Monetary policy 101

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Banking and Financial Intermediation

Introduction

- Monetary policy is one of the two principal means (the other being fiscal policy) by which government authorities in a market economy regularly influence overall economic activity.
- Governments carry out monetary policy, typically via specialized agencies called central banks, by exploiting their control over the supply of certain kinds of claims against the central bank.
- In most financial systems, banks in particular are legally required to hold claims against the central bank in order to create deposits and make loans, and so the central bank's control over the supply of claims against itself also gives it a form of control over the economy's money and credit.

How Monetary Policy Arises

- Providing money for use in everyday transactions has been a commonplace function of governments for well over two thousand years.
- In the US the constitution explicitly reserves to Congress the power to ”coin money and regulate the value thereof...”
- Over time, most governments have created specialized central banks to which they delegate this function.
- The Swedish Riksbank was established in 1668, the Bank of England in 1694, the Banque de France in 1800, and the US central bank, the Federal Reserve System in 1914.

How Monetary Policy Arises

- In early days money provided by governments took the form of coins, and therefore required a supply of gold, silver or other valued metal.
- In the mid eighteen century some governments also began to issue paper currency. These paper claims gave the bearer the right to demand payment in coin, with the only exception under unusual circumstances like wars.
- The perceived need for such banking disappeared, so that today almost all paper currency is ”fiat money”. It has value only because the government mandates that within the country’s borders.

How Monetary Policy Arises

- In principle, the existence of fiat currency alone would be sufficient to enable a government to carry out a primitive form of monetary policy.
- Central banks conduct monetary policy differently, by exchanging claims against themselves for other claims against the government. Typically interest-bearing bills, notes and bonds. (The government borrows from the central bank).
- Central banks nowadays have other mandates that differ from simple financing the government.

How Monetary Policy Works

- The chief objectives of monetary policy in modern times have typically been to maintain stability of a country's general price level, and to promote levels of output and employment.
- Other often accepted goals include maintaining balance in a country's international trade, preserving stability in its financial markets, and fostering increased capital investment.
- Central banks' monetary policy operations take place exclusively in the financial markets.
- Monetary policy requires a ”transmission mechanism”.

Demand for central bank liabilities

- Individuals in a country own a claim on a country's central bank. (Currency)
- Individuals and companies hold and exchange central bank liabilities.
- In the past, sudden large increases in the demand for currency when not met by an increase in currency supplied by the central bank, often triggered financial crises and consequent economic downturns.
- After WWII, most central banks have passively supplied whatever changing volume of currency the public seeks. As a result, demand for currency typically plays no significant role in the monetary role process.
- What matters are the claims that the country's private sector banks hold in the form of deposits (reserves) at the central bank. For several reasons, the banks' need for these reserves expands or contracts roughly in pace with the overall level of activity taking place in the nonfinancial economy.
- Reserves are proportional to the volume of deposits, and since the volume of loans is proportional to the amount of deposits available to invest, reserve requirements affect the creation of loans.

Demand for central bank liabilities

- Even if a country requires no reserve requirements, their banks hold balances at the central bank to use for settling the claims among themselves that arise whenever an account holder at one bank deposits a check drawn from another bank.
- These situations can easily be settled by shifting reserves on the books of the central bank.
- Risk free banks are ideal in providing interbank settlement services.

The central bank as monopolist

- The central bank's power to conduct monetary policy stems from its role as the sole source of reserves.
- **Open market operations**: Buying or selling securities (normally debt obligations of the CB country's) in the market. When a central bank buys securities, it makes payment by increasing the reserve account of the seller's bank.
- Although private-sector banks regularly trade existing reserves, no bank can change the total volume of reserves in the economy.
- An expansionary open market operation (in which the central bank expands the supply of reserves) creates downward pressure on short-term interest rates.
- A contractionary open market operation puts upward pressure on short-term interest rates.

