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Financial Markets

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Chapter 16: The International Financial System

Chapter Preview

The international financial system has grown in importance as the China economy has become more interdependent with the economies of the rest of the world. In this chapter, we examine the differences between fixed and managed exchange rate systems.

We also look at the controversial role of capital controls and the IMF in the international setting. Topics include:

- Intervention in the Foreign Exchange Market
- Balance of Payments
- Exchange Rates Regimes in the International Financial System
- Capital Controls
- IMF (We will have a guest speaker!)

Intervention in the Foreign Exchange Market

- Foreign exchange markets are not free of government intervention.
- **Foreign exchange interventions** occur when central banks engage in international transactions to influence exchange rates.
- The first step is to understand the impact on the monetary base and the money supply when a central bank intervenes in the foreign exchange market.
- **International reserves** refers to a central bank's holdings in a foreign currency.
- Fed sells its international reserves to banks, which is, in effect, a purchase of dollars held by banks in their reserve accounts.

Intervention in the Foreign Exchange Market: the Money Supply

- Suppose the Fed sells $1 billion in a foreign currency in exchange for $1 billion in U.S. currency.

Federal Reserve System

Assets		Liabilities	
Foreign Assets (international reserves)	–1 billion	Currency or Reserves (Monetary Base)	–1 billion

- Results:
  - Fed holding in international reserves falls by 1 billion.
  - Currency in circulation falls by 1 billion.

Intervention in the Foreign Exchange Market: the Money Supply

A central bank's purchase of domestic currency and corresponding sale of a foreign currency leads to an equal decline in its international reserves and the monetary base (banks' deposits at the central bank).

Obviously, the opposite is true if the transaction reversed: a central bank's sale of domestic currency and corresponding purchase of a foreign currency leads to an equal increase in its international reserves and the monetary base.

Intervention in the Foreign Exchange Market: the Money Supply

- Once we understand the impact of purchases or sales, the Fed still has a decision to make.

- A central bank, knowing these results, can engage in one of two types of foreign exchange interventions:
  - Unsterilized
  - Sterilized

Intervention in the Foreign Exchange Market: Unsterilized Intervention

- **Unsterilized**: purchase of domestic currency, sale of a foreign currency

Federal Reserve System

Assets		Liabilities	
Foreign Assets (international reserves)	–1 billion	Currency or Reserves (Monetary Base)	–1 billion

- Results:
  - International reserves, –1 billion
  - Monetary base, –1 billion
  - The analysis is in Figure 16.1, E_t goes up

Intervention in the Foreign Exchange Market: Unsterilized Intervention

1. Initially, the purchase of dollars decreases the money supply, and demand shifts from D_1 to D_2.

2. The equilibrium exchange rate rises from E_1 to E_2 as the expected return on dollar assets rises.

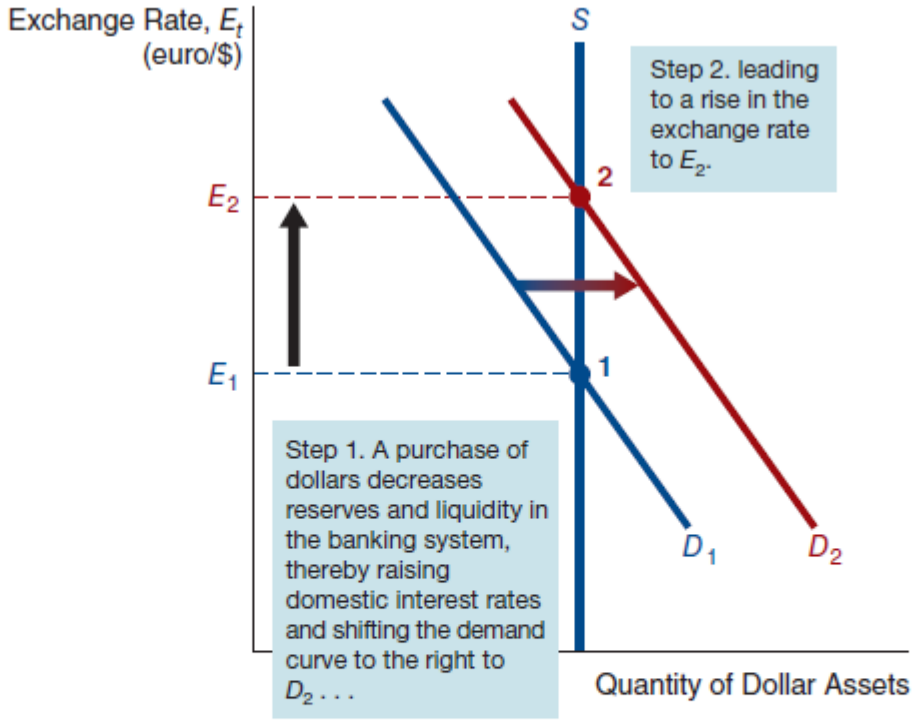

FIGURE 16.1 Effect of an Unsterilized Purchase of Dollars and Sale of Foreign Assets

