EE432 Monetary Theory and Policy

Lecture 13 Modern Monetary Policy and the Challenges

Dr. Chamadanai Marknual
Faculty of Economics, Thammasat University

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Outline

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

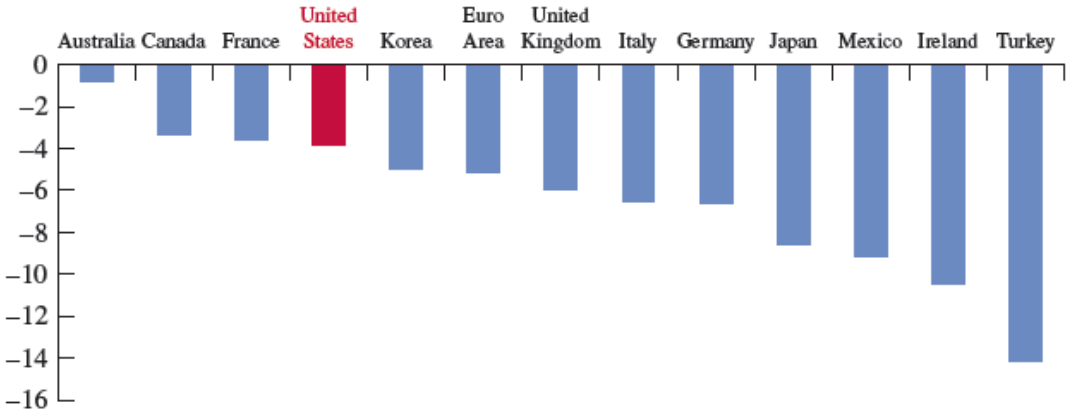
Chapter 23

Modern Monetary Policy and the Challenges Facing Central Bankers

The Traditional Channels: Interest Rates and Exchange Rates

Figure 23.1 Economic Activity and Policy Rates during the Financial Crisis of 2007–2009 and Thereafter

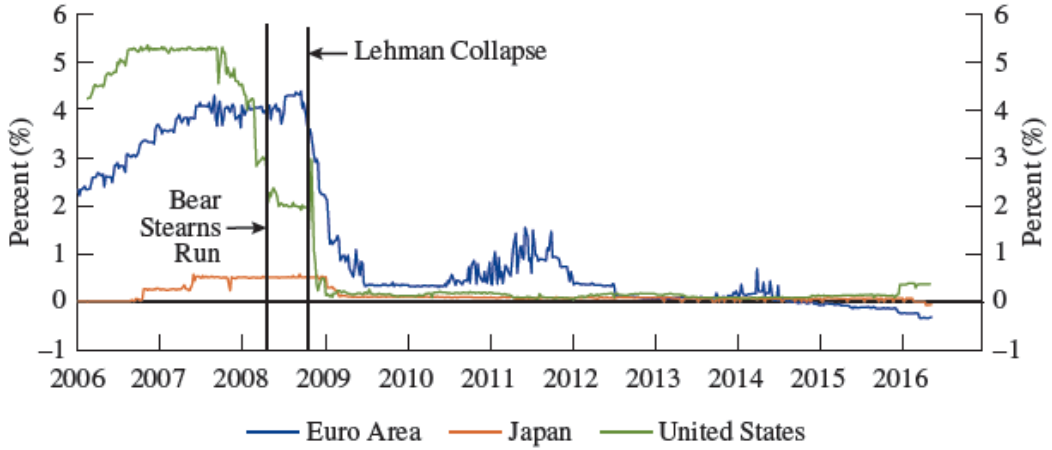
A. Peak-to-Trough Percent Change of Real GDP during the Financial Crisis of 2007–2009



Note: The U.S. peak and trough occurred in fourth quarter 2007 and second quarter 2009, respectively. In the other countries, the dates differed somewhat, but the troughs occurred by third quarter 2009.

