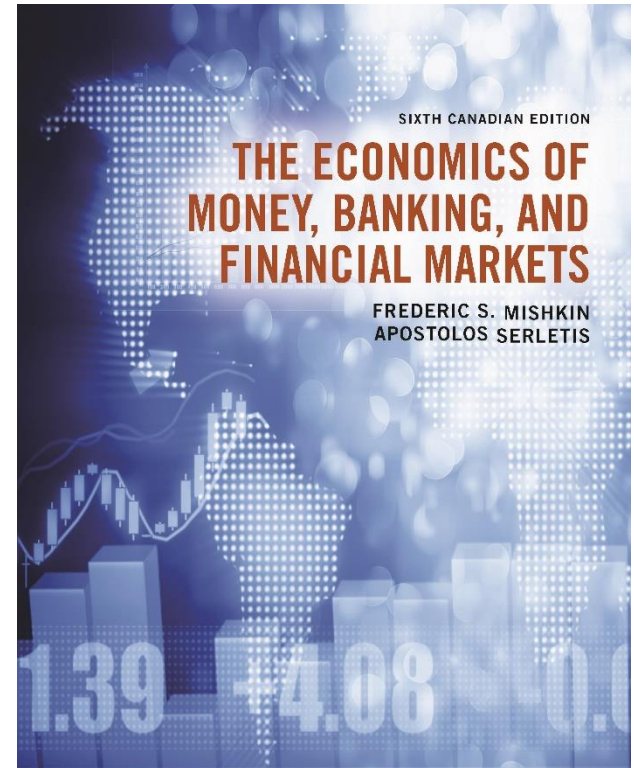


Chapters 1 and 2:

Money, Banking, and Financial Markets



Financial Markets: channel funds from those who do not have a productive use for them to those that do

- promote greater economic efficiency and therefore, affects our lives, businesses, and the economy.