A purchase of dollars and the consequent open market sale of foreign assets decreases reserves in the banking system. The resulting rise in domestic interest rates raises the relative expected return on dollar assets. The demand curve shifts to the right, from D_1 to D_2, and the equilibrium exchange rate rises from E_1 to E_2.

Intervention in the Foreign Exchange Market: Sterilized Intervention

- **Sterilized**: purchase of dollars, sale of a foreign currency, and purchase of government bonds.

Federal Reserve System

Assets		Liabilities	
(Foreign Assets)		(Monetary Base)	
International Reserves	–1 billion	Curreny or Reserves	0
Government Bonds	+1 billion		

- Results:
  - International reserves, +1 billion
  - Monetary base unchanged
  - E_t unchanged: no shift in demand

Balance of Payments

This is the method for measuring the effects of international financial transactions on the economy.

- The **balance of payments** is a booking system for recording all receipts and payments that have a direct bearing on the movement of funds between nations.
- The **current account** shows international transactions that involve currently produced goods and services.
- The **trade balance** is part of this account, and shows the difference between exports and imports
- The **capital account** shows the net receipts from capital transactions. Capital flows into a country are recorded as receipts, whereas outflows are registered as payments
- Given these definitions, the following equation holds:

  Current Account + Capital Account = Net Change in International Reserves

Global: Economist Concerns about the Current Account Deficit

The current account deficit concerns economists for several reasons:

1. Indicates that at the current exchange rate, foreigners demand fewer U.S. exports than American's demand imports.

2. Foreigners' claims on U.S. assets are growing, possibly leading to a decreased demand for dollars over time.

Exchange Rate Regimes in the International Financial System

There are two basic types of exchange rate regimes in the international financial system:

1. In a **fixed exchange rate regime**, the values of currencies are kept pegged relative to one currency so that exchange rates are fixed. The currency against which the others are pegged is known as the **anchor currency**.
2. In a **floating exchange rate regime**, the values of currencies are allowed to fluctuate against one another.

When countries attempt to influence exchange rates via buying and selling currencies, the regime is referred to as a **managed float regime** (or a **dirty float**).

Fixed Exchange Rate Systems

- Bretton Woods
  1. Created the International Monetary Fund (IMF), which sets rules and provides loans to deficit countries
  2. Setup the International Bank for Reconstruction and Development (World Bank), which provides loans to developing countries
  3. The U.S. emerged from WWII as the world's largest economic power. The U.S. dollar was called the **reserve currency**, meaning it was used by other countries to denominate the assets they held in international reserves.
  4. The system was abandoned in 1971.
  5. Even post-1971, the dollar was the "reserve currency" in which most international financial transactions were conducted. But, as we will see next, the euro has challenged that status.

Fixed Exchange Rate Systems: How they work

There are essentially two situations where a central bank will act in the foreign exchange market.

- When the domestic currency is **overvalued**, the central bank must purchase domestic currency to keep the exchange rate fixed. As a result, the central bank loses international reserves.

- When the domestic currency is **undervalued**, the central bank must sell domestic currency to keep the exchange rate fixed. As a result, the central bank gains international reserves.

Fixed Exchange Rate Systems: How they work

These results can be seen in the figure on the next slide. Part (a) shows the impact of central bank actions when the domestic currency is overvalued. Part (b) shows the impact when the domestic currency is undervalued.

