

Learning Objectives

1. Describe the components of Canada's balance of payments and explain why the balance of payments accounts always balance.
2. Describe the demand for and supply of foreign currency.
3. Explain the various factors that cause changes in the exchange rate.
4. Explain why a current account deficit is not necessarily undesirable.
5. Summarize the theory of purchasing power parity, and explain its limitations.
6. Describe how flexible exchange rates can dampen the effects of external shocks on output and employment.

BP.1 The Balance of Payments

The balance of payments is a summary record of a country's transactions with the rest of the world, including the buying and selling of goods, services, and assets.

The Current Account

The current account is the part of the balance of payments accounts that records payments and receipts arising from international trade in goods and services (including interest and dividends).

The current account has two parts — the trade account and the capital-service account.

The trade balance records the difference between the value of imports and exports of goods and services. (Tourism is an important element of services.)

The capital-service account is the part of the current account that records the payments and receipts of asset income (such as interest on bonds and dividends on equity).

Any transaction that represents a payment of money for Canada is a debit item on the current account. Any item that represents a receipt of money is a credit item.

The Capital Account

The capital account is the part of the balance of payments accounts that records payments and receipts arising from trade in long-term and short-term assets.

Foreign direct investment is nonresidential investment in the form of a takeover or capital investment in a domestic branch plant or subsidiary corporation in which the investor has voting control.

Portfolio investment is foreign investment in bonds or a minority holding of shares that does not involve legal control.

A purchase of assets by Canada involves a payment, and thus is a debit item on the capital account. A sale of assets generates a receipt, and is thus a credit item.

The Official Financing Account

The official financing account is the part of the balance of payments accounts that records the central bank's transactions in gold or foreign-exchange markets.

When the Bank of Canada purchases foreign currency it is acquiring an asset and making a payment — this is a debit item. The sale of foreign currency is a credit item.

Canadian Balance of Payments, 2002 (\$ billions)	
Current Account	
Trade Account	
Merchandise exports	414.3
Service exports	58.3
Merchandise imports	-356.5
Service imports	-66.7
Trade balance	49.4
Capital service account	
Net investment income	-26.2
Current account balance	23.2
Capital Account	
Net change in Canadian investment abroad	-81.8
Net change in foreign investment in Canada	68.5
Capital account balance	-13.3
Official Financing Account	
Changes in reserves	0.3
Statistical discrepancy	-10.2
Official financing balance	-9.9
Balance of payments	0.0

Source: Statistics Canada webpage: www.statcan.ca. Go to "Canadian Statistics" and click on "Economic conditions" and then "National accounts."

The Meaning of Payment Balances and Imbalances

Double-entry bookkeeping in the balance of payments means that any transaction leads to both a credit item and an equal-value debit item. The balance of payments must therefore always balance.

The term balance of payments deficit and balance of payments surplus must refer to the balance on some part of the payments accounts. The terms make no sense if they are applied to the overall balance of payments.

A deficit in any one part of the accounts implies an offsetting surplus in the rest of the accounts.

But we often hear about balance of payments deficits and surpluses. What do the speakers probably mean?

A “balance of payments deficit” often refers to a situation where the central bank is a net seller of foreign-exchange reserves. In this case, the current and capital account would, when combined, be in a deficit position.

But note that in this case (as always) the balance of payments is actually in balance.

If the central bank does not change its holdings of foreign-currency reserves, the current account and the capital account must sum to zero.

BP.2 The Foreign-Exchange Market

Trade between countries normally requires the exchange of the currency of one country for that of another.

The exchange rate is the number of units of domestic currency required to purchase one unit of foreign currency. For example, the current Canadian-US exchange rate is approximately 1.33 — it takes \$1.33 Canadian to purchase one US dollar.

Appreciation is a fall in the exchange rate — it takes fewer units of domestic currency to purchase one unit of foreign currency.

So, the Canadian dollar will have appreciated if it now takes only 1.20 Canadian dollars to purchase one US dollar.

Depreciation is a rise in the exchange rate — it takes more units of domestic currency to purchase one unit of foreign currency.

