

30 Monetary Policy

After studying this chapter, you will be able to

- Describe Canada's monetary policy objective and the framework for setting and achieving it
- Explain how the Bank of Canada makes its interest rate decision and achieves its interest rate target
- Explain the transmission channels through which the Bank of Canada influences the inflation rate
- Explain and compare alternative monetary policy strategies

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On eight pre-set dates a year, the Bank of Canada announces whether the interest rate will rise, fall, or remain constant until the next decision date.

How does the Bank make its interest rate decision?

What does the Bank do to keep interest rates where it wants them?

Does the Bank's interest rate changes influence the economy in the way the Bank wants?

Can the Bank speed up economic growth by lowering interest rates and keep inflation in check by raising them?

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Monetary Policy Objective and Framework

Canada's monetary policy objectives and the framework for setting and achieving that objective stems from the relationship between the Bank of Canada and the government of Canada.

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Monetary Policy Objective and Framework

Monetary Policy Objectives

The objective of monetary policy is ultimately political.

It stems from the mandate to the Bank of Canada, which is set out in the Bank of Canada Act 1935.

Basically, the Bank's job is to control the quantity of money and interest rates in order to avoid inflation and, ...

when possible, prevent excessive swings in real GDP growth and unemployment.

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Monetary Policy Objective and Framework

Joint Statement of the Government of Canada and the Bank of Canada

The agreement is

1. The inflation-control target: 1 to 3 percent a year.
2. Keep trend inflation at the 2 percent midpoint.
3. The agreement will run for five years and be renewed during 2011.

Such a monetary policy strategy is called **inflation rate targeting**.

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Monetary Policy Objective and Framework

Interpretation of the Agreement

The inflation-control target uses the CPI as the measure of inflation.

So the Bank has agreed to keep the CPI at a target of 2 percent a year.

But the Bank pays close attention to core inflation, which it calls its *operational guide*.

The Bank believes that core inflation is a better measure of the underlying inflation trend and better predicts future CPI inflation.

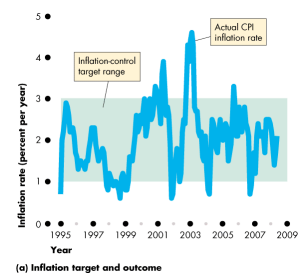
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Monetary Policy Objective and Framework

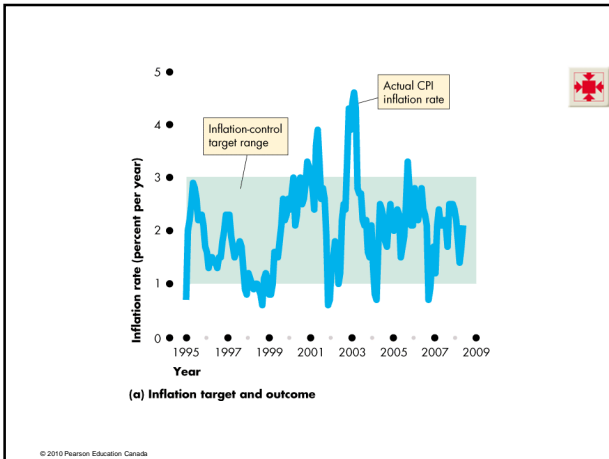
Actual Inflation

Figure 30.1(a) shows the Bank's inflation target.

The actual CPI inflation rate has only rarely gone outside the target range.



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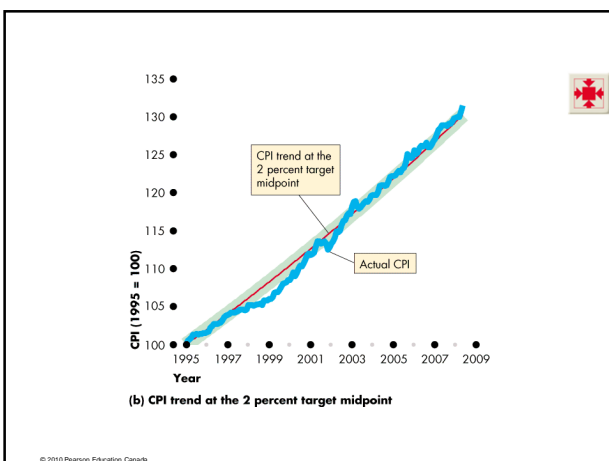
Monetary Policy Objective and Framework

Figure 30.1(b) shows the trend inflation rate of 2 percent a year, at the midpoint of the target range.