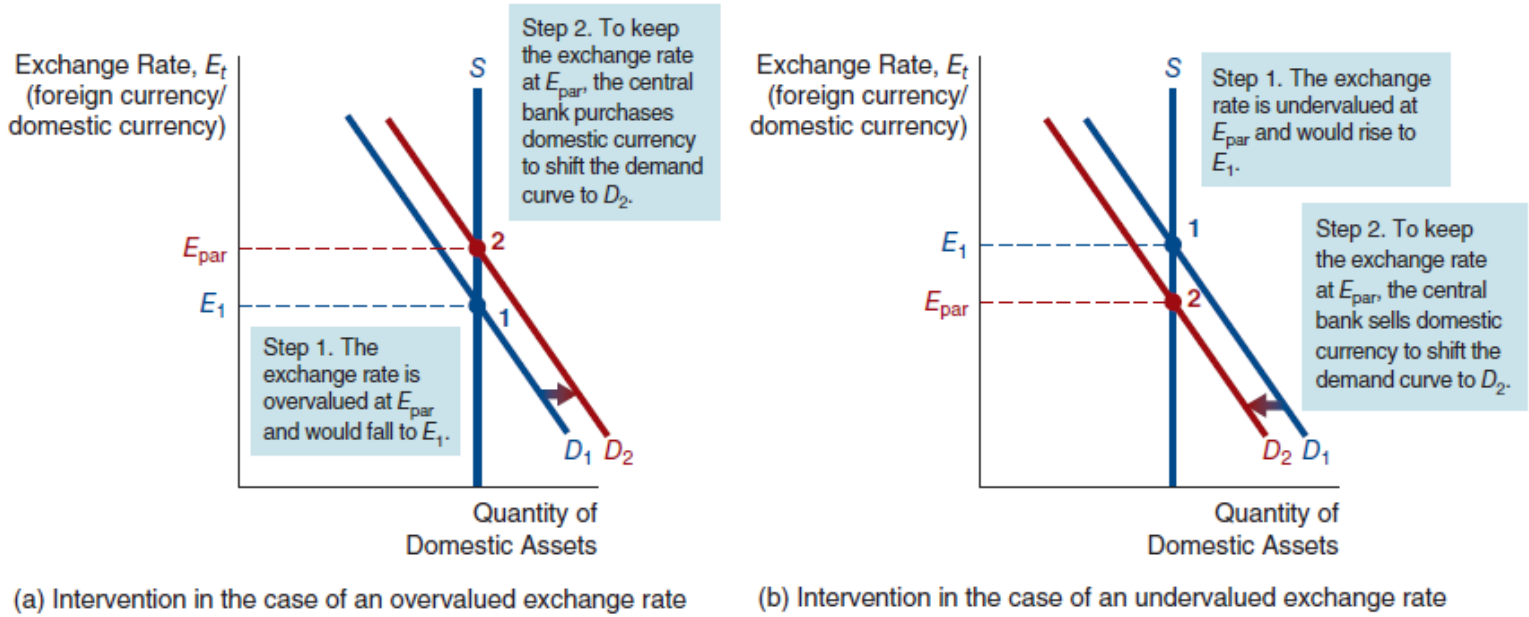

FIGURE 16.2 Intervention in the Foreign Exchange Market Under a Fixed Exchange Rate Regime

In panel (a), the exchange rate at E_{par} is overvalued. To keep the exchange rate at E_{par} (point 2), the central bank must purchase domestic currency to shift the demand curve to D_2. In panel (b), the exchange rate at E_{par} is undervalued, so the central bank must sell domestic currency to shift the demand curve to D_2 and keep the exchange rate at E_{par} (point 2).

Fixed Exchange Rate Systems: How they work

- **Devaluation** can occur when the domestic currency is overvalued. Eventually, the central bank may run out of international reserves, eliminating its ability to prevent the domestic currency from depreciating.

- **Revaluation** will occur when the central bank decides to stop intervening when its domestic currency is undervalued. Rather than acquiring international reserves, it lets the par value of the exchange rate reset to a higher level.