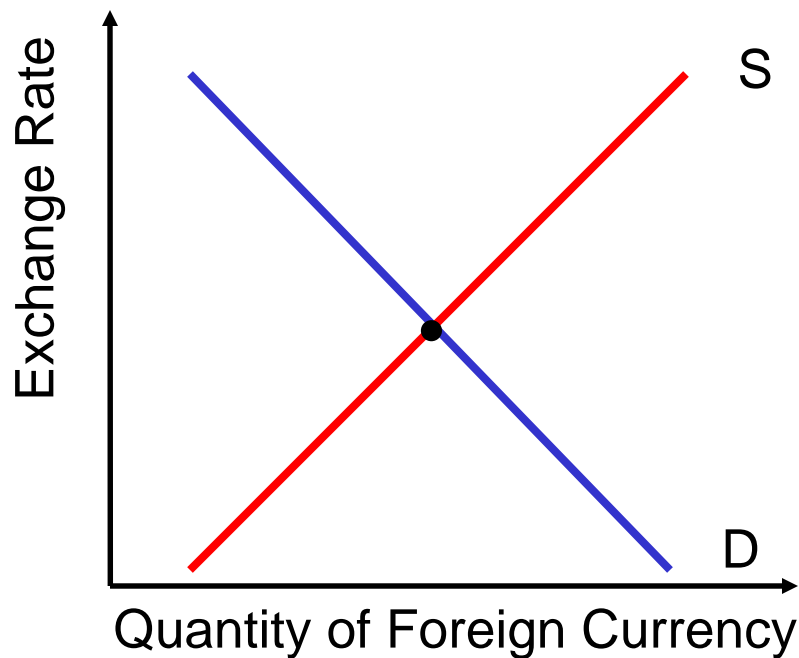
So, the Canadian dollar will have depreciated if it now takes 1.45 Canadian dollars to purchase one US dollar.

The foreign-exchange market is an exchange market. Currencies are being swapped for one another.

Because Canadian dollars are traded for foreign currencies in the foreign-exchange market, it follows that a demand for foreign currency implies a supply of Canadian dollars. Conversely, a supply of foreign currency implies a demand for Canadian dollars.

For Canada, the most important foreign currency is the US dollar. But to avoid confusion between the two types of dollar, we will think about the euro as representing all foreign currencies.

The Supply of Foreign Exchange



A depreciation of the Canadian dollar leads to an increase in the amount of foreign currency supplied to the foreign-exchange market. Why?

As the exchange rate rises, Canadian goods, services and assets become cheaper in terms of other currencies. This causes foreign purchasers to increase their demands for Canadian products and thus for Canadian dollars.

The Demand for Foreign Exchange

A depreciation of the Canadian dollar (a rise in the exchange rate) causes a reduction in the quantity of foreign currency demanded. Why?

As the Canadian dollar depreciates, foreign goods, services and assets become more expensive to Canadians. This causes them to reduce their foreign purchases and thus reduce their demands for foreign currency.

BP.3 The Determination of Exchange Rates

When the Bank of Canada does not participate in the foreign-exchange market, the exchange rate is determined by the equality of supply and demand for foreign exchange arising from transactions in the current and capital accounts.

In this situation, exchange rates are said to be perfectly flexible. That is, exchange rates are solely determined by market forces, with no intervention by central banks.

When the central bank intervenes in the foreign-exchange market to “fix” the exchange rate at a particular value, there is said to be a fixed or pegged exchange rate.