SOURCES: *OECD and authors' calculations.*

B. Overnight Interbank Lending Rates, 2006–2016



SOURCES: *Bank of Japan, European Central Bank, and Federal Reserve Board.*

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 problems 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

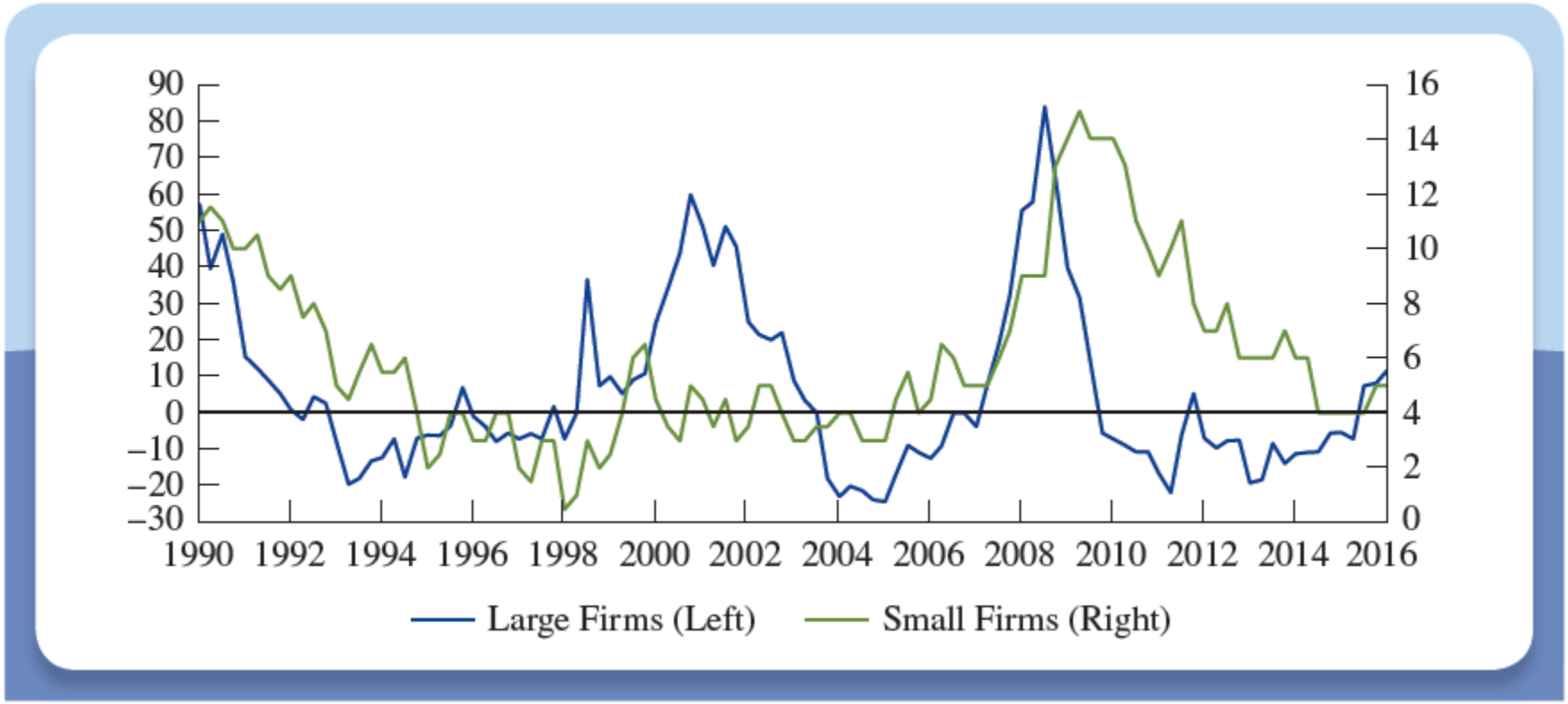
- ***Borrowers*** do not have *access to capital market financing* - ***must go through banks***.
- When ***banks stop lending***, **borrowers** simply can **not obtain financing**.
- By ***altering*** the **supply of funds *to the banking system***, policymakers ***can affect*** **banks' ability** and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

Banks and Bank Lending

Figure 23.2 Survey Measures of Changing Credit Conditions by Firm Size



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***.