The Policy Trilemma

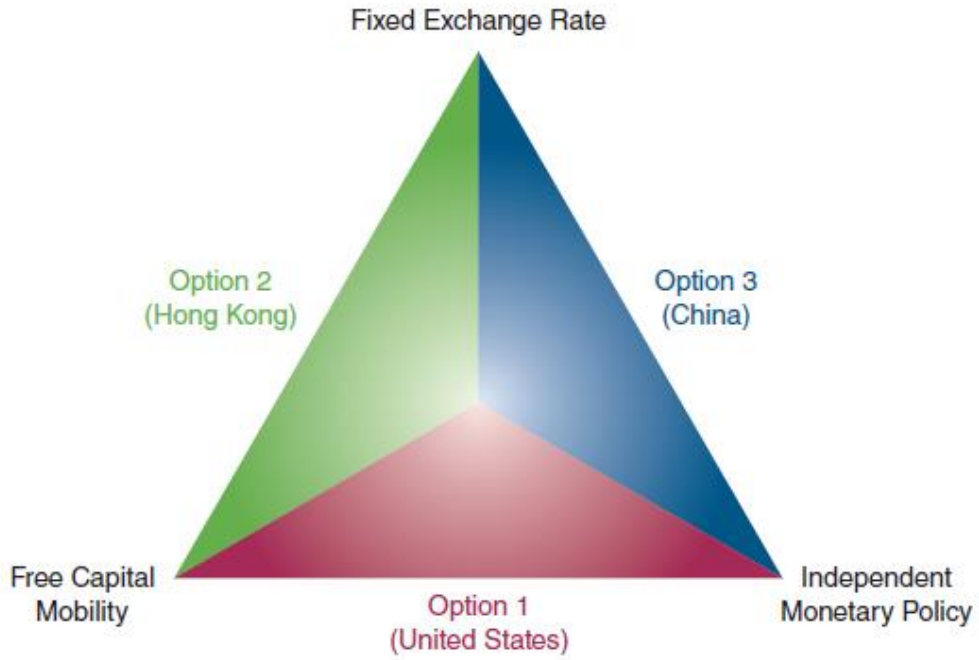

FIGURE 16.3 The Policy Trilemma

A country (or monetary union) cannot pursue the following three policies at the same time: (1) free capital mobility, (2) a fixed exchange rate, and (3) an independent monetary policy. Instead, it must choose two of the three policies on each side of the triangle.

The Policy Trilemma

- If there is perfect capital mobility, then a sterilized exchange rate intervention **CANNOT** keep the exchange rate at E_{par}

- For example, if the exchange rate is overvalued, a sterilized purchase of domestic currency will leave the relative expected return and the demand curve unchanged. Hence, pressure for a depreciation of the domestic currency is not removed.

- An important implication—if a country ties its exchange rate to an anchor currency of a larger country, it loses control of its monetary policy.

- However, this does force the more disciplined policies of the larger country on the smaller country—usually ensuring a low inflation rate.

Fixed Exchange Rate Systems: Extreme Cases

Currency boards are the extreme example of the last point. With a currency board, the domestic currency is backed 100% by a foreign currency. These have been established in Hong Kong, Argentina, and Estonia, to name a few.

The most extreme example is **dollarization**, where a country adopts the currency of a foreign country. El Salvador and Ecuador have adopted dollarization.

Dollarization has one additional disadvantage not characteristic of a currency board: Because a country adopting dollarization no longer has its own currency, it loses the revenue that a government receives by issuing money (seigniorage).

Argentina’s Currency Board

- Adopted in 1991 to end a long history of monetary instability.
- Peso/dollar exchange rate fixed, and rate guaranteed by the central bank.
- Early success was stifled by a mass exchange of pesos for dollars—real GDP shrunk and unemployment rose to 15%in 1995.
- Central bank could do nothing to control this—exchange rate was fixed. But world organizations (World Bank, IMF) helped out.
- Another recession in 1999 eventually lead to the collapse of the currency board in 2002. The peso depreciated by 70%, and a financial crisis ensued.

Foreign Exchange Crisis of September 1992

- Following the reunification of Germany in October 1990, the German central bank faced inflationary pressure. To control monetary growth, the central bank raised interest rates to double-digits.

- The consequences are detailed on the next slide.

Exchange Rate Crisis of September 1992

1. The increase in German interest rates lowered expected returns on British pounds, shifting demand from D_1 to D_2.
2. The equilibrium rate was below the lower exchange rate limit for the time.
3. Required England pursue a contraction or Germany to lower rates. Neither would do this.
4. Demand shifted to D_3—a huge sell-off of pounds!

