Chapter 38
The Balance of Payments, Exchange Rates, and Trade Deficits

CHAPTER OVERVIEW

• This chapter addresses several important aspects of international trade.

1. The chapter begins with a brief discussion about the balance of payments.

2. Next, this balance of payments is explained and examined in greater detail.

3. Exchange rates and balance of payments adjustments under each exchange rate system are then analyzed.
   – The section concludes with a discussion of the advantages and disadvantages of each.

4. Finally, the chapter looks at the trade deficits of recent years and examines the causes and effects of these deficits.

• The supplement to this chapter discusses the history of major policies and exchange rate systems, beginning with the gold standard and concluding with the Bretton Woods system.
OBJECTIVES

- Explain and identify the various components of the balance of payments.
- Identify trade and balance of payments deficits or surpluses when given appropriate data.
- Explain how a nation finances a “deficit” and what it does with a “surplus.”
- Explain how exchange rates are determined in a flexible system.
- Explain how U.S. exports create a demand for dollars and a supply of foreign exchange; and how U.S. imports create a demand for foreign exchange and a supply of dollars.
- Explain how flexible exchange rates eliminate balance of payments disequilibria.
- List five determinants of exchange rates.
- List three disadvantages of flexible exchange rates.
- List four ways a nation could control exchange rates under a fixed rate system.
- Describe the causes and two effects of a trade deficit.
- Define and identify terms and concepts listed at the end of the chapter.
- (Supplement) Describe a system based on the gold standard, the Bretton Woods system, and a managed float exchange rate system.
Learning objectives

• How currencies of different nations are exchanged when international transactions take place.

• About the balance sheet the United States uses to account for the international payments it makes and receives.

• How exchange rates are determined in currency markets.

• The difference between flexible exchange rates and fixed exchange rates.

• The causes and consequences of recent large U.S. trade deficits.
International Transactions

- **International trade**
  - Buy/sell current goods or services
  - Imports and exports

- **International asset transactions**
  - Buy/sell real or financial assets
  - Buy/sell stock
  - Sell your house to a foreigner

- **Requires currency exchange**

Financing International Trade

- Foreign exchange markets (or currency markets) enable international transactions to take place by providing markets for the exchange of national currencies.

- An American export transaction is explained below.
  - U.S. firm is selling $300,000 worth of computers to British firm.
  - Imagine the exchange rate is $2 = 1 Br. pound, so the British firm must pay 150,000 pounds.
  - The British firm will draw a check on its deposit at a London bank for 150,000 pounds, and will send it to the U.S. exporter.
– The exporter sells the British check to an American bank for $300,000 in exchange for the British check, and the exporter’s account is credited.

– The American bank will deposit the 150,000 pounds in a correspondent London bank for future sale.

– Note the major points here:
  * Exports create a demand for dollars and a supply of foreign money, in this case British pounds.
  * The financing of an American export reduces the supply of money (demand deposits) in Britain and increases it in the U.S.

• An American import transaction example illustrates how a British exporter is paid in pounds while the importer pays dollars.

  – A U.S. firm is buying 150,000 pounds worth of compact discs from Britain.

  – The exchange rate remains at $2 = 1 Br. pound, so the American purchaser must exchange its $300,000 for 150,000 Br. pounds at an American bank-perhaps the same one as in the export example.

  – The American bank will give up its 150,000 pounds in the London bank to the importer, who will pay the British compact discs exporter, who will deposit the money in the exporter’s bank.
Again note the major points:

* The financing of American imports reduces the supply of money (demand deposits) in the U.S. and increases it in the exporting country, Britain.

* Imports create a demand for foreign currency (pounds in this case) and a supply of U.S. currency.
The Balance of Payments

- Table 38.1 summarizes the balance for 2007

- **Sum of international financial transactions**
  
  - A nation’s balance of payments is the sum of all transactions that take place between its residents and the residents of all foreign nations.
  