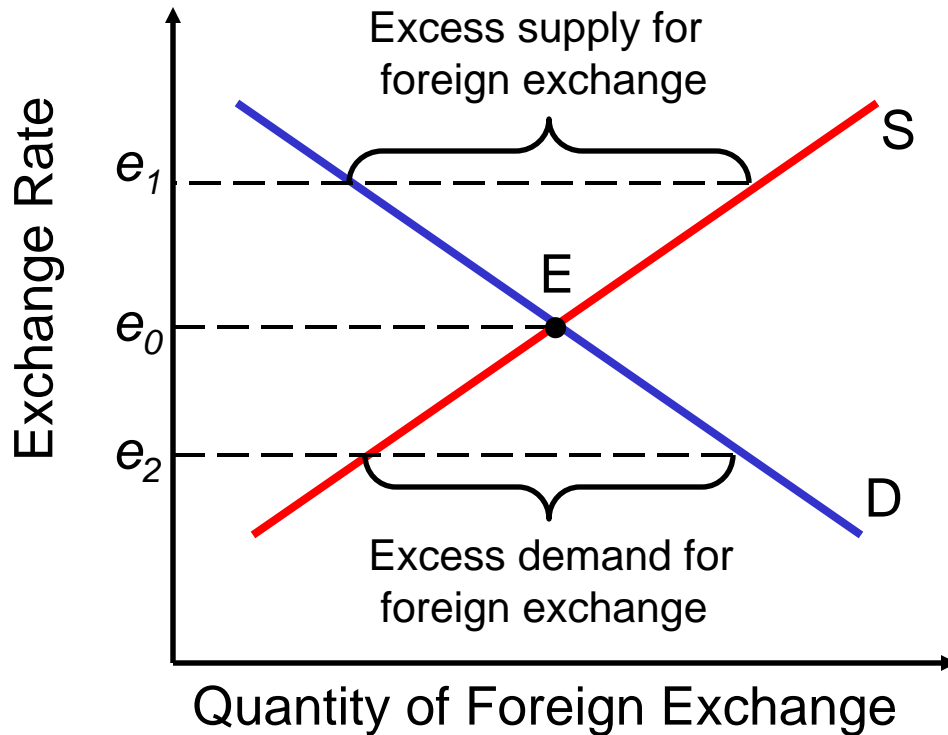
A fixed exchange rate is determined by the central bank, which intervenes in the foreign-exchange market (by buying or selling foreign currency) to offset the changing forces of demand and supply.

Managed Floats and Adjustable Pegs

An adjustable peg system is a system in which exchange rates are fixed in the short term but are occasionally changed in response to persistent payments imbalances.

A managed float is a situation in which the central bank intervenes in the foreign-exchange market to smooth