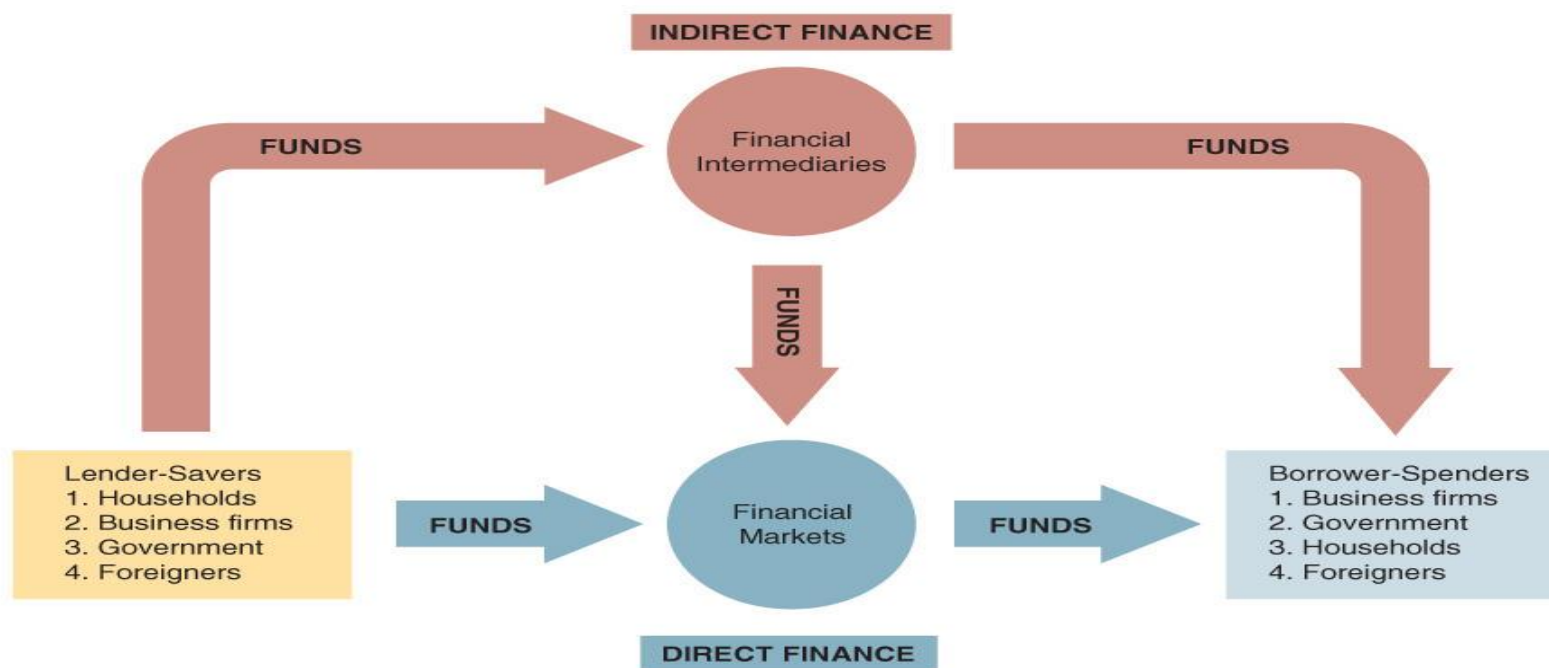


FIGURE 2-1 Flows of Funds Through the Financial System

The arrows show that funds flow from lender-savers to borrower-spenders via two routes: *direct finance*, in which borrowers borrow funds directly from financial markets by selling securities, and *indirect finance*, in which a financial intermediary borrows funds from lender-savers and then uses these funds to make loans to borrower-spenders.

Flow of Funds: Direct finance

- borrowers borrow funds directly from lenders in financial markets by selling ***securities*** (also called ***financial instruments***).

A **security** (or a financial instrument) is a claim on the issuer's future income or assets.

Securities are **assets** for the person who buys them but **liabilities (IOUs or debt)** for the individual or firm that sells (issues) them.

Debt and Equity Markets

Debt Market: *Bond Market*

Equity Market: *Stock Market*

The Bond Market and Interest Rates

- **Bonds**

- A **bond** is a debt security (or debt instrument) that promises to make payments periodically for a specified period of time.
- *A contract between a borrower (who issues the bond) and lender (who owns it)*
- Regularly payments until **Maturity** (*short-term, < 1 year, intermediate-term, 1-10 years, and long-term, >10 years*)

- An **interest rate** is the cost of borrowing or the price paid for the rental of funds
 - *Usually expressed as a percent*
 - *4% interest on \$100 means you must repay \$104 when due*
 - There are many types of interest rates: mortgage interest rates, car loan rates, treasury bill rates, checking deposit rates...

Interest Rates on Selected Bonds

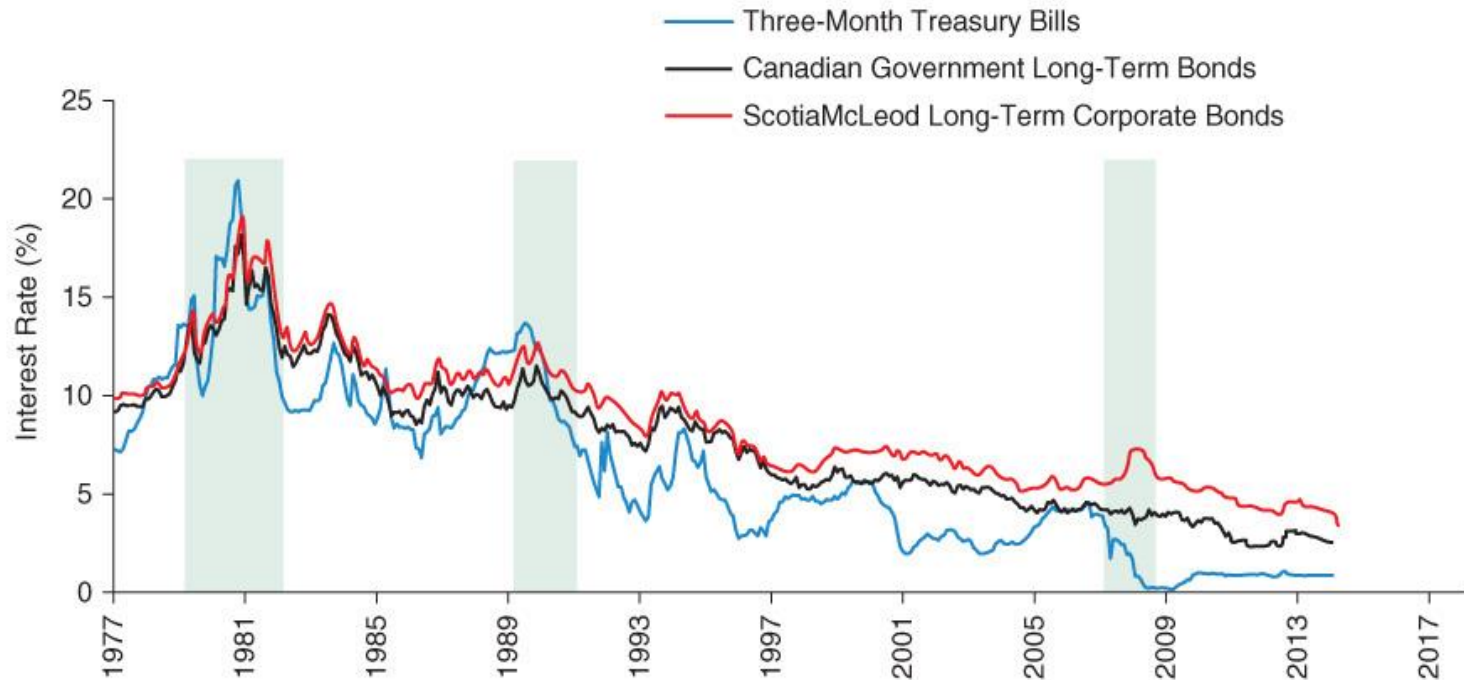


FIGURE 1-1 Interest Rates on Selected Bonds, 1977–2014

Although different interest rates have a tendency to move in unison, they often differ substantially, and the spreads between them fluctuate.