  - These transactions include merchandise exports and imports, tourist expenditures, and interest plus dividends from the sale and purchases of financial assets abroad.
  
  - The balance of payments account is subdivided into two components: the current account, and the capital and financial account.

- **Current Accounts** is shown in top portion of Table 38.1. The main entries are:
  
  - The current account summarizes U.S. trade in currently produced goods and services.
  
  - The merchandise trade balance is the difference between its exports and imports of goods.
  
  - The **balance on goods and services**, shown in (line 7) Table 38.1 is the difference between U.S. exports of goods and services...
(items 1 and 4) and U.S. imports of goods and services (items 2 and 5).

– Balance on the current account is found by adding all transactions in the current account (item 10, Table 38.1).

– Global Perspective 38.1 gives the U.S. trade balances with select nations.

**Capital and Financial Account:**

– The capital and financial account consists of the capital account and the financial account.

– The capital account summarizes the net flow of debt forgiveness. The negative sign (line 11) indicates that the U.S. forgave more debt than foreigners forgave debt owed by Americans.

– The financial account summarizes flows of payments from the purchase or sale of real or financial assets, here and abroad.

  ∗ A foreign firm may buy a real asset, say an office tower in the U.S., or a U.S. government bond.

    · Both kinds of transactions involve the “export” of the ownership of U.S. assets from the United States in return for payments of foreign currency (money “capital”) inflows.

    · This is recorded as a positive flow in the financial account. (Line 12)
* If a U.S. firm buys an asset (real or financial) abroad, they are “importing” ownership, and the negative sign reflects the outflow of funds. (Line 13)

– The balance on the capital and financial account was $739 billion in 2007. (Line 15, Table 38.1)

**Payments Deficits and Surpluses:**

– A drawing down of official reserves measures a nation’s balance of payments deficit; a building up of official reserves measures its balance of payments surpluses.

* Adding to foreign reserves would occur if there is a surplus.

– A balance of payments deficit is not necessarily bad, nor is a balance of payments surplus necessarily good.

* However, persistent payments deficits would ultimately deplete the foreign exchange reserves.

– To correct its balance of payments deficit, a nation might implement a major depreciation of its currency or other policies to encourage exports.

– The U.S. has persistently large current account deficits that must be offset by capital and financial account surpluses, and these are of greater concern (as discussed later in the chapter).
Flexible Exchange Rates

- **Freely floating exchange rates are determined by the forces of demand and supply.**

  - Figure 38.1 (Key Graph) illustrates the exchange rate (price) for British pounds in American dollars.
  
  - The demand for any currency is downsloping because as the currency becomes less expensive, people will be able to buy more of that nation’s goods and, therefore, want larger quantities of the currency.
  
  - The supply of any currency is upsloping because as its price rises, holders of that currency can obtain other currencies more cheaply and will want to buy more imported goods and, therefore, will give up more of their currency to obtain other currencies.
  
  - As with other commodities, the intersection of the supply and demand curves for a currency (pounds in Figure 38.1) will determine the price or exchange rate. In the example it is $2 to 1 pound.

Depreciation and Appreciation

- Depreciation means the value of a currency has fallen; it takes more units of that country’s currency to buy another country’s currency.
– $3 for 1 pound would be a depreciation of the dollar, compared to the original example of $2 per pound.

• Appreciation means the value of a currency or its purchasing power has risen; it takes less of that currency to buy another country’s currency.

large

– $1 = 1 pound would be an appreciation of the dollar relative to the pound.

**Determinants of exchange rates**

• **Three generalizations:**

  – If the demand for a nation’s currency increases (decreases) [all else equal], that currency will appreciate (depreciate).

  – If the supply of a nation’s currency increases (decreases) [all else equal], that currency will depreciate (appreciate).

  – If a nation’s currency appreciates, some foreign currency deprecates relative to it.