Reserve Requirements

- In a banking system that imposes RR an alternative way for the central bank to achieve the same objective is to adjust the required percentage of deposits required to be held in the central bank.
- Lowering the reserve requirement (reducing the demand for reserves) has roughly the same expansionary effect as an open market operation.
- Raising reserve requirements is a contractionary policy.

Central Bank Lending

- Another way in which central banks can change the supply of reserves is by lending reserves directly to some bank.
- In countries that have reserve requirements this direct lending is normally small in scale.
- In countries without reserve requirements, lending directly to banks is an important part of how the central bank supplies reserves, and it provides an alternative mechanism for controlling interest rates.

Effects on the nonfinancial economy

- To have a real economy impact, short term interest rates should affect real output and employment.
- Long term interest rates move in the same direction as short term interbank rates (cost of capital).
- Banks ability on create credit depends directly on having reserves.

The Design of Monetary Policy

- Tradeoff between boosting output and controlling inflation.
- Reserve Requirements
- Supply of Money (Friedman's view $\neq$ Neo-Keynesian view)
- Change amount of reserves by changing the supply
- Set exchange rate (less common)

Central bank independence

- The performance of central banks that are more independent from the government tends to be better.
- Independence limits the impact of coinage.
- More independent central banks deliver lower inflation.
- Central Banks' objective nowadays is mostly inflation based. Having clear defined inflation targets makes the CB's job more transparent.
- Maintaining low inflation and full output and employment is not realistic.

The Fed's Dual Mandate

- The Fed influences money and credit to promote a healthy economy
- Congress has given the Fed two coequal goals for monetary policy: maximum employment and stable prices
- These goals imply a third goal of moderate long-term interest rates

Changes in Fed's Interpretations

- Fed's interpretations of maximum employment and stable prices goals have changed over time
- In the 2020 "Statement on Longer-Run Goals and Monetary Policy Strategy," Fed emphasized only on shortfalls of employment below its maximum level
- High employment and low unemployment do not raise concerns for the Fed as long as they are not accompanied by unwanted increases in inflation or other risks

Maximum Employment

- Maximum employment is a broad-based and inclusive goal that is not directly measurable
- The Fed does not specify a fixed goal for employment, its assessments rest on a wide range of indicators and are necessarily uncertain
- Recent estimates of the longer-run rate of unemployment that is consistent with maximum employment are generally around 4 percent (US)

Stable Prices

- Fed policymakers judge that a 2 percent inflation rate is most consistent over the longer run with its mandate for stable prices
- In its 2020 ”Statement on Longer-Run Goals and Monetary Policy Strategy,” the Fed changed that goal to inflation that averages 2 percent over time
- Following periods of persistently low inflation, the Fed strives for inflation to be moderately above 2 percent for some time

Setting Monetary Policy: The Federal Funds Rate

- The federal funds rate is the interest rate that financial institutions charge each other for loans in the overnight market for reserves.
- The Fed implements monetary policy primarily by influencing the federal funds rate, which affects the cost of borrowing for businesses and consumers, the total amount of money and credit in the economy, and employment and inflation.
- The Fed can use its monetary policy tools to raise or lower the federal funds rate, tightening or easing monetary policy, respectively, to keep inflation in check or offset economic downturns.

Implementing Monetary Policy: The Fed's Policy Toolkit

The Fed has traditionally used three tools to conduct monetary policy: **reserve requirements**, the **discount rate**, and **open market operations**. In 2008, the Fed added paying interest on reserve balances held at Reserve Banks to its monetary policy toolkit. More recently the Fed also added overnight reverse repurchase agreements to support the level of the federal funds rate.

Reserve Requirements

The Federal Reserve Act of 1913 required all depository institutions to set aside a percentage of their deposits as reserves, to be held either as cash on hand or as account balances at a Reserve Bank. The Act gave the Fed the authority to set that required percentage for all commercial banks, savings banks, savings and loans, credit unions, and U.S. branches and agencies of foreign banks. These institutions typically have an account at the Fed and use their reserve balances to meet reserve requirements and to process financial transactions such as check and electronic payments and currency and coin services.