Note: Shaded areas represent recessions.

Source: Statistics Canada CANSIM series V122531, V122544, and V122518.

The Stock Market

- A (common) **stock** represents a share of ownership in a corporation
 - Shares in a corporation
 - *Don't have maturity dates*
 - *Some make dividend payments*
 - *Equity holders are **residual claimants***
 - *Gives claim to the corporation's earnings and assets*

The value of stocks reflects the current value of a company, and expectations of future earnings growth

- A **stock market** is where stocks are bought and sold

Stock Prices

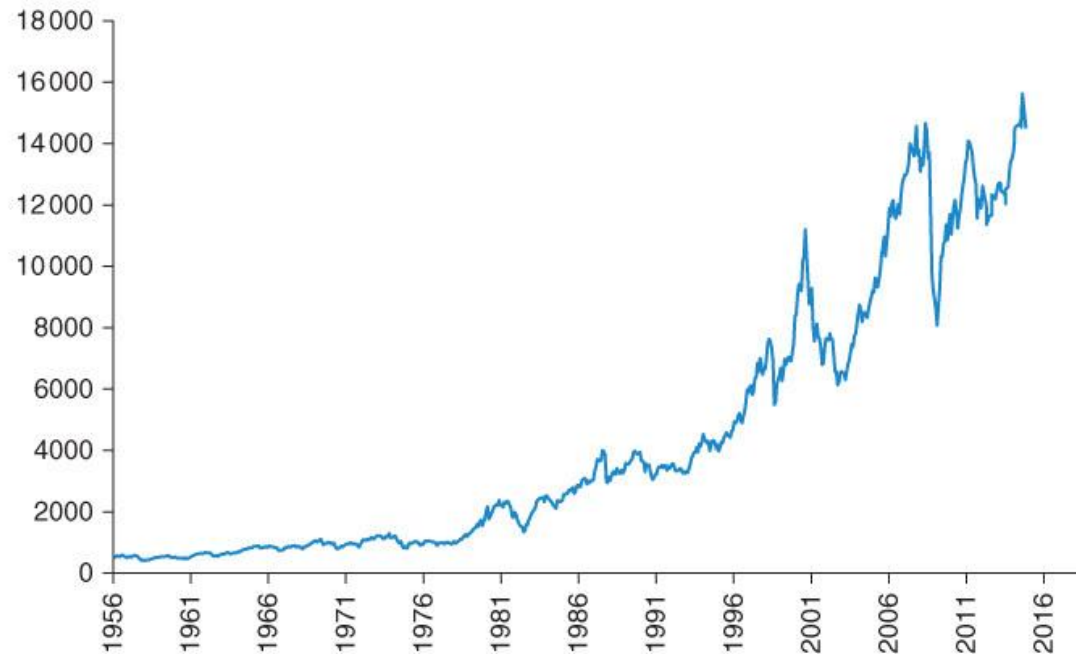


FIGURE 1-2 Stock Prices as Measured by the S&P/TSX Composite Index, 1956–2014

Stock prices are extremely volatile.

Source: Statistics Canada CANSIM series V122620.

Primary and Secondary Financial Markets

- **Primary Market**

- *New security issues sold to initial buyers*
- *Not well known to public; typically private*
- ***Investment banks** guarantee prices (called **underwriting**)*

- **Secondary Market**

- *Previously issued securities can be bought and sold*
- ***Brokers** match buyers and sellers with each other*
- ***Dealers** offer to buy and sell securities at stated prices*

Money and Capital Markets

- Distinguish markets by maturity of the securities
- **Money Markets**
 - *Only short-term debt instruments are traded (less than 1 year)*
 - Money Market Instruments: Government of Canada Treasury Bills, Certificates of Deposit, Commercial Paper, Repurchase Agreements, ...
- **Capital Markets**
 - *Market for longer-term debt (greater than 1 year)*
 - Capital Market Instruments: Stocks, Mortgages and mortgage-backed securities, Corporate bonds, Government of Canada bonds, Canada Savings bonds, Provincial and municipal government bonds, ...
- Money markets are more **liquid** than capital markets

Principal Money Market Instruments

TABLE 2-1

Principal Money Market Instruments

Type of Instrument	Amount Outstanding (\$ millions)			
	1980	1990	2000	2013
Treasury bills				
Government of Canada	13 709	113 654	76 634	162 184
Provincial governments	905	12 602	17 523	45 782
Municipal governments	113	514	188	455
Short-term paper				
Commercial paper	2555	12 971	24 330	11 510

Source: Statistics Canada Cansim series V37377, V122256, V122257, and V122652.