• Determinants of exchange rates are the forces that cause the demand or supply curves to shift:

  – **Changes in tastes or preferences** for a country’s products would shift the demand for the currency as well.
* E.g. if U.S.’s iphones are so attractive to British consumers, then the British will supply more pounds in the exchange market to purchase more U.S. iphones.

* The supply of pounds curve will shift to the right, causing the pound to depreciate and the dollar to appreciate.

- **Relative income changes** will cause changes in the demand and supply of currencies.

  * e.g. rising incomes in the U.S. increase the demand for imports, say, from Britain, which increases the supply of dollars and the demand for pounds, causing dollars to depreciate and pounds to appreciate.

- **Relative price level changes** will cause changes in the demand and supply of currencies.

  * If American prices rise relative to British prices, this will increase the demand for British goods and pounds; conversely, it will reduce the supply of pounds as British purchase fewer American goods, causing dollars to depreciate and pounds to appreciate.

  * will increase the supply of and increase the demand of the dollars, causing dollars to appreciate and pounds to depreciate.

The **theory of purchasing-power-parity** asserts that exchange rates will change to maintain a uniform price in one currency, e.g., dollars, for each product across countries.
∗ e.g., if a certain basket of goods costs $10,000 in the U.S.
and 5000 pounds in Britain, accordingly to PPP theory, the
exchange rate should be $2 to 1 pound.

∗ However, in practice, the exchange rate could be different
from the rate computed by the PPP theory.

∗ CONSIDER THIS · · · The Big Mac Index

− Changes in relative real interest rates will affect
the demand and supply of currencies.

∗ Suppose that real interest rates rise in the U.S. but stay
constant in Britain.

∗ British will sell pounds and buy dollars and place buy the
U.S. bond or put in saving in a U.S. bank.

− Relative expected returns on assets like stocks, real
estates, etc.

∗ For instance, suppose that investing in England becomes
more popular due to a more positive output on expected
return on stocks, real estate there.

∗ U.S. investors will sell U.S. dollars/assets to buy more
pounds in order to buy assets in England.

∗ this will increase the supply of the dollars and increase the
demand of the pounds, causing dollars to depreciate and
pounds to appreciate.

− Speculation is another determinant.

∗ If one believes the value of a currency is about to fall, it will
increase the supply of that currency and reduce its demand.

* Likewise, if one believes the value of a currency is about to rise, it will increase its demand and reduce its supply as people want to hold that currency.

* If speculators expect the U.S. economy to (1) grow more rapidly than the British economy, and (2) experience a more rapid rise in its price level than will Britain,
  - they will expect dollars to depreciate and pounds to appreciate.

* Note that such predictions can be self fulfilling prophecies, since the change in demand is in the direction of the prediction. (Table 38.2)

* Suppose that tastes change and U.S. consumers buy more British cars, the U.S. price level increase relative to Britain’s, or interest rates fall in the U.S. compared to those in Britain,
  - the U.S. demand for British pounds will increase, say, move $D_1$ to $D_2$ in figure 38.2,
  - at $2 = 1$ pound, a U.S. balance-of-payments deficit will occur (ab),
  - result in new equilibrium at $3 = 1$ pound,

- Theoretically, flexible rates have the virtue of automatically correcting any imbalance in the balance of payments.
  - If there is a deficit in the balance of payments, this means that
there will be a surplus of that currency and its value will depreciate.

– As depreciation occurs, prices for goods and services from that country become more attractive and the demand for them will rise. At the same time, imports become more costly as it takes more currency to buy foreign goods and services.

– With rising exports and falling imports, the deficit is eventually corrected (Figure 38.2 illustrates this).

• **There are some disadvantages to flexible exchange rates:**

  – flexible exchange rates are often volatile and can change by a large amount in just a few weeks.

  – **Uncertainty and diminished trade**

    * Uncertainty and diminished trade may result if traders cannot count on future prices of exchange rates, which affect the value of their planned transactions.

    * An expected rise in U.S. dollar against pound will discourage U.S. importers from Britain.

