

# EE432 Monetary Theory and Policy



## Lecture 14 Modern Monetary Policy and the Challenges

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# Outline

- The Traditional Channels: Interest Rates and Exchange Rates
- The Challenges Modern Monetary Policymakers Face

# Chapter 23



## Modern Monetary Policy and the Challenges Facing Central Bankers

# The Traditional Channels: Interest Rates and Exchange Rates

# The Traditional Channels: Interest Rates and Exchange Rates

- **Easing of monetary policy** - a decrease in the target nominal interest rate, which **lowers the real interest rate** - leads to a **depreciation of the dollar**.
- The ***less valuable dollar***:
  - **Drives up the cost of imported goods** and services, reducing imports from abroad, and
  - **Makes export goods** and services **cheaper**, so foreigners will buy more of them.

# The Traditional Channels: Interest Rates and Exchange Rates

- The **interest-rate channel** is not very *powerful*.
- Data suggest that the **investment** component of total spending is not sensitive to interest rates.
- While a *small change in the interest rate* does change the cost of external financing, it does not have much **effect on investment decisions**.

# The Traditional Channels: Interest Rates and Exchange Rates

- The impact of *short-term* interest rates on *household decisions* is modest.
- The problem is that *people's decisions to purchase cars or houses* depend on *longer-term interest rates* rather than the *short-run target rate*.
- *Household consumption decisions* will only change to the extent that the **target interest rate affects long-term interest rates**.

# The Traditional Channels: Interest Rates and Exchange Rates

- The **policy-controlled interest rate** is just one of many factors that *shift the demand and supply* for the dollar on ***foreign exchange markets***.
- The **traditional channels of monetary policy transmission** are not very powerful.
- Yet, evidence shows that **monetary policy** is effective.
- **Something else** must be ***amplifying*** the impact of monetary policy changes on ***real economic activity***.



*Bank-Lending and  
Balance-Sheet Channels*

# Bank-Lending and Balance-Sheet Channels

- Banks are *essential* to the *operation of a modern industrial economy*.
- Banks are also the channel through which *monetary policy is transmitted* to the economy.
- To understand monetary policy changes completely, we *look at* the **impact of policy changes on banks and bank lending**.

# Banks and Bank Lending

- ***Borrowers*** do not have access to capital market financing - ***must go through banks.***
- When ***banks stop lending***, borrowers simply can not obtain financing.
- By ***altering*** the supply of funds ***to the banking system***, policymakers ***can affect*** banks' ability and willingness to lend.
  - The **bank-lending channel** of ***monetary policy transmission.***

# Banks and Bank Lending

- An open market purchase has a *direct impact* on the **supply of loans**.
- **Financial regulators** can *also* influence **bank-lending practices**.
- **Changes in financial regulations**, will have an *impact* on the *amount of bank lending*.
- **Credit conditions** typically *tighten* in *recessions* and ease in booms.

*Firms' Balance Sheets and  
Household Net Worth*

# Firms' Balance Sheets and Household Net Worth

- The **balance-sheet channel** of *monetary policy transmission* works because *monetary policy* has the direct influence on the net worth of potential borrowers.
  - An *easing of monetary policy* **improves firms' and households' balance sheets**, *increasing their net worth* and *reducing their credit risk premium*.
  - **Increases in net worth** *reduce the problems of moral hazard and adverse selection*.
    - This *lowers information costs of lending* and **allows borrowers to obtain financing more easily**.

# Firms' Balance Sheets and Household Net Worth

How does *monetary policy expansion* improve borrowers' *net worth*?

1. *Expansionary policy drives up asset prices, increasing the value of firms and the wealth of households.*
2. *Lower interest rates reduce the burden of repayment of current loans of borrowers.*

# Firms' Balance Sheets and Household Net Worth

- At **lower interest rates**, a person with *a variable rate loan* **enjoys** **lower interest payments**.
  - The *percentage of person's income* that is *devoted to loan payments* will be **lower**.
  - *As interest rates fall, the supply of loans increases.*
- **Information services** are central to ***banks' role*** in the *financial system*.
  - They help to *address the problems* of **adverse selection** and **moral hazard**.