Principal Capital Market Instruments

TABLE 2-2

Principal Capital Market Instruments

Type of Instrument	Amount Outstanding (\$ billions)			
	1980	1990	2000	2013
Corporate stocks (market value)	42.9	110.7	242.6	466.2
Residential mortgages	91.9	245.3	431.2	1187.9
Corporate bonds	29.8	72.3	185.1	404.7
Government of Canada securities (marketable)	27.9	124.6	301.9	413.4
Bank commercial loans	58.8	102.6	132.2	212.9
Consumer loans	48.4	101.6	203.1	522.7
Nonresidential and farm mortgages	15.1	56.1	50.2	107.7

Source: Statistics Canada Cansim series V122642, V122746, V122640, V37378

Flows of Funds Through the Financial System

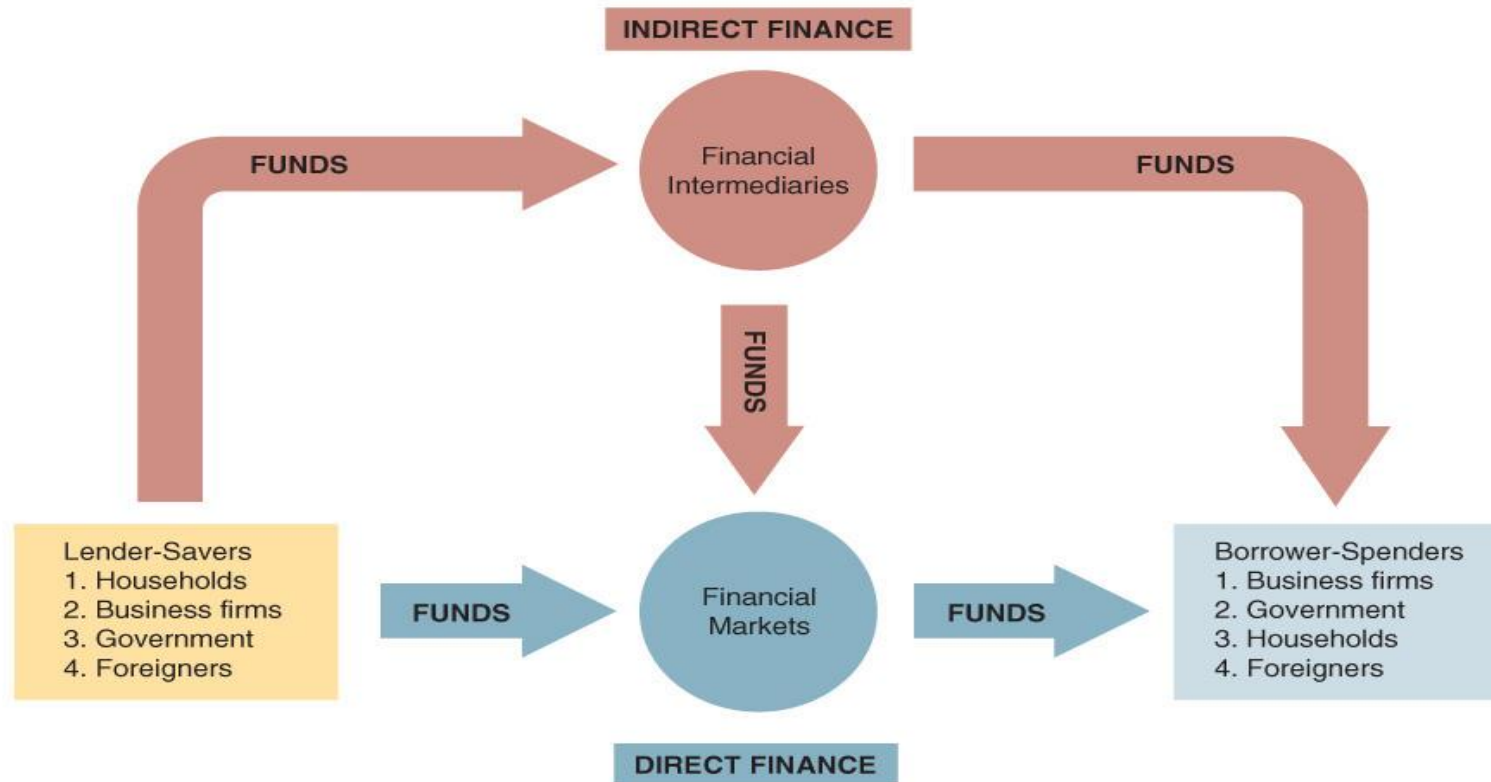


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Flow of Funds: Indirect Finance