The Bank has held CPI inflation to its target, with only small and temporary deviations.

(b) CPI trend at the 2 percent target midpoint

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Monetary Policy Objective and Framework

Rationale for an Inflation-Control Target

Two main benefits flow from adopting an inflation-control target:

1. Fewer surprises and mistakes on the part of savers and investors.
2. Anchors expectations about future inflation.

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Controversy About the Inflation-Control Target

Critics of inflation targeting fear that

1. By focusing on inflation, the Bank might permit the unemployment rate to rise or real GDP growth to slow.
2. The Bank might permit the value of the dollar rise on the foreign exchange market and make exports suffer.

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Supporters of inflation targeting respond:

1. Keeping inflation low and stable is the best way to achieve full employment and sustained economic growth.
2. The Bank's record is good. The last time the Bank created a recession was at the beginning of the 1990s when it was faced with double-digit inflation.

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Responsibility for Monetary Policy

The Bank of Canada's Governing Council is responsible for the conduct of monetary policy.

The Governor and the Minister of Finance must consult regularly.

If the Governor and the Minister disagree in a profound way, the Minister may direct the Bank in writing to follow a specified course and the Bank would be obliged to accept the directive.

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Choosing a Policy Instrument

As the sole issuer of Canadian money, the Bank of Canada can decide to control

1. The quantity of money (the monetary base), or
2. The price of Canadian money on the foreign exchange market (the exchange rate), or
3. The opportunity cost of holding money (the short-term interest rate).

The Bank can set only one of these instruments.

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The Overnight Rate

The Bank of Canada's choice of policy instrument (which is the same choice as that made by most other major central banks) is a short-term interest rate.

Given this choice, the exchange rate and the quantity of money to find their own equilibrium values.

The specific interest rate that the Bank of Canada targets is the **overnight loans rate**, which is the interest rate on overnight loans that members of the LVTS (the big banks) make to each other.

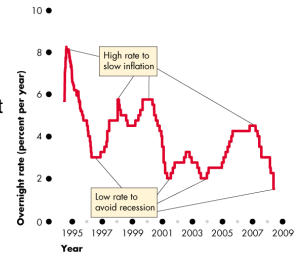
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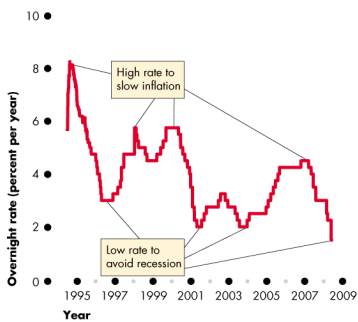


Figure 30.2 shows the overnight loans rate was

- raised to 8 percent in 1995, 6 percent on two occasions, and 4 percent a year when inflation was a concern.
- and lowered to about 2 percent a year to avoid recession.



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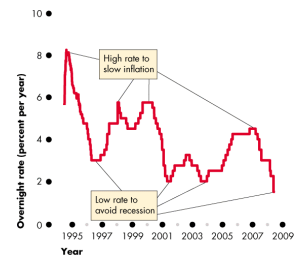


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Since late 2000, the Bank has set eight fixed dates on which it announces its overnight rate target for the coming six weeks.

Before 2000, the Bank announced changes in the overnight loans rate whenever it thought a change was required.



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The Bank's Decision-Making Process

The Bank of Canada could adopt either

- An instrument rule
- A targeting rule

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Instrument Rule

An **instrument rule** sets the policy instrument at a level based on the current state of the economy.

The best known instrument rule is the *Taylor rule*:

Set the interest rate at a level that depends on the deviation of the inflation rate from target and the size and direction of the output gap.

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Targeting Rule

A **targeting rule** sets the policy instrument at a level that makes the forecast of the ultimate policy target equal to the target.

