Silesian University in Opava
School of Business Administration in Karviná

INTERNATIONAL FINANCE:

THEORY AND PRACTICE IN TRANSITION COUNTRIES

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Annotation: The textbook is considered as the main studying material for courses International Finance A and International Finance and Transition Countries. It provides concise but comprehensive review of all important international finance issues. It combines the theory of international finance with practical case studies in central European transition countries.

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INTRODUCTION

Silesian University and its School of Business Administration have a broad net of partner foreign universities and consequently rich experiences with international mobility of students and lecturers. Students from many countries of different continents study at the School of Business Administration each semester and they may choose various subjects from a wide selection. This textbook is a product of the Department of Finance's effort to provide students with suitable studying material that is of adequate scope and level and that is able to meet their expectations and needs. The textbook "International Finance: Theory and Practice in Transition Countries" is supposed to become the principal studying material in courses International Finance (A) and International Finance in Transition Countries. Preparation and publication of this book has been supported by the Czech Fund of Universities Development (project FRVŠ 758/2004).

The textbook contains thirteen chapters which are structured into three parts. The first part "Theory of International Finance" explains the basics of theoretical international finance. The issues elaborated in the first part are Balance of payments, Foreign exchange market, Exchange rates determination, Currency derivatives and Foreign direct investment. The second part of the textbook "International Monetary System" describes the history and present situation in international financial relations and arrangements from the institutional point of view. The issues such as activities of the International Monetary Fund, the World Bank Group, and European monetary integration are elaborated. The third part of the textbook "International Finance in Transition Countries" tries to examine specific features of international finance in the case of central European countries. The attention is paid on external imbalance and currency turbulence in the Czech Republic, speculation attack on Hungarian forint, foreign direct investment inflow and potential enlargement of the European monetary union.

This textbook has been prepared with the aim to provide maximal volume of information with keeping the understandable level and mutual relations between the chapters. Many figures, tables, schemes and boxes are used to make the text readable and attractive. Since the textbook is dedicated to students with elementary knowledge on the field of international finance, the reading may stimulate arising of many questions. They will be answered and discussed during the seminars. Every chapter ends with a block of questions and exercises that should evaluate the level of the reader's knowledge and understanding.

I hope that the textbook "International Finance: Theory and Practice in Transition Countries" will become a valuable source of new information for all students and readers. Although the textbook is dedicated particularly to students of two courses at the School of Business Administration in Karviná, it may serve also as a studying material in other courses and at other universities and faculties.

Karviná, January 10, 2005

Author

PART I.

THEORY OF INTERNATIONAL FINANCE

1. BALANCE OF PAYMENTS

In this chapter we look at one of the most important economic indicators for policy-makers in an open economy, namely, the balance of payments. What is happening to a country's balance of payments often captures the news headlines and can become the focus of attention. A good or bad set of figures can have an influential effect on the exchange rate and can lead policy-makers to change the content of their economic policies. Deficits may lead to the government raising interest rates or reducing public expenditure to reduce expenditure on imports. Alternatively, deficits may lead to calls for protection against foreign imports or capital controls to defend the exchange rate.

Before considering various policy options that may be devised to deal with perceived problems in the balance of payments, we need to consider in some detail exactly what the balance of payments figures are and what is meant by the notion of a surplus or deficit. In this chapter, we shall look at what is contained in the balance of payments statistics, how they are compiled, and at various possible economic interpretation of the statistics.

1.1 Definition of the Balance of Payments

The balance of payments is a statistical record of all the economic transactions between residents of the reporting country and residents of the rest of the world during a given time period. The usual reporting period for all the statistics included in the amounts is a year. However, some of the statistics that make up the balance of payments are published on a more regular monthly or quarterly basis. Without question the balance of payments is one the most important statistical statements for any country. It reveals how many goods and services the country has been exporting and importing, and whether the country has been borrowing from or lending money to the rest of the world. In addition, whether or not the central monetary authority (usually the central bank) has added to or reduced its reserves of foreign currency is reported in the statistics.

Domestic and Foreign Residents

A key definition that needs to be resolved at the outset is that of a domestic and foreign resident. It is important to note that citizenship and residency are not necessarily the same thing from the viewpoint of the balance of payments statistics. The term residents comprises individuals, households, firms and the public authorities, and there are some problems that arise with respect to the definition of a resident. Multinational corporations are by definition resident in more than one country. For the purposes of balance of payments reporting, the subsidiaries of a multinational are treated as being resident in the country in which they are located even if their shares are actually owned by foreign residents.

Another problem concerns the treatment of international organizations such as the International Monetary Fund, the World Bank, United Nations and so forth. These institutions are treated as being foreign residents even though they may actually be located in the reporting country. For example, although the International Monetary Fund has the headquarter in Washington, D.C., contributions by the US government to the Fund are included in the US balance of payments statistics because they are regarded as transactions with a foreign resident. Tourists are regarded as being foreign residents if they stay in the reporting country for less than a year. The criterion for a transaction to be included in the balance of payments is that it must involve dealings between a resident of the reporting country and a resident from any part of the rest of the world. Purchases and sales between residents from the same country are excluded from the reporting.