Financial Intermediation

- *Indirect financing using financial intermediates (such as banks)*
- Banks and other financial institutions: move funds from people who save to people who have productive investment opportunities

Types of Financial Intermediaries

Institutions that borrow funds from people who have saved and then make loans to people who need funds

- **Depository Institutions**

- *Chartered Banks, Trusts and Mortgage Loan Companies, Credit Unions and Caisses Populaires*

- **Contractual Savings Institutions**

- *Life Insurance Companies, Property and Casual Insurance Companies, Pension Funds and Retirement Funds*

- **Investment Intermediaries**

- *Finance Companies, Mutual Funds, Money Market Mutual Funds, ...*

Types of Financial Intermediaries

TABLE 2-3

Primary Assets and Liabilities of Financial Intermediaries

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Depository institutions (banks)		
Chartered banks	Deposits	Loans, mortgages, government bonds
Trust and loan companies	Deposits	Mortgages
Credit unions and <i>caisses populaires</i>	Deposits	Mortgages
Contractual savings institutions		
Life insurance companies	Premiums from policies	Corporate bonds and mortgages
Property and casualty insurance companies	Premiums from policies	Corporate bonds and stocks
Pension funds	Retirement contributions	Corporate bonds and stocks
Investment intermediaries		
Finance companies	Finance paper, stocks, bonds	Consumer and business loans
Mutual funds	Shares	Stocks and bonds
Money market mutual funds	Shares	Money market instruments

Financial Intermediation

Four main roles of financial intermediates

1. Lowers **Transaction Costs**

- *Economies of scale*

2. Improves **Risk Sharing**

- *Asset transformation*
- *Diversification*

3. Help solve **Asymmetric Information** problems

- ***Adverse Selection:*** *is the problem created by asymmetric information BEFORE the transaction occurs.*
- ***Moral Hazard:*** *is the problem created by asymmetric information AFTER the transaction occurs*
 - Borrowers might engage in activities that are undesirable from a lender's point of view
- *Financial intermediates can screen and monitor borrowers*

Financial Innovation

- **Innovation** in financial markets is the development of new financial products and services
- **E-Finance:** Delivering financial services electronically
- Creative thinking by financial institutions can improve efficiency, increase profits, but can also sometimes result in financial disasters

Financial Crises

- **Financial crises:** major disruptions in financial markets
 - *sharp declines in asset prices and the failures of many financial and nonfinancial firms*
- Are a feature of economies throughout history
- Typically followed by severe business cycle downturns
- In August 2007, the U.S. experienced a serious crisis
 - *Defaults in subprime residential mortgages*
 - *Major losses in financial institutions, with many failing*

Money and Monetary Policy

- Money is anything that is generally accepted as payment for goods or services, or to repay debts
- It affects a wide variety of other economic variables:
 - *Business Cycles*
 - *Inflation*
 - *Interest Rates*
- Monetary policy used to influence the economy
 - *Central role of Bank of Canada*

Money and Business Cycles

- **Business cycles** are the upward and downward movement of aggregate output in the economy
- Affects the **unemployment rate** (share of labour force that is not employed)
- Evidence suggests money plays an important role in generating business cycles

Money Growth and the Business Cycle



FIGURE 1-3 Money Growth (M2++ (Gross) Annual Rate) and the Business Cycle in Canada, 1968–2014

Although money growth has declined before almost every recession, not every decline in the rate of money growth is followed by a recession. Shaded areas represent recessions.

Source: Statistics Canada CANSIM series V41552801.

Money and Inflation

- **Aggregate price level** is the average price of goods and services in an economy
- **Inflation** is a broad-based increase in the price level
 - *Affects individuals, businesses, and the government*
- What explains inflation?
 - *Inflation rate (percentage change of the price level) strongly related to growth rate of the money supply*
 - *This is true both within and across countries*