Where the ultimate policy target is the inflation rate and the instrument is the overnight rate, the targeting rule sets the overnight rate at a level that makes the forecast of the inflation rate equal to the target for the inflation rate.

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To implement such a targeting rule, a central bank must gather and process a large amount of information about ... the economy, the way it responds to shocks, and the way it responds to policy.

The Bank must then process all this data and come to a judgement about the best level for the policy instrument.

The Bank of Canada (along with most other central banks) follows a process that uses a targeting rule.

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Hitting the Overnight Rate Target

Once an interest rate decision is made, the Bank of Canada achieves its target by using two tools:

- Operating band
- Open market operations

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Operating Band

The **operating band** is the target overnight rate plus or minus 0.25 percentage points. So the operating band is 0.5 percentage points wide.

The Bank creates the operating band by setting:

1. **Bank rate**, the interest rate that the Bank charges big banks on loans, is set at the target overnight rate plus 0.25 percentage points.
2. **Settlement balances rate**, the interest rate the Bank pays on reserves, is set at the target overnight rate minus 0.25 percentage point.

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Open Market Operations

An **open market operation** is the purchase or sale of government securities by the Bank of Canada from or to a chartered bank or the public.

When the Bank *buys* securities, it pays for them with newly created reserves held by the banks.

When the Bank *sells* securities, they are paid for with reserves held by banks.

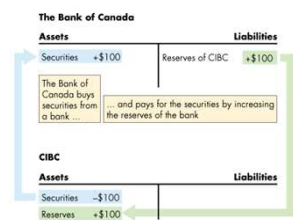
So open market operations influence banks' reserves.

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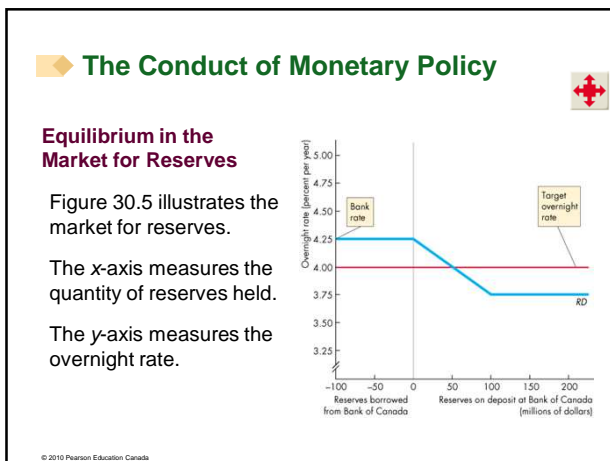
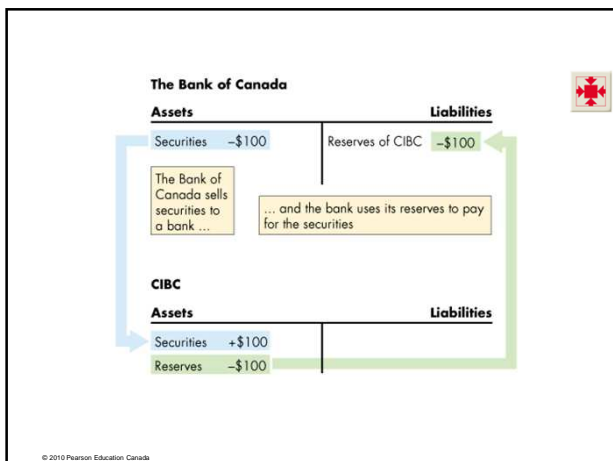
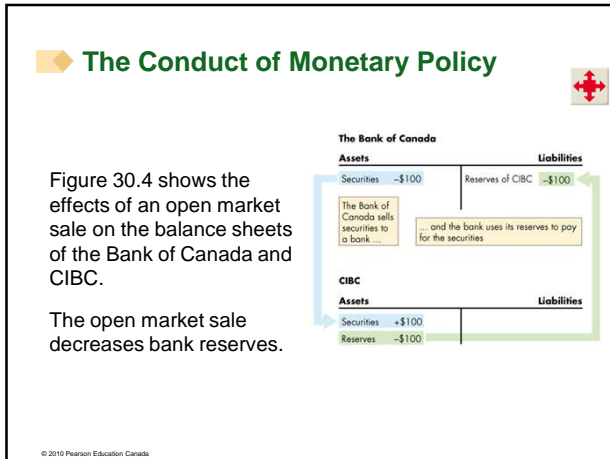
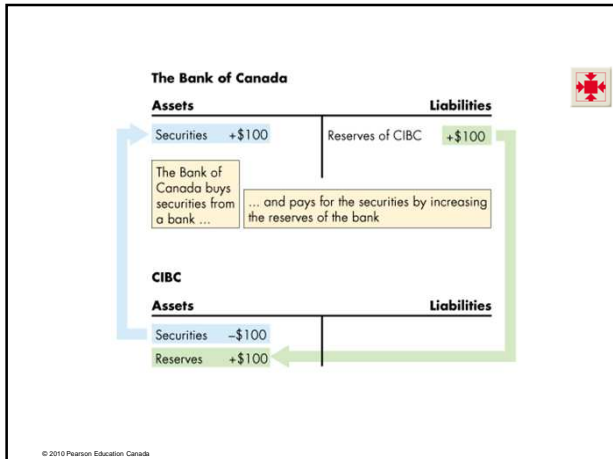
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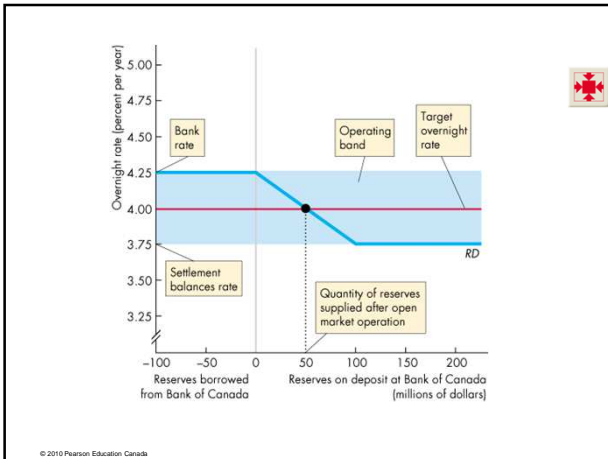
Figure 30.3 shows the effects of an open market purchase on the balance sheets of the Bank of Canada and the CIBC.