Reserve Requirements (cont'd)

For most of the Fed's history, monetary policy operated in an environment of "scarce" reserves. Banks and other depository institutions tried to keep their reserves close to the bare minimum needed to meet reserve requirements. Reserves above required levels could be loaned out to customers. So, by moving reserve requirements, the Fed could influence the amount of bank lending. Promoting monetary policy goals through this channel wasn't typical though.

Reserve Requirements (cont'd)

Still, reserve requirements have played a central role in the implementation of monetary policy. When reserves weren't very abundant, there was a relatively stable level of demand for them, which supported the Fed's ability to influence the federal funds rate through open market operations. The demand for reserves came from reserve requirements coupled with reserve scarcity. If a bank was at risk of falling short on reserves, it would borrow reserves overnight from other banks. As mentioned above, the interest rate on these short-term loans is the federal funds rate.

The Discount Rate

The discount rate is the interest rate a Reserve Bank charges eligible financial institutions to borrow funds on a short-term basis transactions known as borrowing at the ”discount window.” The discount rate is set by the Reserve Banks’ boards of directors, subject to the Board of Governors’ approval. The level of the discount rate is set above the federal funds rate target. As such, the discount window serves as a backup source of funding for depository institutions. The discount window can also become the primary source of funds under unusual circumstances.

Nontraditional and Crisis Tools

When faced with disruptions, the Fed can use additional tools to support the economy:

- Open market operations to lower federal funds rate
- Purchasing assets such as Treasury securities, federal agency debt, and mortgage-backed securities
- Special lending facilities to provide liquidity to the financial system
- Policy plans and strategies to the public in the form of ”forward guidance”

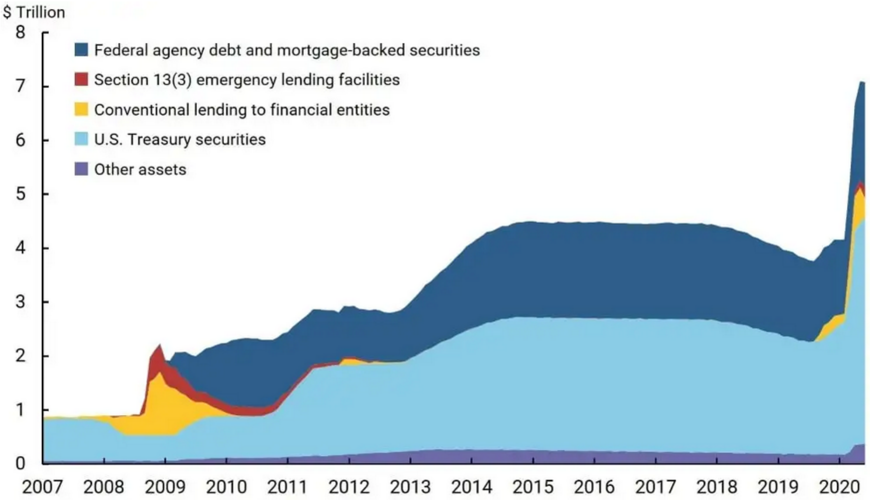
Nontraditional and Crisis Tools (cont'd)

During COVID-19 pandemic, the Fed used both traditional and nontraditional tools:

- Lowered federal funds rate
- Encouraged borrowing through the discount window
- Purchased Treasuries and agency mortgage-backed securities
- Opened a set of lending facilities under its emergency lending authority

All of these tools aim to support the economy, stabilize the financial system, and keep credit flowing to households, businesses, nonprofits, and state and local governments.

The Fed's Balance Sheet



Source: Federal Reserve Board of Governors, H.4.1 release

The Fed's Balance Sheet

- The Fed's balance sheet has five categories of assets
- During the 2007-08 crisis, total assets increased from 870B to 4.5T in 2015
- The balance sheet normalization program decreased total assets to < 3.8T
- Total assets began increasing in Sep. 2019 due to responses to disruptions in overnight lending market
- The Fed's recent increase since Mar. 2020 is in response to COVID-19 pandemic