Price Level and the Money Supply

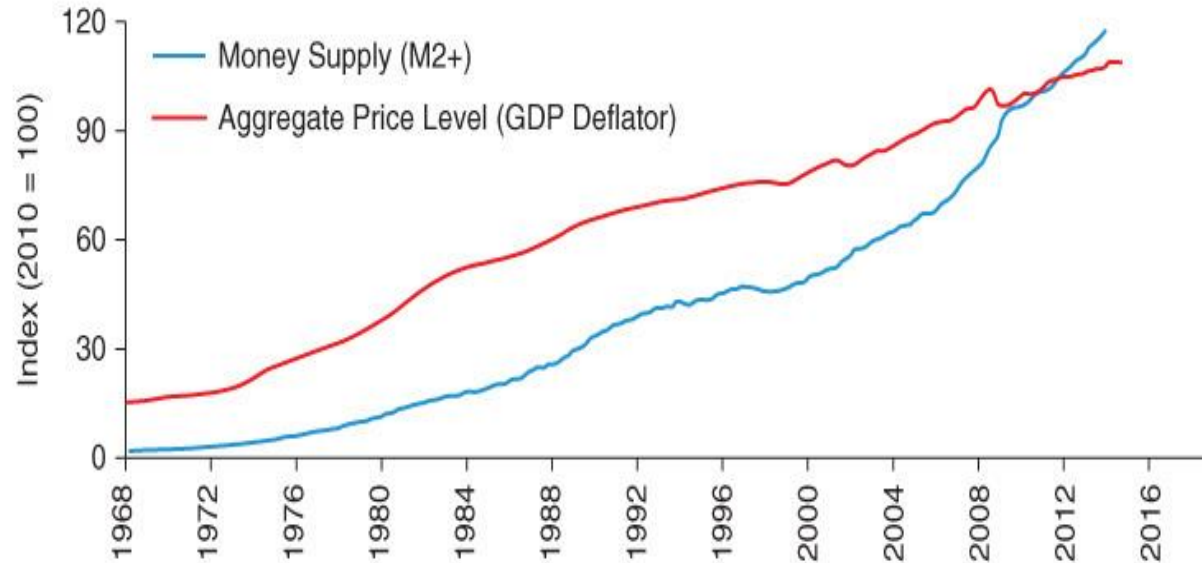


FIGURE 1-4 Aggregate Price Level and the Money Supply in Canada, 1968–2014

From 1968 to 2014, the price level has increased more than sixfold.

Source: Federal Reserve Bank of St. Louis, FRED database: <http://research.stlouisfed.org/fred2/>.

Average Inflation Rate Versus Average Rate of Money Growth for Selected Countries, 2000-2010

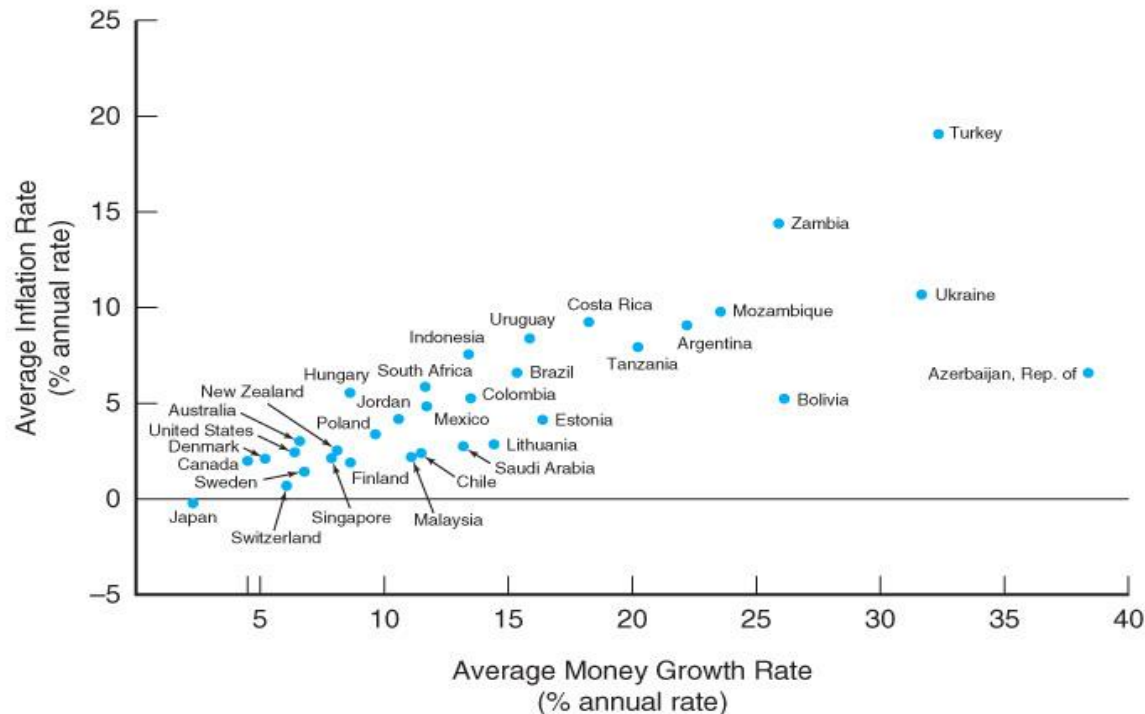


FIGURE 1-5 Average Inflation Rate Versus Average Rate of Money Growth for Selected Countries, 2003–2013

A positive association can be seen between the 10-year averages of inflation and the growth rate of the money supply: the countries with the highest inflation rates are also the ones with the highest money growth rates.