out some of the large, short-term fluctuations in a country's exchange rate, while still leaving the market to determine the exchange rate in the long term.

Flexible Exchange Rates



A foreign-exchange market is like any other competitive market — market forces lead to an equilibrium, at which quantity demanded equals quantity supplied.

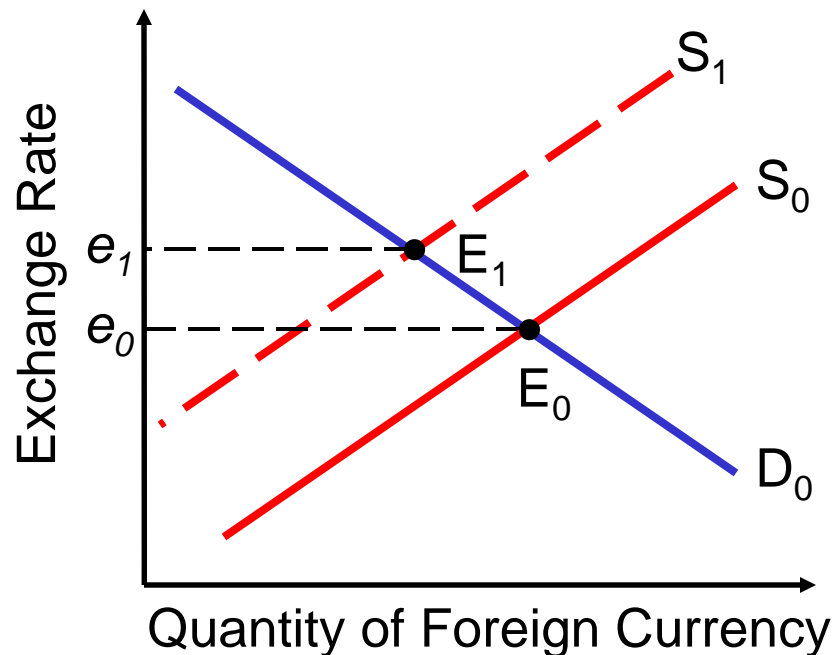
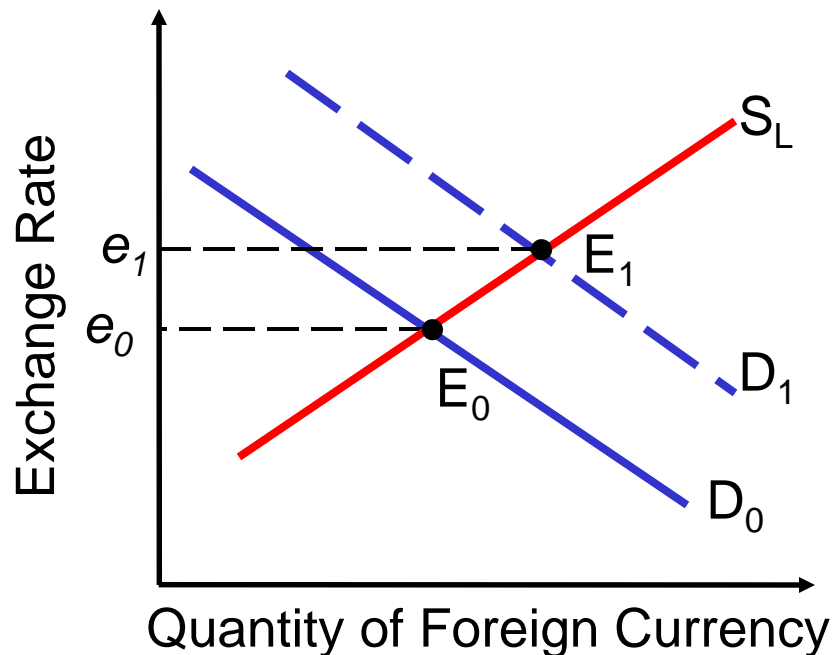
In the absence of official financing by the central bank, the exchange rate adjusts to clear the foreign-exchange market.