# Firms' Balance Sheets and Household Net Worth

- **Inferior information** leads to an *increase in adverse selection*.
- This then:
  - *Reduces bank lending,*
  - *Lowers investment, and ultimately*
  - *Depresses the quality of aggregate output demanded.*

# Firms' Balance Sheets and Household Net Worth

- The **channels of monetary policy transmission** depend on the ***structure of the financial system***.
- *If banks are **unimportant sources of funds** for firms and individuals, **the bank-lending channel** is not **tremendously important**.*
- Though ***technology** has made the processing of increasing amount of **information** easier and cheaper*, it seems unlikely to solve the problems of **adverse selection** and **moral hazard**.

*Asset-Price Channels:  
Wealth and Investment*

# Asset-Price Channels: Wealth and Investment

- When the **interest rate *moves*, so do stock prices.**
  - This *relationship* is referred to the **asset-price channel** of monetary policy transmission.
- The **lower the interest rate**, the *higher the present value* is and the **higher the stock price.**

# Asset-Price Channels: Wealth and Investment

- When ***policymakers*** reduce their interest-rate target, it drives the **mortgage rate down**.
  - ***Higher demand*** for ***residential housing***, driving up the ***prices of existing homes***.
- **Stock and property prices** affect both *individual **consumption*** and *business **investment***.
  - ***Higher stock*** and ***real estate prices*** mean an ***increase in wealth***.
  - *An increase in wealth means **higher consumption***.

# Asset-Price Channels: Wealth and Investment

- As stock prices *rise*, firms find it *easier to raise funds* by issuing new shares.
- As financing become *less expensive*, more investments *become profitable*.

*Financial Crisis and the  
Transmission of Monetary Policy*

# Financial Crisis and the Transmission of Monetary Policy

- The *crisis of 2007-2009* intensified fundamental problems of **asymmetric information** that *affect* the **provision of credit** in a modern economy.
- The *widespread losses* at intermediaries and the *heightened uncertainty about the damage suffered by specific intermediaries* reduced confidence.



# Financial Crisis and the Transmission of Monetary Policy

- Funding **liquidity dried up**.
- *Households' and nonfinancial firms' net worth fell* substantially, **reducing** their **ability to borrow**, so they **cut spending**.
- The result of all this was a **destabilizing feedback loop** between **worsening economic prospects** and the **deterioration of financial conditions** that **influence spending**.

# Financial Crisis and the Transmission of Monetary Policy

- When the **policy transmission mechanism** is obstructed, **central banks cannot** assume that a *cut in their target policy rate* will *ease the financial conditions* that influence the economy.
- **Central banks** must always take into account the workings of the monetary policy transmission mechanism in order to *achieve* their goals of *economic and price stability*.

# The Challenges Modern Monetary Policymakers Face

# The Challenges Modern Monetary Policymakers Face

- **Stock prices and property values** have a *tendency* to go through **boom and bust cycles**.
- Policymakers' *options* are limited
- The *nominal interest rate* cannot *fall below* the *effective lower bound*.

*Booms and Busts in Property  
and Equity Prices*

# Booms and Busts in Property and Equity Prices

- **Bubbles** are damaging because the wealth effects they create *cause consumption to surge* and *then contract* just as rapidly.
  - Bubbles are identified after the fact by a **sharp rise** then a **sharp decline** in *prices*.
- The **collapse of the Internet bubble** in the **1990s** had a relatively minor impact because intermediaries faced *limited credit exposure* and *remained well capitalized*.
- While the *loss of capital* in the financial system *in 2007-2009* could have *led to catastrophe* without extraordinary government actions.

# Booms and Busts in Property and Equity Prices

- Proponents of a *policy of “leaning against bubbles”* say that ***stabilizing inflation and real growth*** means **raising interest rates to discourage bubbles** from developing.
- ***Opponents of this interventionist*** view claim that **bubbles are too difficult to identify when they are developing**.
  - Central banks should ***wait until the bubble bursts*** and ***only then react aggressively to limit the fallout*** on the economy by cleaning up the mess.

# Booms and Busts in Property and Equity Prices

- Today, the ***proper policy toolkit*** for *addressing bubbles* is not *interest rates* but the **macroprudential regulatory** approach
- According to this view, **bubbles** are a ***major threat***.
  - The best result would be to ***adjust regulatory rules*** to ***inhibit intermediaries*** from *extending* such ***risky credit*** in economic booms.



# Booms and Busts in Property and Equity Prices

- This approach *still depends on* the **foresight and judgment of regulators** to limit the *buildup of an asset price bubble*.
- Using **interest rates to combat *asset price bubbles*** now is *more likely* to be viewed as a *backup* approach for *extreme circumstances*.