The open market purchase increases bank reserves.



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Bank rate is set at target overnight loans rate + 0.25 percentage points.

Settlement balances rate is set at target overnight loans rate – 0.25 percentage points.

The blue bar is the Bank's operating band for the actual overnight loans rate.

The Conduct of Monetary Policy

The overnight rate cannot exceed bank rate because, if it did, a bank could earn a profit by borrowing from the Bank of Canada and lending to another bank.

But all banks can borrow from the Bank of Canada at bank rate, so no bank is willing to pay more than bank rate to borrow reserves.

The Conduct of Monetary Policy

The overnight rate cannot fall below the settlement balances rate.

If it did, a bank could earn a profit by borrowing from another bank and increasing its reserves at the Bank of Canada.

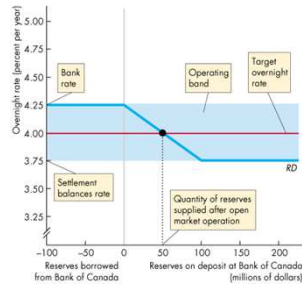
But all banks can earn the settlement balances rate, so no bank will lend at a rate below that level.

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The banks' demand for reserves is the curve *RD*.

If the overnight rate equals bank rate, banks are indifferent between borrowing reserves and lending reserves.

The demand curve is horizontal at bank rate.

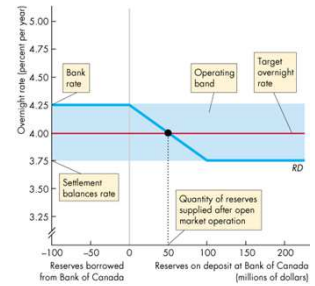


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If the overnight rate equals the settlement balances rate, banks are indifferent between holding reserves and lending reserves.