Fixed Exchange Rates

When the central bank intervenes in the foreign-exchange market to fix the exchange rate at a particular value, the current account and the capital account do not necessarily sum to zero.

The balance on the official financing account has to be what ever is necessary to offset the excess demand or supply of foreign exchange that arises from the current plus capital accounts.

Changes in Flexible Exchange Rates



An increase in the demand or a decrease in the supply of foreign exchange will cause the dollar to depreciate; a decrease in the demand or an increase in the supply will cause the dollar to appreciate.

If the price level in one country is rising relative to the price level in another country, the equilibrium value of its currency will be falling relative to that of the other country.

A movement of financial capital has the effect of appreciating the currency of the capital-importing country and depreciating the currency of the capital-exporting country.

Structural Changes

An economy can undergo structural changes that alter the equilibrium exchange rate.

For example, if a country is slow to adopt a technology, so that consumer demand shifts toward imports, the currency will depreciate. Another example is the discovery of an exportable natural resource, such as natural gas or oil, that would increase exports and appreciate the domestic currency.

Anything that leads to changes in the patterns of trade, such as changes in costs or changes in demand, will generally lead to changes in exchange rates.

The Volatility of Exchange Rates

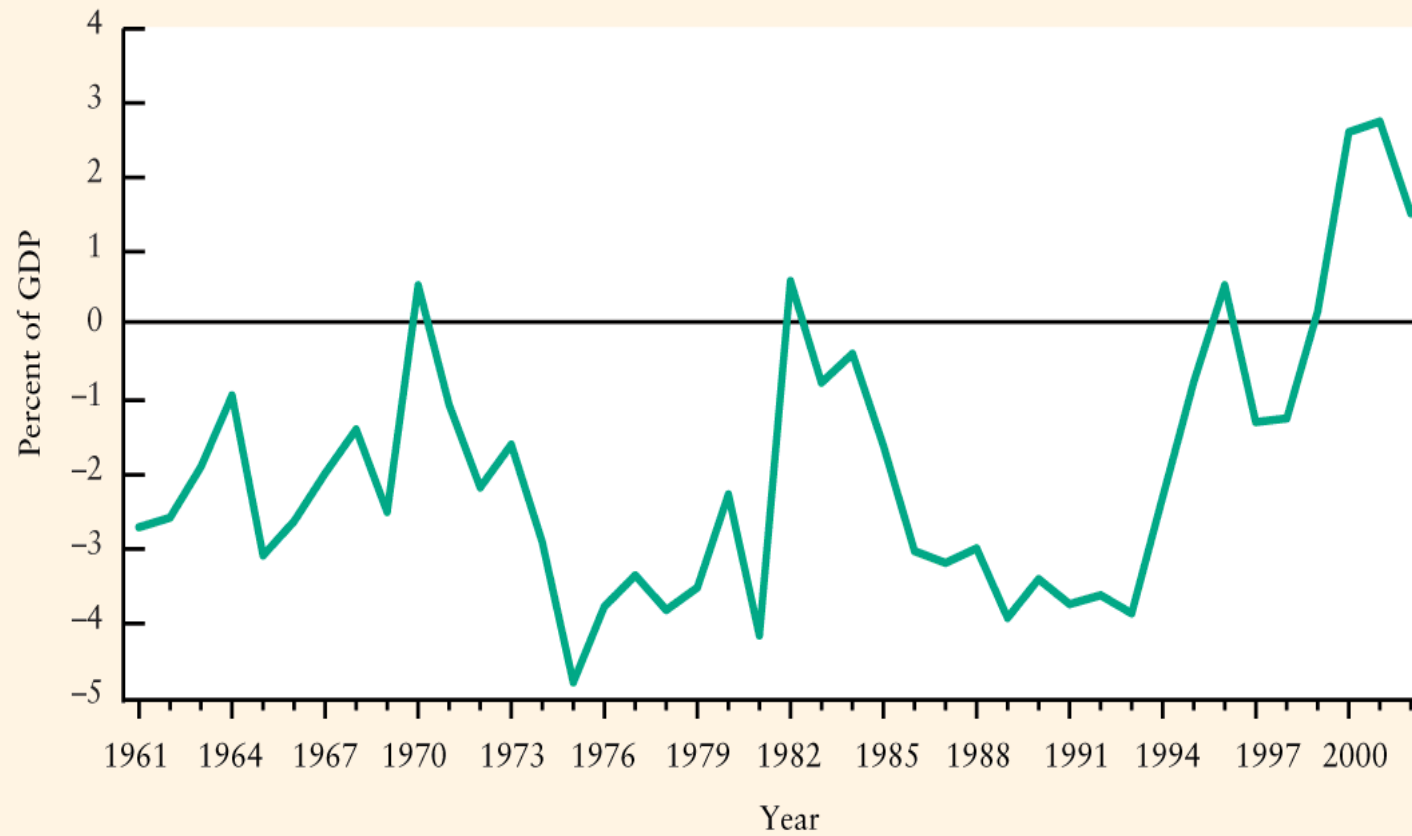
Exchange rates are one of the most volatile of all macroeconomic variables, in large part because of heavy speculation and reaction to news.

BP.4 Three Policy Issues

1. Is a current account deficit bad for Canada?
2. Is there a “correct” value for the Canadian dollar?
3. Should Canada fix its exchange rate with the US dollar?

Current Account Deficits

A country that has a current account deficit is either borrowing from the rest of the world or selling its ownership of some of its capital stock to the rest of the world. This is not necessarily undesirable.

FIGURE 35-4 Canada's Current Account Balance, 1961–2002

(Source: Statistics Canada, CANSIM database, Series V113713 expressed as a percentage of nominal GDP.)

There are several plausible causes of a current account deficit. To see this, recall that GDP is equal to the sum of actual consumption, investment, government purchases, and net exports:

$$\text{GDP} = C_a + I_a + G_a + NX_a$$

Where the subscript “a” denotes actual expenditure, rather than desired expenditure.