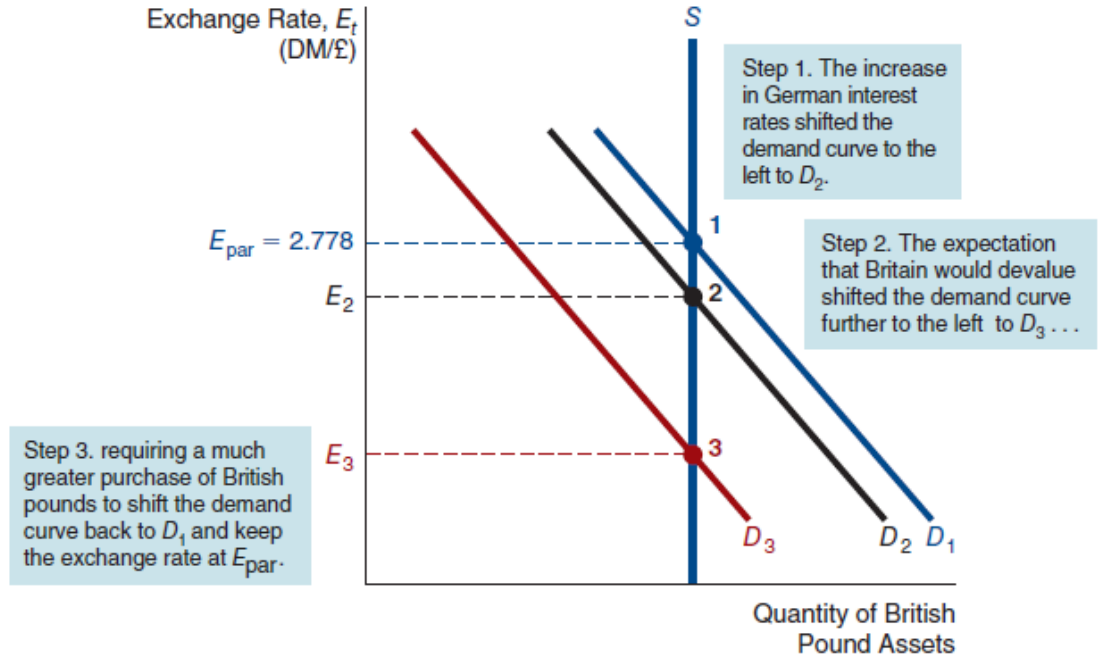

FIGURE 16.4 Foreign Exchange Market for British Pounds in 1992

The realization by speculators that the United Kingdom would soon devalue the pound decreased the relative expected return on British pound assets, resulting in a leftward shift of the demand curve from D_2 to D_3. The result was the need for a much greater purchase of pounds by the British central bank to raise the interest rate so that the demand curve would shift back to D_1 and keep the exchange rate E_{par} at 2.778 German marks per pound.

The Practicing Manager: Profiting from a FX Crisis

- September 1992, £ overvalued

- Once traders know central banks can't intervene enough, £ only head one direction, ↓
  - ➢One-sided bet, "heads I win, tails I win"
  - ➢Traders sell £, buy DM
  - ➢£ ↓ 10% after September 16
    1. Citibank makes $200 million
    2. Soros makes $1 billion

Exchange Rate Regimes in the International Financial System: Managed Float

- With the demise of the Bretton Woods system, most exchange rates change daily n response to market forces, yet central banks are reluctant to give up their ability to intervene in foreign exchange markets.

- Limiting changes in exchange rates makes it easier for firms and individual to plan purchases/sales in the international marketplace.

- Countries with a trade surplus are reluctant to allow their currencies appreciate since it hurts domestic sales.

- On the other hand, countries with a trade deficit do not want to see their currency lose value since it makes foreign goods more expensive.

Capital Controls

Control on Capital Outflows, unlikely to work:

- Rarely effective during a crisis
- May actually increase the problem by leading to an increase in capital flight
- Controls often lead to corruption
- May lull government authorities into thinking that they don’t need to make financial system reforms

Capital Controls

Controls on Capital Inflows:

- Somewhat supported for its ability to reduce the likelihood of a crisis
- May block productive resources from entering a country
- Can lead to corruption
- May be a good method for controlling risk-taking on the part of financial institutions. However, a better way may be improving bank regulations and supervision

The Role of the IMF

1. There is a need for international lender of last resort (ILLR) and IMF has played this role

2. ILLR creates moral hazard problem

3. IMF needs to limit moral hazard: lend only to countries with good bank supervision

4. Need to do ILLR role fast and infrequently

The Role of the IMF: How Should It Operate?

1. Make a clear statement that it will not lend unless needed reforms are enacted.

2. Tight macro-policies give appearance of “austerity programs” labeled as anti-growth. Should focus on micro-fixes.

3. Needs to act quickly when needed.

Chapter Summary

- Intervention in the Foreign Exchange Market: we examined both unsterilized and sterilized interventions and the impact each has on the domestic financial system.
- Balance of Payments: the bookkeeping system for funds moving between nations was explored.
- Exchange Rates Regimes in the International Financial System: we examined fixed, managed fixed, and floating regimes, and the impact each has on the financial system.
- Capital Controls: controls on either inflows and outflows are difficult to justify given the negative aspects of either set of controls.
- The Role of the IMF: the debate on the need and role of the IMF remains a hotly debated topic.

Acknowledgment

Slides here are adopted from the official slides published by Pearson Education Ltd