

MONEY AND BANKING

LECTURE 13: UNCONVENTIONAL MONETARY POLICY

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OUTLINE

- 1 INTRODUCTION
- 2 FINANCIAL CRISIS OF 2007-2009
- 3 FAILURE OF CONVENTIONAL MONETARY POLICY
- 4 BAILOUT NON-BANK INSTITUTIONS
- 5 UNCONVENTIONAL MONETARY POLICY
 - Credit Easing
 - Quantitative Easing
 - Unconventional Monetary Policy Tools
 - Transmission Channels of Unconventional Monetary Policy
- 6 REFLECTIONS

INTRODUCTION

- In last lecture, we discuss how flaws in *shadow banking system* could fail the credit system, nearly money system, and the whole economy.
- Facing financial crisis, central banks are supposed to use the magic to bring the economy back to the normal level.
- However, most financial institutions, in particular non-bank institutions, are not in the realm of *deposit insurance* or central bank safety net.
- Bumping money as before seems not working good enough, and *unconventional monetary policy tools* (or should we call them *desperate measures*) are requested.

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FINANCIAL CRISIS

- The root of financial crisis of 2007-2009 is the crash on US real estate market.
- Falling price of real estate → highly levered households default → those mortgages become bad assets.
- Instead of bringing down the banking system, bad mortgages caught up the whole *shadow banking system*.
("originate-and-hold" to "originate-to-distribute").

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FAILURE OF CONVENTIONAL MONETARY POLICY

- In last lecture, we learn that commercial banks hold a lot of MBS and CDOs (senior securities) to obtain higher return, and avoid capital regulation.
- When default happened in MBS and CDOs, they were caught up liquidity enhancement mechanism.
- The banks wrote off many assets, however, bank runs did not happen since they are deposit insured.
- Yet banks were unwilling to lend to each other, i.e., *credit rationing*.

FAILURE OF CONVENTIONAL MONETARY POLICY

- The key reason is value of MBS and CDOs continued to decline and had no sign to stop.
- Interest rates in interbank market jumped to historical high.
- The Fed responded as in the past to pour much liquidity into the system, but couldn't stop interest rates from rising.
- Network effect made one failure of system important financial institution rippled over other sectors.

FAILURE OF CONVENTIONAL MONETARY POLICY

- The failure of MBS and CDOs, fundamentally it is the failure of mortgage lending, made conventional monetary policy by lowering interest rates not working.
- Because end borrowers were not counterparties with commercial banking system, and liquidity providers of MBS and CDOs were not commercial banks, either.
- The liquidity crisis cannot be stopped until (1) falling financial institutions bailed out, and (2) MBS markets stabilized.

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BAILOUT NON-BANK INSTITUTIONS

- This course does not go details of bailouts in financial crisis of 2007-2009.
- The Fed assisted merger between Bear Sterns and JP Morgan (\$30 billion asset purchase) in March 2008, and let Lethman Brothers fall in September 2008, but gave life line to AIG (American International Group) \$85 billion loan.
- Three investment banks either merged or bankrupt, and two investment banks Goldman Sachs and Morgan Stanley were transformed into bank-holding companies, which are able to access discount lending from the Fed.

BAILOUT NON-BANK INSTITUTIONS

- The key argument for non-bank financial institution bailouts is they are too systematically important.
- But, bailout leaves *moral hazard* for future policy making and implementation, i.e., "*too big to fail*".
- There is no rule to play when the Fed bails out non-bank institutions. Why Bear Sterns, but not Lehman Brothers?
- According to Benanke's memoir *Courage to Act*, there is no *market solution* to Lehman case.
- Anyway, the purpose of bailout is to stop adverse running in shadow banking system.

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CREDIT EASING

- Stigma of central bank discount lending: *reputation cost*.
- In order to encourage borrowing from central banks (so that central bank has chance to know the liquidity problem in the market), the Fed established *Term Auction Facility*.
- Banks which need liquidity support can auction for fixed amount of loans from the central bank, but the identity is anonymous.
- No information leakage prevent reputation cost, while higher bidding rate indicates severe liquidity problem.