GNP is equal to GDP plus the net investment income received from abroad, which we will call R:

$$\text{GNP} = \text{GDP} + R = C_a + I_a + G_a + \text{NX}_a + R$$

The current account balance is simply the trade balance, NX_a , plus the net investment income, R. We denote the actual current account balance CA_a :

$$\text{GNP} = C_a + I_a + G_a + \text{CA}_a$$

Now consider that we have a given amount of GNP that accrues to households and can be consumed, saved, or paid in taxes. That is:

$$\text{GNP} = C_a + S_a + T_a$$

By equating the last two equations and omitting the subscripts for simplicity, we derive the relationship between national saving, investment, and the current account balance:

$$C + I + G + CA = C + S + T$$

$$\Rightarrow CA = S + (T - G) - I$$

This equation says that the current account balance in any year is exactly equal to the excess of national saving over domestic investment.

We can rearrange the equation slightly to get:

$$CA = (S - I) + (T - G)$$

— which says that the current account balance is equal to the government budget surplus plus the excess of private saving over investment.

An increase in the level of investment, a decrease in the level of saving, and an increase in the government's budget deficit are all possible causes of an increase in a country's current account deficit.

In summary, a country's current account deficit can increase for a number of reasons. Whether the rise in the current account deficit is desirable depends on its underlying cause.

A rise in the current account deficit may reflect a positive economic development; a decline in the current account deficit may reflect a negative economic development.

Is There a “Correct” Value for the Canadian Dollar?

With a flexible exchange rate, the market determines the value of the exchange rate.

With respect to the forces of demand and supply, the equilibrium exchange rate is the “correct” exchange rate.

It is “correct” in the sense that it accurately represents the value that traders place on the dollar, which in turn reflects the dollar’s scarcity on foreign-exchange markets.

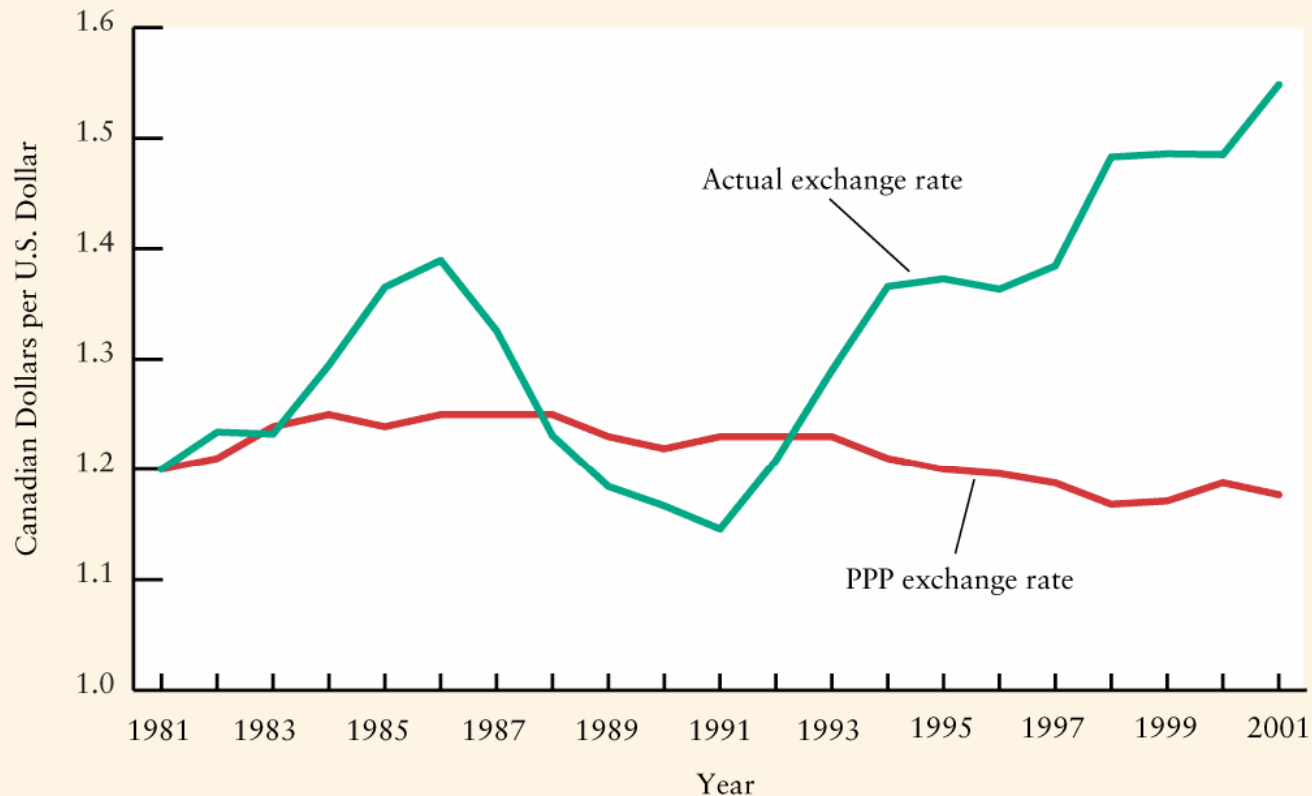
Some economists, however, argue that the Canadian dollar is sometimes “overvalued” and at other times is “undervalued.” What do they mean?