The demand curve is horizontal at the settlement balances rate.

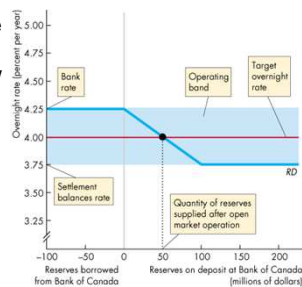


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If the overnight rate lies between bank rate and the settlement balances rate, banks are willing to borrow and lend to one another at the overnight rate.

But the overnight rate is the opportunity cost of holding reserves, so the higher the overnight rate, the fewer are the reserves demanded.

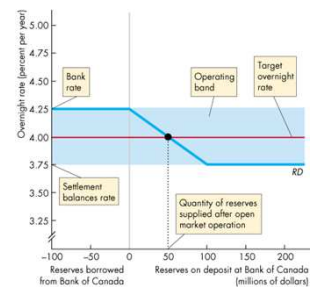


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The Bank's open market operations determine the actual quantity of reserves in banking system.

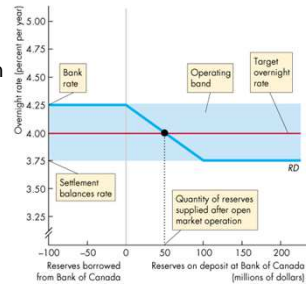
Equilibrium in the market for reserves—where the quantity of reserves demanded equals the quantity supplied—determines the overnight rate.



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So the Bank uses open market operations to keep the overnight loans rate on target.



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Quick Overview

When the Bank of Canada lowers the overnight rate:

1. Other short-term interest rates and the exchange rate fall.
2. The quantity of money and the supply of loanable funds increase.
3. The long-term real interest rate falls.
4. Consumption expenditure, investment, and net exports increase.

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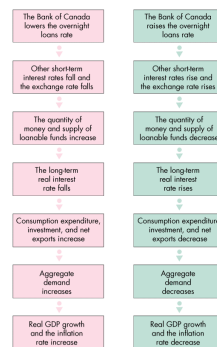
5. Aggregate demand increases.
6. Real GDP growth and the inflation rate increase.

When the Bank of Canada raises the overnight rate, the ripple effects go in the opposite direction.

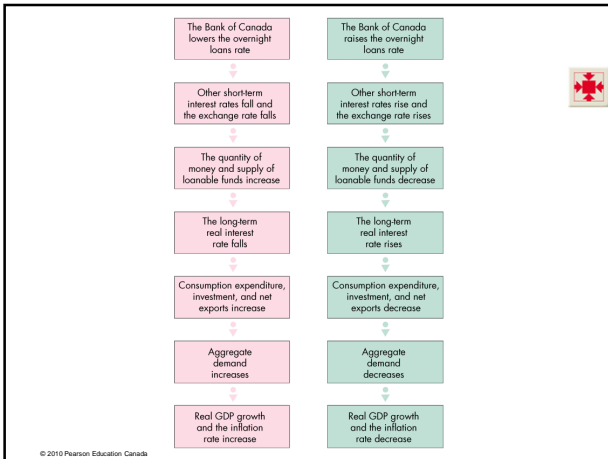
Figure 30.6 provides a schematic summary of these ripple effects, which stretch out over a period of between one and two years.

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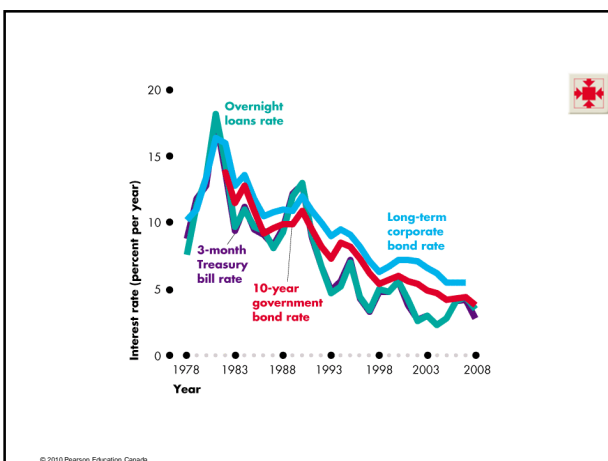


Monetary Policy Transmission

Interest Rate Changes

Figure 30.7 shows the fluctuations in four interest rates:

- The overnight rate
- The short-term bill rate
- The 10-year government bond rate
- The Long term corporate bond rate



Monetary Policy Transmission

Short-term bill rate moves closely to and follows the overnight rate.