*Deflation and the Effective  
Lower Interest-Rate Bound*

# Deflation and the Effective Lower Interest-Rate Bound

- **Nominal interest rates can not be *deeply negative*.**
  - There is an ***effective lower bound (ELB)*** that is **below zero** due to transactions costs
  - Investors can ***always hold cash***, so ***bonds must have yields*** above the ELB to attract bondholders.
- Such risk which policymakers have ***no scope to lower rates further***, has concerned central banks since Japan's experience in the 1990s.

# Deflation and the Effective Lower Interest-Rate Bound

- Think about the *consequences of a shock that depresses aggregate expenditure*.
  - The **dynamic aggregate demand curve** shifts to the *left*.
  - Real output *falls below* potential - a *recessionary output gap* putting ***downward pressure*** on inflation.
  - **Monetary policymakers** would normally react by ***cutting interest rates***.
  - This would *increase spending*, ***raise*** real output, and ***eliminate*** the **output gap**.

# Deflation and the Effective Lower Interest-Rate Bound

- What if, when the shock occurs, **inflation is zero** and the **policy interest rate** that central bankers control is **at the ELB**?
  - The **decline in aggregate demand** still *drives real output below potential output*.
  - There is *downward pressure on inflation*.
  - But when **inflation falls**, it drops **below zero** so that, on average, *prices are falling*.
- This result is **deflation**.

# Deflation and the Effective Lower Interest-Rate Bound

- When there is a **recessionary output gap**, **current inflation is *below* expected inflation** and **expected inflation *falls***, which drives deflation down even more.
- Because the **nominal interest rate** is at the **ELB**, policymakers **cannot** counter the ***worsening deflation*** by ***lowering*** it.
  - The **interest rate stays near zero** and could not be negative, **while inflation rate becomes negative. Real interest rate, thus, increase above zero.** -> e.g.  $r = i - \pi = 0 - (-0.5) = 1.0$  or the rate actually increases
  - The **real interest rate *rises***, ***reducing spending***, **shifting the AD curve to the *left***.
    - This **expands the recessionary output gap**.
- The result is ***deflationary spiral*** in which ***deflation grows worse and worse***.

# Deflation and the Effective Lower Interest-Rate Bound

- **Deflation** makes it *more difficult* for businesses to *obtain financing for new projects*.
  - Without investment there is *no growth*.
- **Deflation**, therefore, **increases** the *real value* of a **firm's liabilities** without affecting the real value of its assets.

# Deflation and the Effective Lower Interest-Rate Bound

Policymakers can minimize the chances of this sort of catastrophe:

1. They can ***set*** their inflation objective with the ***perils of deflation in mind***
2. They can ***act boldly*** when there is ***even an indication of deflation***
3. They can ***utilize*** unconventional policy tools



# Deflation and the Effective Lower Interest-Rate Bound

- ***Reducing the interest rate significantly and rapidly when faced with the possibility of hitting the ELB is “acting preemptively”***
- Central bankers can use ***unconventional policy tools*** that *include*:
  - Forward guidance
  - Quantitative easing
  - Targeted asset purchases

# Deflation and the Effective Lower Interest-Rate Bound

- Central bankers are *very reluctant to use unconventional policy tools*
  - Continued uncertainty about *how and why they work* and *how to apply them effectively*
  - *Policy exit* may be difficult

# *The Evolving Structure of the Financial System*

# The Evolving Structure of the Financial System

- Changes in financial structure will *change* the impact of monetary policy.
- The *shift away from bank financing toward direct financing in the capital markets* means that the *bank-lending channel* of monetary policy *became less important* in the decades before the financial crisis.

# The Evolving Structure of the Financial System

- The decline of *banks as a source of finance* was accompanied by a *rise* in the importance of *securities markets* and *shadow banks*.
- The *financial crisis* that ended in 2009 has interrupted the trend toward *capital market finance*:
- Securitization has *declined or slowed* since 2006.

# The Evolving Structure of the Financial System

- **Effective securitization** can lead to a *better diversification of risk*.
- **Macroprudential regulation** will *tend to restrain* the future pace of **securitization**.
- The *changing effectiveness* of **conventional monetary policy** likely will require central bankers to **update** their *unconventional policy tools*.

# The Evolving Structure of the Financial System

- As the characteristics of money, banks, and loans evolve, **we will all adjust**:
  - *How we pay* for our purchases
  - *How we hold our wealth*
  - *How we obtain credit*

End of lecture