CREDIT EASING

- More than that, the Fed created various lending facilities to assist, for instance, *Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility*, *Commercial Paper Funding Facility*, and *Term Asset-Backed Securities Loan Facility*.
- In this stage, the Fed just altered its balance sheet composition to *improve the functioning of particular segments of the credit market*, i.e., **credit easing**.

ZERO LOWER BOUND

- In financial crisis, central banks in U.S., U.K., and the Euro Zone confront with a tough problem, which happened in Japan before, *zero lower bound*.
- Zero lower bound constrains the central bank's capacity to lower the normal interest rate in order to lower down the real interest rate, by keeping expectation of inflation constant (i.e., $i_t = r_t + \pi_{t+1}^e$).
- If central bank cannot lower down (expected) short-term interest rates, there will be no chance for the lowering down long-term interest rates.
- Central banks need find another way to avoid ineffectiveness of conventional monetary policy tools.

UNCONVENTIONAL MONETARY POLICY TOOLS

- The logic of quantitative easing, loosely speaking, includes three components: (1) *zero short-term interest rate*, (2) *large scale asset purchase*, and (3) *forward guidance*.
- The Fed controlled the short-term interest rate, i.e., the rate of interbank market effectively at zero level, keeping it from rising.
- To use the capacity of central bank's balance sheet, the Fed purchased a large amount of long-term financial assets, e.g., mortgage-backed securities, from the market.
- In this way, the long-term interest rates have been brought down, and *liquidity premium* has been brought down as well (why?).

UNCONVENTIONAL MONETARY POLICY TOOLS

- Besides, the Fed uses *forward guidance* to announce its monetary policy stance, information about current macroeconomic activities and forecast of future economic development, to convince market participants that the economy is backing on the right track.
- The logic behind *forward guidance* is that *rational* economic agents make decisions not only based on current information, but also based on government policy stance (e.g., ease monetary policy).
- When market participants know the Fed was going to take ease monetary policy action for quite a long time, investment decisions in the short term can be made.

TRANSMISSION CHANNEL OF UNCONVENTIONAL MONETARY POLICY

- *Interest rate channel*: instead of letting market to decide the long-term interest rate in normal times, central banks directly affect long-term interest rate by large asset purchase programs. $Q_t^k \uparrow \rightarrow R_t^L \downarrow$. Since durable consumption and corporate investment are responsive to long-term rates, large asset purchase programs would work.
- On the other hand, when central bank buying long-term securities, e.g., mortgage-backed securities, the liquidity premium on those securities goes down. So, it lowers long-term interest rate. $(i_{n,t} = \frac{i_{1,t} + i_{1,t+1}^e + i_{1,t+2}^e + \dots}{n} + LP_{n,t})$

TRANSMISSION CHANNEL OF UNCONVENTIONAL MONETARY POLICY

- *Asset price channel*: When buying long-term securities, asset price goes up. That would make investors wealth position improved. Households consumption decision does not depend on today's income but also tomorrow's.
- *Balance sheet channel*: As $Q_t^k \uparrow \rightarrow Q_t^k K_t \uparrow \rightarrow N_t \uparrow$, corporations or financial institutions have more equity to take risks. Corporations have better position to borrow (why?), and financial institutions have better position to lend (why?)
- *Bank lending channel*: When central bank eases reserve control, commercial banks have more excess reserve which is valuable for bank-dependent small and medium enterprises.

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REFLECTIONS

- Reckless financial lending boosts real estate bubbles in the US market as well as UK market.
- Funds has been misallocated in those areas which are unproductive for GDP growth.
- High levered households seems to increase consumption in the short run, but once deleverage kicks in, consumption slumped.
- Ease monetary policy has contributed to nearly a decade stock market boom in US.

REFLECTIONS

- Still the US economy is unbalanced.
- The lessons for China are (1) no speculation in real estate market, (2) regulated financial sector is supportive for economic growth, (3) monetary policy can be ineffective in zero lower bound, (4) macroprudence is need to guarantee *financial stability*, and (5) financial sector needs further reform.
- How to make Chinese monetary policy more effectiveness to support Chinese economic reform is the ongoing research for economists.