Source: International Financial Statistics. www.imf.org/external/data.htm

Money and Interest Rates

- An **interest rate** is the cost of borrowing or the price paid for the rental of funds
 - *Must compensate borrowers for expected inflation*
- Prior to 1980, the rate of money growth and the interest rate on long-term bonds were closely tied
- Since then, the relationship is less clear but still an important determinant of interest rates

Money Growth and Interest Rates

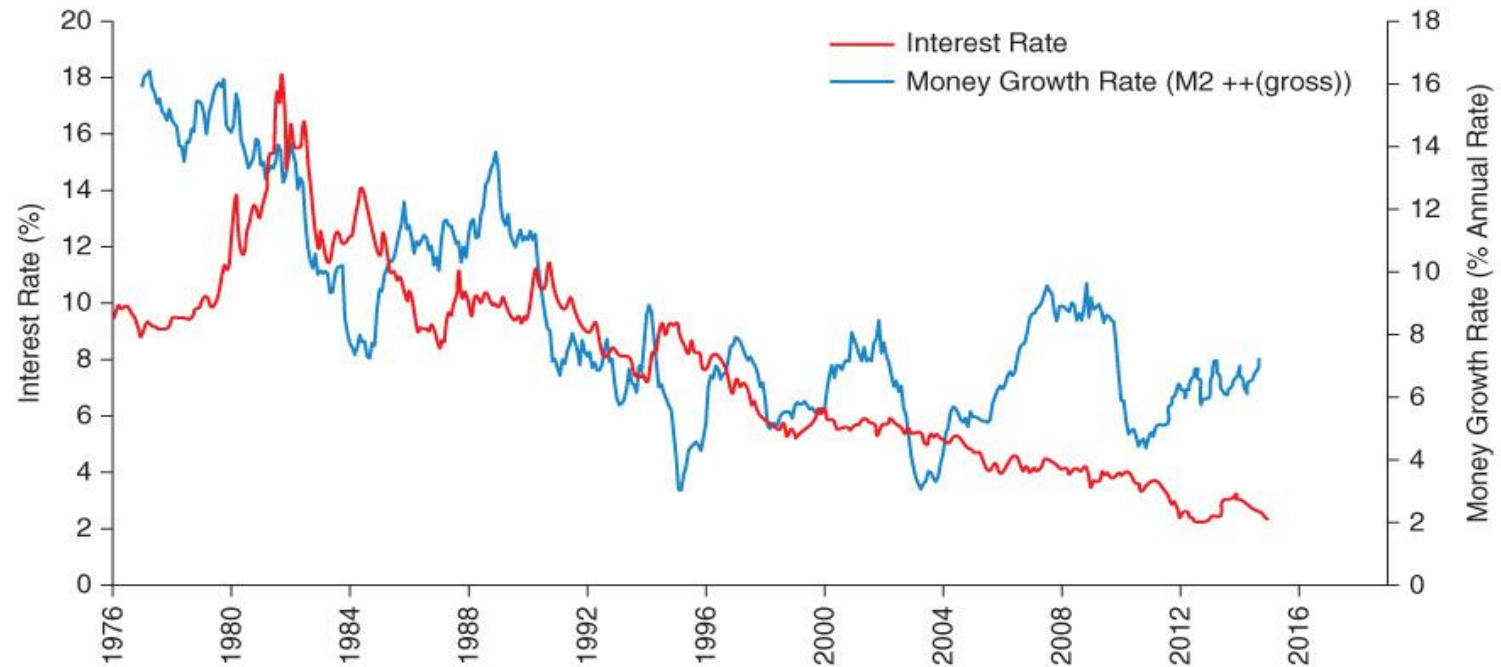


FIGURE 1-6 Money Growth (M2++ (Gross) Annual Rate) and Interest Rates (Long-Term Government of Canada Bonds), 1976–2014

As the money growth rate fell in the 1980s and 1990s, the long-term bond rate fell with it. However, the relationship between money growth and interest rates has been less clear-cut since 2000.

Source: Statistics Canada CANSIM series V41552801 and V122544.