Purchasing power parity is the theory that over the long term, the exchange rate between two currencies adjusts to reflect relative price levels.

If we let P_C and P_E be the price levels of Canada and Europe, respectively, and let e be the price of euros in terms of Canadian dollars, then the theory of purchasing power parity can be expressed as

$$P_C = e \times P_E$$

FIGURE 35-5 Actual and PPP Exchange Rates, 1981–2001



The actual exchange rate deviates from the PPP exchange rate for extended periods. The Canada–U.S. PPP exchange rate is the ratio of Canadian to U.S. price indices. Since these two price indices have moved closely together since 1981 (similar paths for inflation), the PPP exchange rate has not changed significantly. In contrast, the actual Canada–U.S. exchange rate has fluctuated dramatically and shows little or no tendency to track the PPP exchange rate.

(Source: Bank of Canada Review, Fall 2002.)

Does the actual exchange rate make this equation hold? Certainly not in the short term, and there is considerable debate about whether this holds in the long term.

The PPP exchange rate is the value of the exchange rate that makes the previous equation hold. That is, the *PPP* exchange rate is given by:

$$e^{PPP} \equiv P_C / P_E$$

Saying that PPP does not hold in the short run is the same as saying that the actual exchange rate is not equal (in the short term) to the PPP exchange rate.

Why doesn't PPP appear to hold?

1. Non-Traded Goods

The presence of non-traded goods means that PPP will not generally hold when applied to large baskets of goods (such as for the CPI or GDP deflator).

2. Different Baskets and Relative Price Changes

Relative prices change frequently. If countries' baskets of goods differ (as they do), then relative price changes will prevent PPP from holding.

But if PPP does not hold, it is difficult to justify the idea that a particular currency is “overvalued” or “undervalued” — the “right” value is the value produced by the free, competitive foreign-exchange market.

None of this suggests that today’s “right” value will be unchanged tomorrow. Indeed, events and expectations are constantly changing, making foreign-currency market one of the most volatile of all markets.

Should Canada Have a Fixed Exchange Rate?

In recent years, especially after the 10-12% depreciation of the Canadian dollar following the 1997-98 Asian crisis, many people have wondered whether Canada should fix its exchange rate. What are the issues associated with this?

Benefits of Fixed Rates

An advantage of fixed exchange rates is that exchange-rate risk is eliminated. The reduction in uncertainty can be expected to increase international trade, and therefore increase the economic “gains from trade.”