    * An expected rise in U.S. dollar against pound will discourage U.S. investors to invest in Britain.

    * However, see Last Word for this chapter for ways in which traders can avoid risk.
– **Terms of trade changes**

* Terms of trade may be worsened by a decline in the value of a nation’s currency.

* For example, an increase in U.S. dollar price of a pound will mean that the U.S. must export more goods and services to finance a specific level of imports from Britain.

– **Instability**

* Unstable exchange rates can destabilize a nation’s economy. This is especially true for nations whose exports and imports are a substantial part of their GDPs.

* For example, if the U.S. economy is operating at full employment and its currency depreciates, the U.S. will result in inflation because
  - Foreign demand for U.S. goods may rise, increasing total spending and pulling up U.S. prices.
  - The prices of all U.S. imports will increase.

* Conversely, appreciation of the dollar will lower U.S. exports and increase imports, causing unemployment.
Fixed Exchange Rates

• Fixed exchange rates are those that are pegged to some set value, such as gold or the U.S. dollar.

• Suppose the U.S. demand for British pounds will increase from $D_1$ to $D_2$ in figure 38.2, and at $\$2 = 1$ pound, a U.S. balance-of-payments deficit will occur (ab),
  
  – There are several ways to alter market demand or supply or both to keep $\$2 = 1$ pound:
  
• **Use of reserves**
  
  – Official reserves are used to correct an imbalance in the balance of payments, since exchange rates cannot fluctuate to bring about automatic balance. This is called currency intervention.
  
  – The U.S. government may have spent tax dollars to buy surplus pounds that were threatening to reduce the exchange rate to below the $\$2 = 1$ pound exchange rate.
  
  – The U.S. government could sell some of its gold to Britain to obtain pounds. It could then sell pounds for dollars.
  
  – It is critical that the amount of reserves and gold be enough to accomplish the required increase in the supply of pounds.
  
  – If the U.S. encounters persistent and sizable deficits for extended period, it may exhaust its reserves, and thus be forced to abandon fixed exchange rates.
• **Trade policies**

  – Trade policies directly controlling the amount of trade and finance might be used to avoid imbalance in trade and payments. The U.S. could try to maintain the $2 = 1$ pound exchange rate by discouraging imports and encouraging exports.

  – Imports could be reduced by means of new tariffs or import quotas, special taxes could be levied on the interest and dividends U.S. financial investors receive from foreign investments.

  the U.S. government could subsidize certain U.S. exports to increase the supply of pounds.

• **Exchange controls and rationing**

  – Exchange controls and rationing of currency have been used in the past

    * e.g. the US government could handle the problem of a pound shortage by requiring that all pounds (xa) obtained by US exporters be sold to the Federal government.

    * Then, the US government would allocate or ration this short supply of pounds among various US importers, who demand the quantity (xb).

    * But the value (ab) of US demand for British imports would not be fulfilled.
– Exchange controls and rationing are objectionable for several reasons.

– Distorted trade
  * Controls distort efficient patterns of trade.

– Favoritism
  * Rationing involves favoritism among importers.

– Restricted choice
  * Rationing reduces freedom of consumer choice.

– Black markets
  * Enforcement problems are likely as “black market” rates develop.

• Domestic macroeconomic adjustments

– A final way to maintain a fixed exchange rate is to use domestic stabilization (monetary and/or fiscal) policies to eliminate the shortage of foreign currency.
  * Tax hikes, reductions in government spending, and a high interest-rate policy would reduce total spending in the US economy and, consequently, domestic income;
  * The high-interest-rate policy would lift US interest rates to those in Britain;
  * and thus reduce import and restrain demand for British goods and British pounds.
– Domestic macroeconomic adjustments may be more difficult under fixed rates.

* For example, a persistent deficit of trade may call for tight monetary and fiscal policies to reduce prices, which raises exports and reduces imports.

* Such contractionary policies can also cause recessions and unemployment, however.
The “Managed Float” System

- The current system is really a “managed float” exchange rate system in which governments attempt to prevent rates from changing too rapidly in the short term.