Fiscal and Monetary Policy

- **Monetary policy** involves managing the money supply and interest rates
 - *Conducted by the Bank of Canada using a variety of tools*
- **Fiscal policy** involves setting government expenditures and tax revenue
 - *Conducted by the government (Federal, Provincial)*
 - *Budget deficit is spending in excess of revenue*
 - *Budget surplus is spending less than revenue*

Government Budget Surplus or Deficit

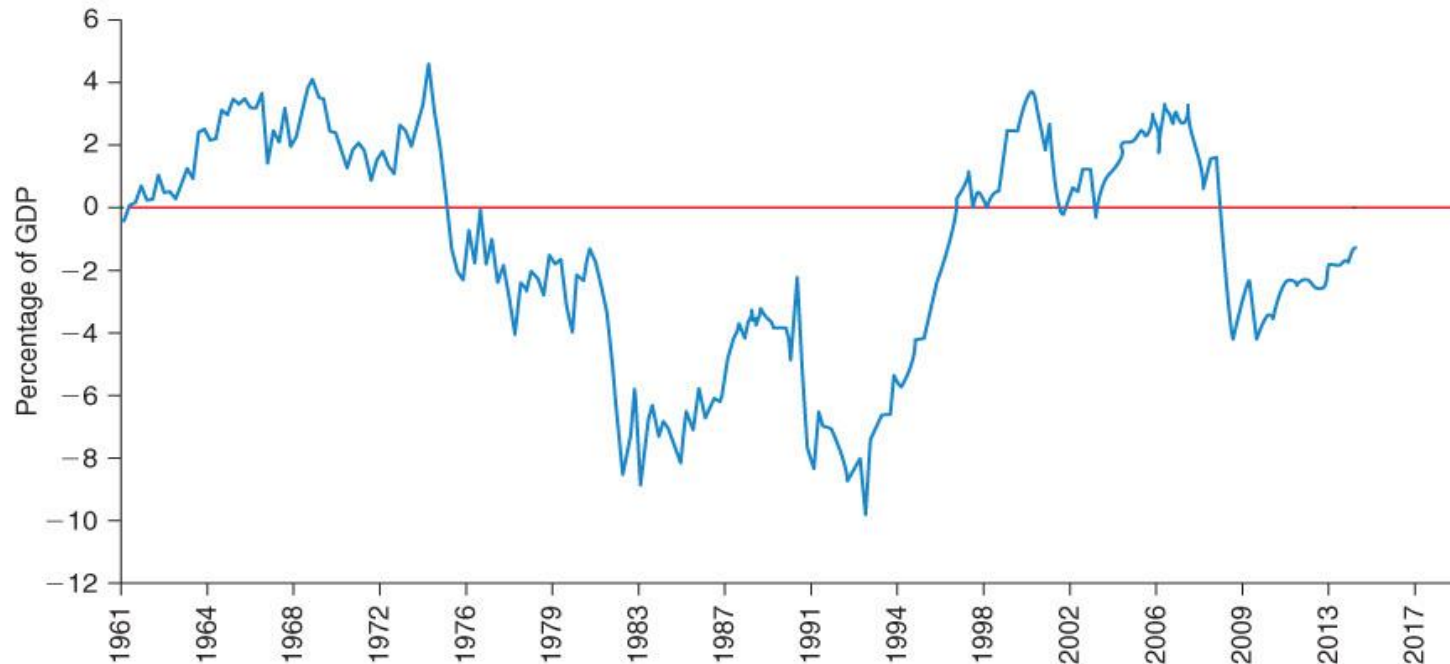


FIGURE 1-7 Government Budget Surplus or Deficit as a Percentage of Gross Domestic Product, 1961–2014

The budget deficit, relative to the size of the Canadian economy, has fluctuated a lot over the years, rising to close to 9% of GDP in 1993 and falling subsequently to where there were budget surpluses from 1997 to 2008, only to rise subsequently with budget deficits of over 4% of GDP by 2009.

Source: Statistics Canada CANSIM series V498316, V498326, V498086, V62425528, V62425550, and V62295562.

International Finance

- Globalization of financial markets has accelerated at a rapid pace in recent years
 - *Financial markets are increasingly integrated*
- Borrowing and lending can cross borders
 - *Canadian companies borrow in foreign markets*
 - *Foreign companies borrow in Canadian markets*
- Financial institutions increasingly international
 - *Operations in many countries*

Foreign Exchange, The Market and Rates

- The **foreign exchange market** is where funds are converted from one currency into another
- The **foreign exchange rate** is the price of one currency in terms of another currency
 - *If it takes \$0.80 U.S. dollars to buy \$1 Canadian dollar, then the USD/CAD exchange rate is 0.80*
 - *Appreciation is a rise in the value of the Canadian dollar*
 - *Depreciation is a fall in the value*
- Exchange rates determined in the market

Exchange Rate of the Canadian Dollar



FIGURE 1-8 Exchange Rate for the Canadian Dollar, 1971–2014

The value of the Canadian dollar relative to the United States dollar has fluctuated substantially over the years.

Source: Statistics Canada CANSIM series V37426.

Exploring the Web

- Statistics Canada: CANSIM database
- Federal Reserve Bank of St. Louis: FRED database
- Bank of Canada website
- MyEconLab