
  3. Optimal design of QE