  - For example,
    * in 1987, the then G-7 nations—U.S., Germany, Japan, Britain, France, Italy, and Canada—agreed to stabilize the value of the dollar, which had declined rapidly in the previous two years. They purchased large amounts of dollars to prop up the dollar’s value.
    * The G8 nations (add Russia to the list above) meet regularly to assess economic conditions and coordinate economic policy.

  - Governments recognize that changing economic conditions among nations require continuing changes in equilibrium exchange rates to avoid persistent payments deficits or surpluses.
    * They rely on freely operating foreign exchange markets to accomplish the necessary adjustment.
    * They also recognize that certain trends in the movement of equilibrium exchange rates may be at odds with national or international objectives.
    * On occasion, nations therefore intervene in the foreign exchange market by buying or selling large amounts of
specific currencies; that’s, they “manage” or stabilize exchange rates by influencing currency demand and supply.

– While the major currencies such as dollars, euros, pounds, and yen fluctuate in response to changing supply and demand,

* some developing nations peg their currencies to the dollar and allow their currencies to fluctuate with it against other currencies,
* some nations peg the value of their currencies to a “basket” or group of other currencies.

– In support of the managed float.

* Trade has expanded and not diminished under this system as some predicted it might.
* Flexible rates have allowed international adjustments to take place without domestic upheaval when there has been economic turbulence in some areas of the world.
  · It has weathered severe economic turbulence that might have caused a fixed-rate system to break down.

– Concerns with the managed float.

* Much volatility occurs without the balance of payments adjustments predicted.
* There is no real system in the current system. It is too unpredictable.
* Some exchange rate volatility has occurred even when underlying economic and financial conditional were relatively stable, suggesting that speculation plays too large a role in determining exchange rates.
Recent U.S. Trade Deficits

- In 2007 the U.S. trade deficit in goods and services was $816 billion, and the current account deficit in U.S. was a record $504 billion. (Figure 38.4) B. Causes of the trade deficit.
  - From 1997 to 2000, and from 2003 to 2007, the U.S. economy grew more rapidly than the economies of several major trading nations. This growth of income has boosted U.S. purchases of foreign goods. In contrast, Japan, some European nations, and Canada suffered recessions or slow income growth during this period.
  - Large trade deficits with China have emerged ($257 billion in 2007, larger than the $85 billion U.S. deficit with Japan).
  - Rapidly rising oil prices, because of the large percentage of oil imported by the U.S., have increased the trade deficit with OPEC.
  - A declining savings rate in the U.S. has contributed to U.S. trade deficits and an increase in foreign investment in U.S.

- Implications of U.S. trade deficits
  - A trade deficit means that the U.S. is receiving more goods and services as imports from abroad than it is sending out as exports. The gain in present consumption may come at the expense of reduced future consumption.
– A trade deficit is considered “unfavorable” because it must be financed by borrowing from the rest of the world, selling off assets or dipping into foreign currency reserves. In 2004, foreigners owned $2.5 billion more assets in the U.S. than Americans owned in foreign assets.

– Therefore, the current consumption gains delivered by U.S. trade deficits could mean permanent debt, permanent foreign ownership, or large sacrifices of future consumption. These sacrifices may be minimized if higher economic growth results as foreign investment expands our capital base.
Last Word – Speculation in Currency Markets

• Are speculators a positive or a negative influence?

Speculators sometimes contribute to exchange rate volatility. The expectation of currency appreciation or depreciation can be self-fulfilling.

– If speculators expect the Japanese yen to appreciate, they sell other currencies to buy yen. The increase in demand for yen and in supply of other currencies will boost its value, which may attract still other speculators to buy yen. The rise in yen value is partly a result of expectations.

– Eventually, the yen’s value may soar too high relative to economic realities, the speculative “bubble” bursts, and the yen can plummet for the same self-fulfilling reasons, as speculators sell yen to buy other currencies.