The Monetary Policy Transmission Mechanism

Table 23.1 The Monetary Policy Transmission Mechanism

Channel	Mechanism
Interest rates (traditional channel)	Lower interest rates reduce the cost of investment, making more projects profitable.
Exchange rates (traditional channel)	Lower interest rates reduce the attractiveness of domestic investment, depressing the value of the currency and increasing net exports.
Bank lending	An easing of monetary policy raises the level of bank reserves and bank deposits, increasing the supply of funds.
Firms' balance sheets	Lower interest rates raise firms' profits, increasing their net worth and reducing the problems of adverse selection and moral hazard.
Household net worth	Lower interest rates raise individuals' net worth, improving their creditworthiness and allowing them to increase their borrowing.
Asset prices	Higher stock prices and real estate values fuel an increase in both business investment and household consumption.

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

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- **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***.

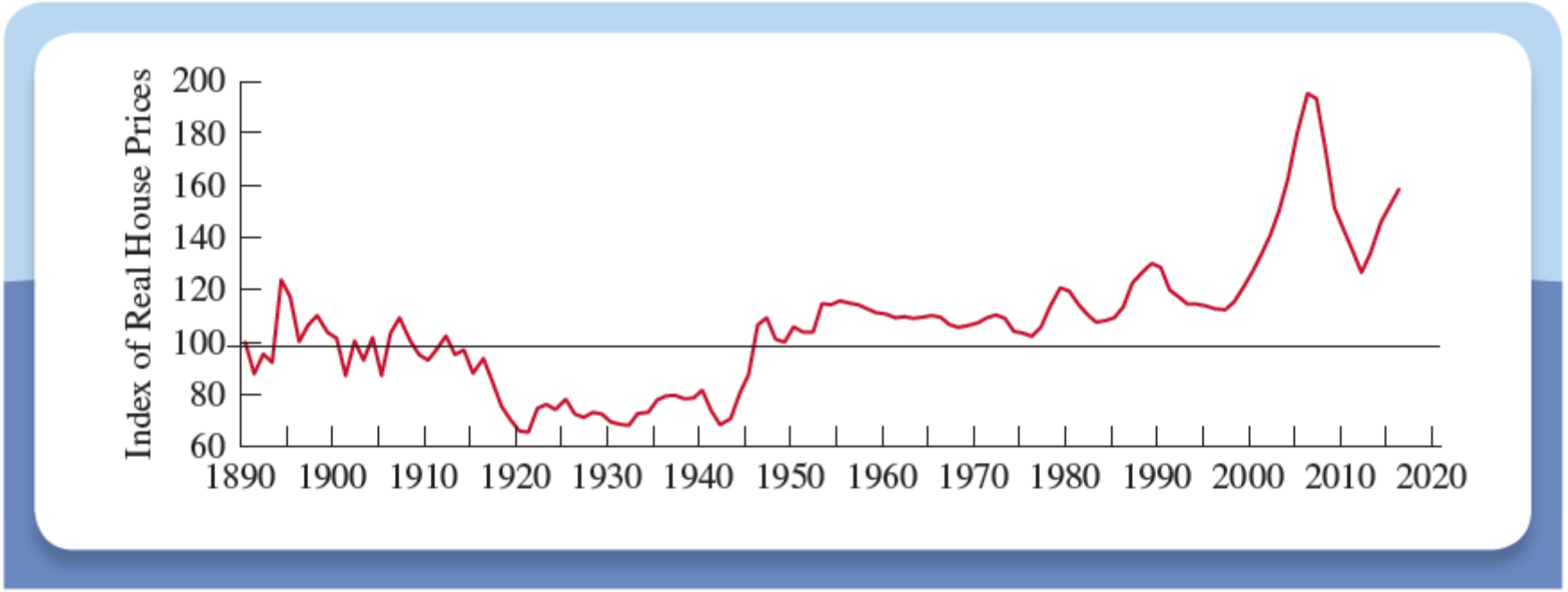
Booms and Busts in Property and Equity Prices

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*.