Long-term rates move in the same direction as the overnight rate but are only loosely connected to the overnight rate.

Monetary Policy Transmission

Exchange Rate Fluctuations

The exchange rate responds to changes in the interest rate in Canada relative to the interest rates in other countries—the *Canadian interest rate differential*.

But other factors are also at work, which make the exchange rate hard to predict.

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Monetary Policy Transmission

Money and Loans

When the Bank lowers the overnight rate, the quantity of money and the quantity of loans increase.

Consumption and investment plans change.

Long-Term Real Interest Rate

Equilibrium in the market for loanable funds determines the long-term real interest rate, which equals the nominal interest rate minus the expected inflation rate.

The long-term real interest rate influences expenditure plans.

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Monetary Policy Transmission

Expenditure Plans

The ripple effects that follow a change in the overnight rate change three components of aggregate expenditure:

- Consumption expenditure
- Investment
- Net exports

The change in aggregate expenditure plans changes aggregate demand, real GDP, and the price level, which in turn influence the goal of inflation rate and output gap.

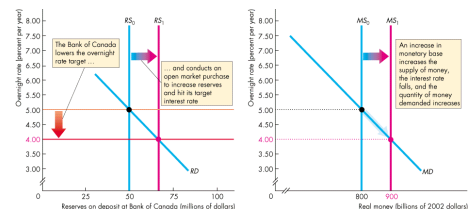
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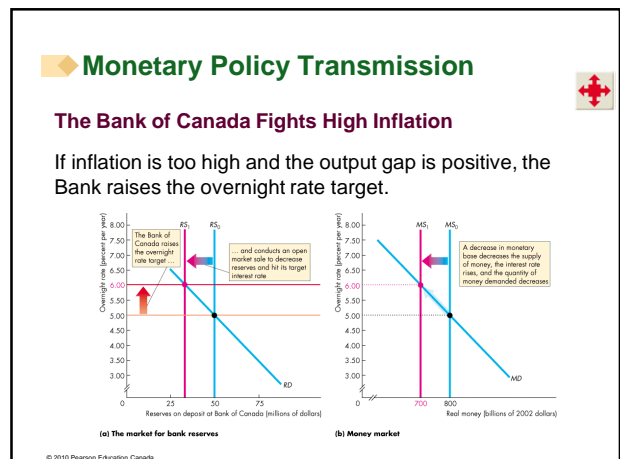
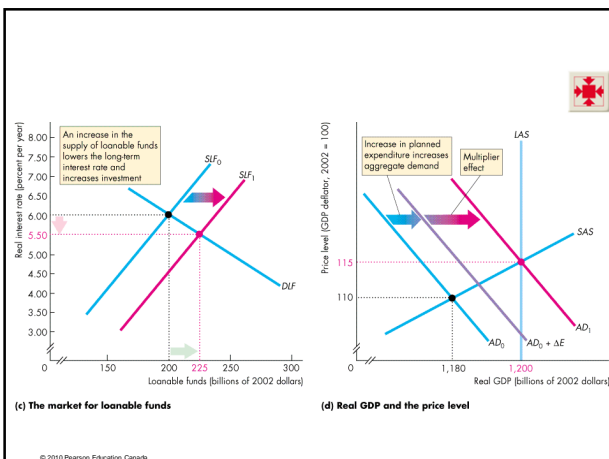
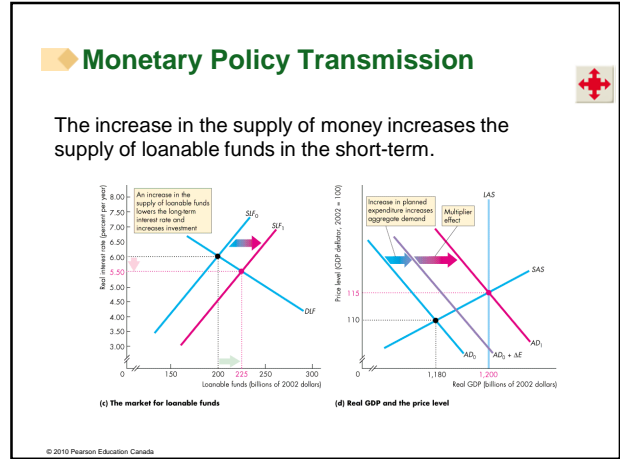
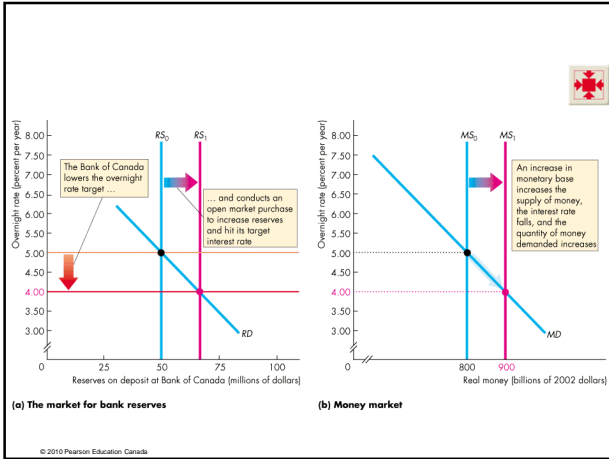