• Speculation can have positive effects in foreign exchange markets.

– Speculators may be useful in smoothing out temporary fluctuations. If there is a temporary decline in demand, speculators take advantage of the dip in value by buying the currency; this props up demand, strengthening the value again.
If there is a temporarily strong demand, which artificially raises the value of a currency, speculators will sell to take advantage of the price hike, and this will reduce the inflated value.

– Speculators also absorb risks that others do not want to bear. International transactions in goods and services can be risky if exchange rates change. Buyers and sellers in international trade can reduce the risk of exchange rate changes in foreign transactions by hedging or buying the needed currency with forward contracts. This is where a buyer or seller protects against a change in future exchange rates in the futures market. Foreign exchange is bought or sold at contract prices fixed now, for delivery at a specified future date.

– The example given is of an American importer who agrees to buy 10,000 Swiss watches to be delivered and paid for in three months. The price is 75 francs per watch, or $50 per watch at the exchange rate on the date of the sale. If the franc were to appreciate from 1.5 francs per dollar to 1 franc per dollar in three months, the importer would have to pay $75 per watch instead of $50 per watch.

* Hedging can reduce the importer’s risk of having the franc appreciate.

* The importer can purchase the 750,000 francs needed by signing a futures contract, agreeing to pay a specified amount (maybe $500,000 plus some allowance for fees) for those francs in three months.
Speculators accept such contracts. In this case, the speculator would be betting that the value of the franc would fall vs. the dollar, and at the end of the three months, the speculator would take the $500,000 and obtain more than the 750,000 francs for it. The importer will have the 750,000 francs, and the speculator will have profited by having excess francs. Of course, if the franc appreciates, the speculator loses on this deal. In other words, the speculator has assumed the risk from the importer-and as a result may profit or lose.
Supplemental Material (Web):
Previous International Exchange Rate Systems

A. The gold standard was the international system used during the 1879-1934 period. It provided for fixed exchange rates in terms of a certain amount of currency for an ounce of gold. Under this system, each nation must:

- Maintain a fixed relationship between the stock of gold and the money supply.
- Gold flows would maintain the fixed rate. If the dollar appreciated, gold would flow into the U.S.; if it depreciated, gold would flow out. These flows would keep the value of the currencies at their fixed rates.
- If gold flowed into a country, its money supply would increase because the gold/money ratio is fixed. Therefore, when the dollar appreciated, the U.S. money supply would increase proportionately to the gold increase. A rise in the money supply would cause U.S. incomes and prices to rise and would increase our demand for foreign goods, while the demand for U.S. exports declined. Such a change in the balance of trade would cause the dollar to depreciate again. In other word, a gold standard causes domestic adjustments. This is its major disadvantage.
- The advantages are stable exchange rate and automatic
adjustments in balance of payments.

– The worldwide Depression of the 1930s ended the gold standard, because improving economic conditions became the main goal of national policies.

• The Bretton Woods system was enacted following World War II by the leading industrialized western nations. It had two main features.

– The International Monetary Fund (IMF) was created to hold and lend official reserves. Included in official reserves was a new kind of international governmental currency called Special Drawing Rights (SDRs).

– Pegged exchange rates were initiated, which were adjustable when a fundamental imbalance was recognized. The rates were maintained by government intervention in the supply and demand of currencies.

  * Governments could spend or purchase currencies directly.
  * Gold could be bought or sold by governments.
  * IMF borrowing could take place from the required accounts that nations had at the International Monetary Fund.

– The pegged rates could be changed (adjusted) when there were persistent problems with the balance of payments using the existing rate. A persistent deficit could lead to devaluation (depreciation).
– The Bretton Woods system was abandoned as nations acquired more and more dollars, and the U.S. abandoned its pledge to convert dollars into gold in 1971. This led to a flexible exchange rate for the dollar and, therefore, flexible rates for every other major currency that was related to the dollar.