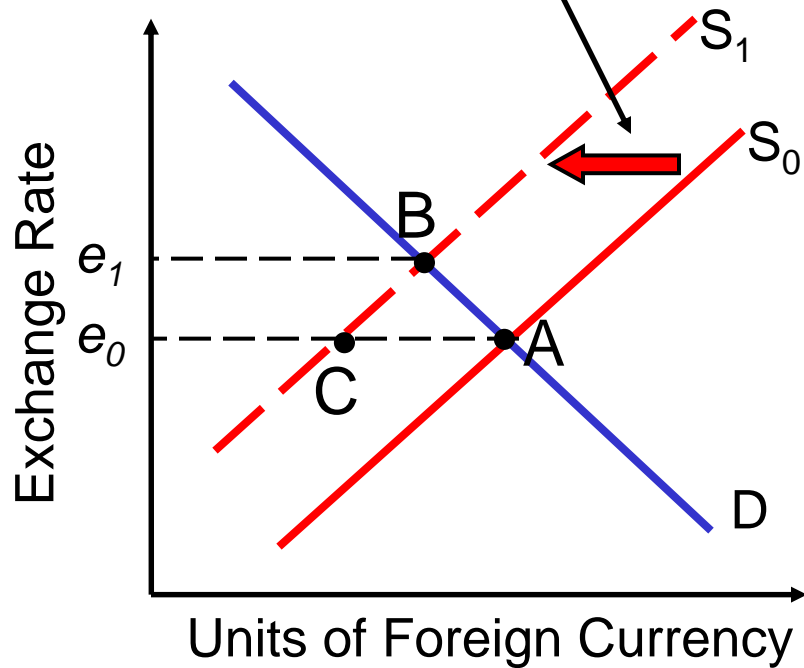
Surprisingly, it is difficult to find precise evidence of this effect in the data, and thus difficult to estimate the importance of this benefit of fixed exchange rates.

Benefits of Flexible Rates

An important advantage of flexible exchange rates is that, in response to external shocks, the exchange rate can act as a “shock absorber,” dampening the effects on output and employment.

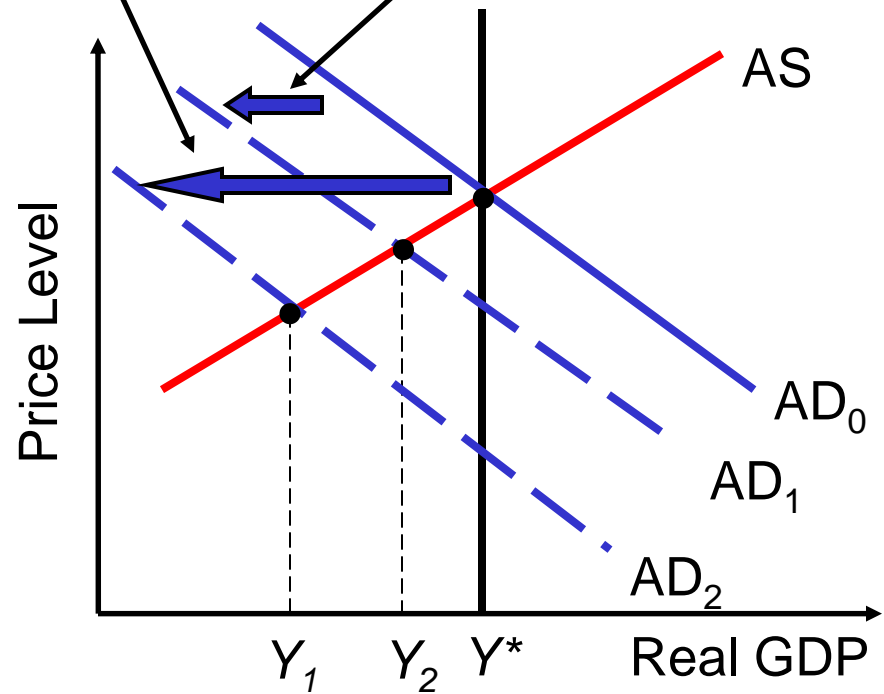
To see how this works, consider a reduction in the world’s demand for Canada’s exported goods — say raw materials.

Reduction in demand for Canadian goods. This is a reduction in the supply of foreign currency. Under flexible rates, we go from A to B; under fixed rates, we go from A to C.



With a fixed exchange rate.

With a flexible exchange rate.



In either case, the reduction in demand for Canadian goods is a negative AD shock.

In summary, whether there are fixed or flexible exchange rates, the decline in demand for Canada's exports will lead to a negative AD shock, and thus a decline in national income (at least for the short run).

But under flexible exchange rates, the depreciation of the Canadian dollar will dampen the effect of the shock (net exports will fall by less), thus dampening the negative effect on output and employment.

This is the sense in which flexible exchange rates act like "shock absorbers."

Summing Up

Advocates of the position that Canada should give up its flexible exchange rate emphasize the risk faced by Canadian exporters and importers.

Opponents of the change emphasize the shock-absorption benefits from a flexible exchange rate.