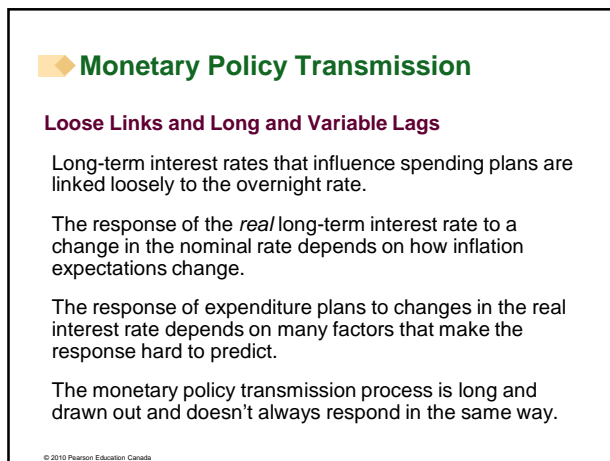
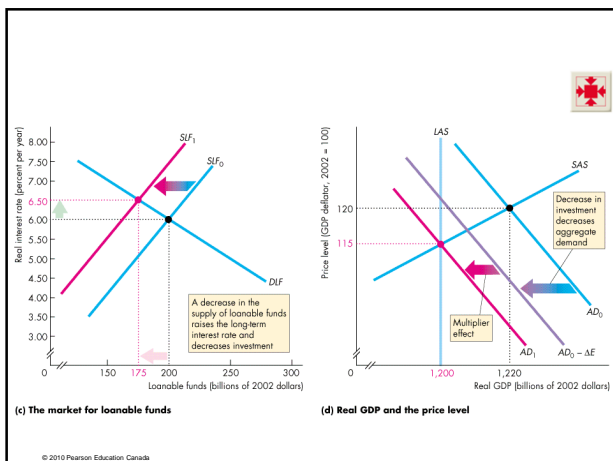
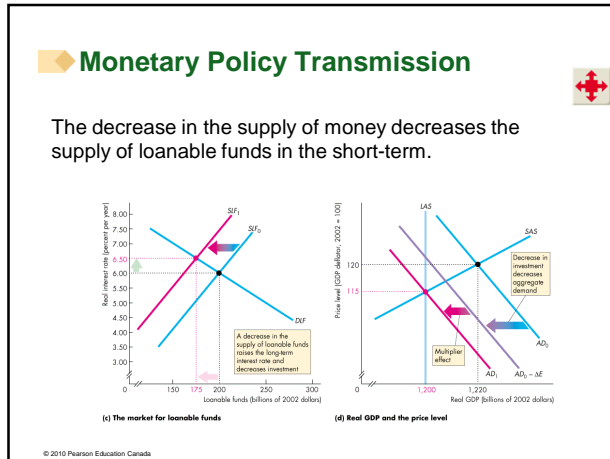
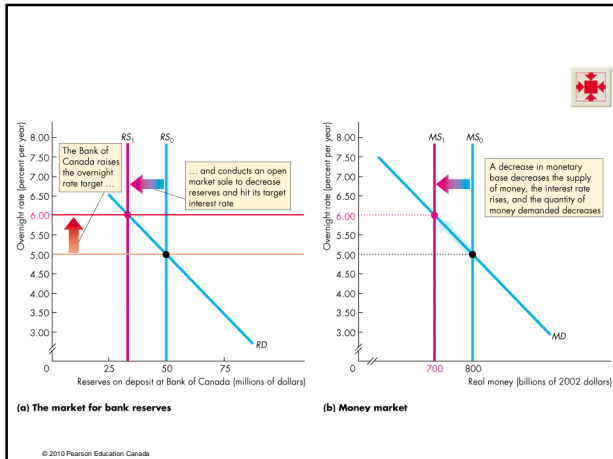
The Bank of Canada Fights Recession