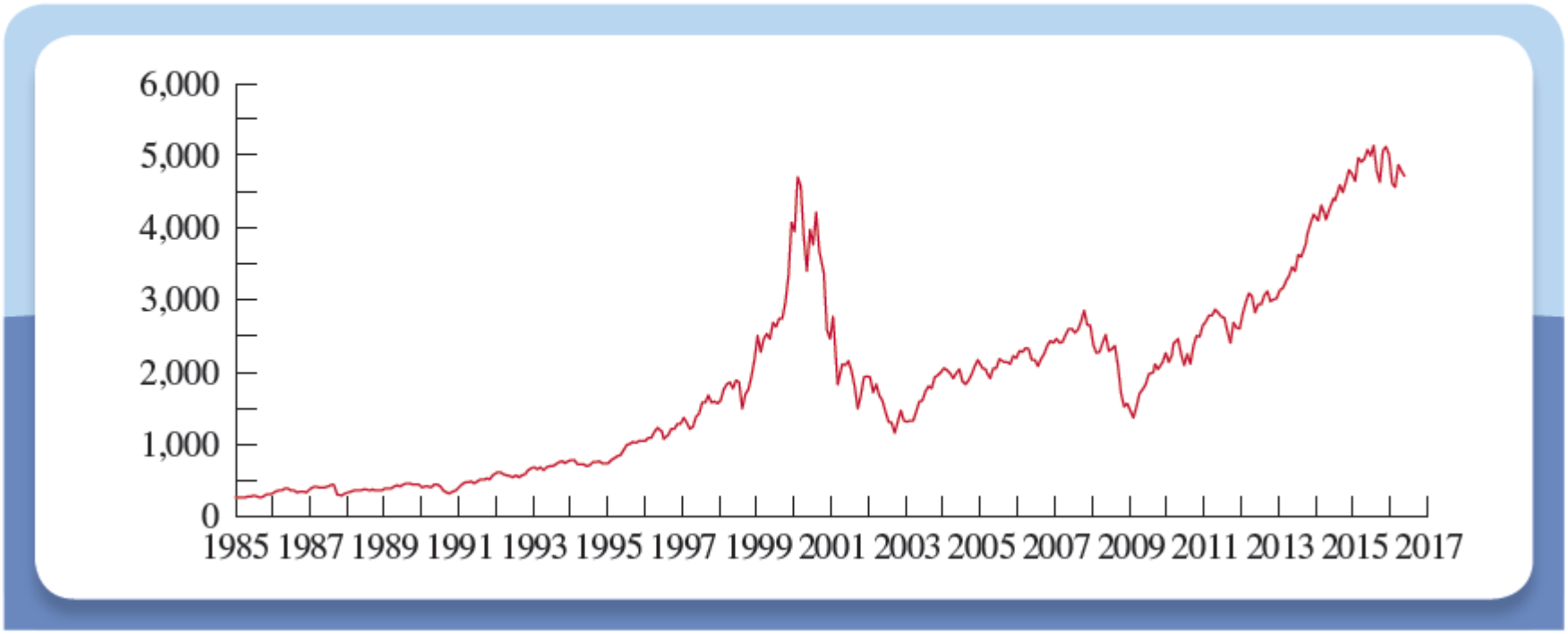
Booms and Busts in Property and Equity Prices

Figure 23.3 U.S. Real Housing Price Index, 1890–2016 (1890 = 100)



Booms and Busts in Property and Equity Prices

Figure 23.4 The Nasdaq Composite Index, 1984–2016



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 **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