If inflation is low and the output gap is negative, the Bank lowers the overnight rate target.



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Alternative Monetary Policy Strategies

The Bank of Canada might have chosen any of four alternative monetary policy strategies:

The four alternatives are

- Overnight rate instrument rule
- Monetary base instrument rule
- Exchange rate targeting rule
- Monetary targeting rule

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Alternative Monetary Policy Strategies

Overnight Rate Instrument Rule

Calling the overnight rate R , the neutral real overnight rate R^* , the inflation rate π , the target inflation rate π^* , and the output gap (as a percentage of potential GDP), G ,

the Taylor rule says, set the overnight rate to equal

$$R = R^* + \pi + 0.5(\pi - \pi^*) + 0.5G.$$

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Alternative Monetary Policy Strategies

Taylor suggests a neutral real overnight rate of 2 percent a year, so if inflation is on target and the output gap is zero (full employment), with a 2 percent inflation target, the overnight rate will be 4 percent.

If the Bank of Canada moves the interest rate up and down by less than the Taylor rule moves it.

The Bank believes that because it uses much more information than just the current inflation rate and the output gap, it is able to set the overnight rate more intelligently than any simple rule can set.

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Alternative Monetary Policy Strategies

Monetary Base Instrument Rule

The **McCallum rule** makes the growth rate of the monetary base respond to the long-term average growth rate of real GDP and medium-term changes in the velocity of circulation of the monetary base.

The rule is based on the quantity theory of money.

The McCallum rule does not need an estimate of either the real interest rate or the output gap.

The McCallum rule relies on the demand for money and the demand for monetary base being reasonably stable. The Bank believes that these are too unstable to allow a McCallum rule work well.

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Alternative Monetary Policy Strategies

Exchange Rate Targeting Rule

With a fixed exchange rate, a country has no control over its inflation rate.

The Bank could use a *crawling peg exchange*.

The disadvantage rate of a crawling peg to target the inflation rate is that the real exchange rate often changes in unpredictable ways.

With crawling peg targeting the inflation rate, the Bank would need to identify changes in the real exchange rate and offset them.

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Alternative Monetary Policy Strategies

Money Targeting Rule

Friedman's ***k*-percent rule** makes the quantity of money grow at a rate of k percent a year, where k equals the growth rate of potential GDP.

Friedman's idea was tried but abandoned during the 1970s and 1980s.

The Bank believes that the demand for money is too unstable to make the use of monetary targeting reliable.

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Alternative Monetary Policy Strategies

Why Rules?

Why do all the monetary policy strategies involve rules?

Why doesn't the Bank use discretion?

The answer is that monetary policy is about managing inflation expectations.

A well-understood monetary policy rule helps to create an environment in which inflation is easier to forecast and manage.

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