Data Collection

The balance of payments statistics record all of the transactions between domestic and foreign residents, be they purchases or sales of goods, services or of financial assets such as bonds, equities and banking transactions. Reported figures are normally in the domestic currency of the reporting country. However, for better international comparison the data is commonly published also in the US Dollars and the Euros. Obviously, collecting statistics on every transaction between domestic and foreign residents is an impossible task. The statistical authorities collect their information from the customs authorities, surveys of tourist numbers and expenditures, and data on capital inflows and outflows is obtained from banks, pension funds, multinationals and investment companies. Information on government expenditures and receipts with foreign residents is obtained from local authorities and central government agencies. The statistics are based on reliable sampling techniques, but nevertheless given the variety of sources the figures provide only an estimate of the actual transaction.

Presentation of the Balance of Payments

There is no unique method governing the presentation of balance of payments statistics and there can be considerable variations in the presentations of different national authorities. However, the International Monetary Fund provides a set of guidelines for the compilation of such statistics published in its *Balance of Payments Manual.* In addition, the Fund publishes the balance of payments statistics of all its member countries in a standardized format facilitating inter-country comparisons. These are presented in two publications - the *Balance of Payments Statistics Yearbook* and the *International Financial Statistics.*

1.2 Structure of the Balance of Payments

To understand properly the meaning of the balance of payments we must structure it to appropriate sections and units. The balance of payments is commonly structured in two different ways - horizontally and vertically. This kind of structure reflects the character of inter-country transactions and allows to record them correctly.

1.2.1 Vertical Structure of the Balance of Payments

An important point about a country's balance of payments statistics is that in an accounting sense they always balance. This is because they are bases upon the principle of double entry book-keeping. Each transaction between a domestic and foreign resident has two sides to it, a receipt and a payment, and both these sides are recorded in the balance of payments statistics. Thus, each transaction as well as the balance of payments have a credit side and debit side a we call it the vertical structure of the balance of payments.

Credits and Debits

Each receipt of currency from residents of the rest of the world is recorded as a credit item and in the balance of payments statistics is put down as a positive value. Each payment to residents of the rest of the world is recorded as a debit item and it appears in the statistics as a negative value. However, it is worthy to note that the plus and minus signs do not say anything about the impact of the transaction on national economy of the reporting country. Credit operations are not always positive and similarly the debit operations do not always

affect the economy in a negative way.[1] Credit and debit transactions may be also distinguished by their relations to the foreign currency's supply and demand. Whereas the credit operation creates new supply of foreign currency, the debit operation raises the foreign currency's demand. A list of the essential credit and debit transactions is provided in the Table 1.1.

Table 1.1 List of essential credit and debit transactions

credit transactions (+)	*debit transactions (-)*
export of goods	import of goods
export of services	import of services
import of incomes	export of incomes
import of transfers	export of transfers
capital inflow	capital outflow
decrease in foreign exchange reserves	increase in foreign exchange reserves

Deficit and Surplus

As we have seen, the balance of payments always balances since each credit in the account has a corresponding debit elsewhere. However, this does not mean that each of the individual accounts that make up the balance of payments and that are described in the following section is in balance. If the total amount of credits in some account exceeds the total amount of debits, the given account is in surplus. Accordingly, if the all account's debits are higher than the sum of credits, the account is in deficit. For instance the current account can be in surplus while the financial account is in deficit making together that the whole balance of payments balances. Clarification of why economists often discuss about balance of payments deficit or surplus in spite of the rule that balance of payments balances is provided in the section 1.2.3.

1.2.2 Horizontal Structure of the Balance of Payments

The form of published balances of payments differs according to purposes of economic analysis. Rather informative balances of payments are usually more aggregated and contain about 20 items. Balance of payments of more analytical character ordinary consists of more than 100 items. However, due to some common features of the recorded transactions we can assort them to several elementary groups (accounts) and make a very simplified horizontal structure of the balance of payments as shown in the Scheme 1.1.

Scheme 1.1 Simplified horizontal structure of the balance of payments

I. CURRENT ACCOUNT
- Trade balance
  Merchandise Exports and Imports
- Balance of Services
  Shipment
  Travel
  Other Services
- Balance of Incomes
- Unilateral Transfers

II. CAPITAL ACCOUNT

[1] While the investment of a successful and well performing Czech company in Ukraine is recorded in the Czech balance of payments as a debit transaction, the purchase of bonds issued by the Czech government to finance an escalating deficit of the general budget by a British pension fund is kept in the statistics as a credit operation.

III. FINANCIAL ACCOUNT
- Direct Investment
  - *Abroad*
  - *Foreign in the Country*
- Portfolio Investment
  - *Assets*
  - *Liabilities*
- Other Investments
  - *Assets*
  - *Liabilities*

IV. ERRORS AND OMISSIONS

V. TOTAL CHANGE IN RESERVES

This structure is based on the recommendations of the International Monetary Fund (IMF) from 1993. It is at variance with the traditional structure applied before and still frequently used in many textbooks dealing with macroeconomic and open-economy issues. While the actual structure considers current and financial accounts as the most important, the former version put stress on the capital account since all capital transactions were recorded there.

Current Account

Current account is divided to four basic sub-accounts, particularly trade balance, balance of services, balance of incomes, and common transfers. The best known and imaginable part of the current account is without doubt the trade balance. The trade balance is sometimes referred to as the visible balance because it covers exports and imports of goods which can be visibly seen crossing frontiers. The receipts for exports are recorded as a credit in the balance of payments, while the payment for imports is recorded as a debit. When the trade balance is in surplus this means that a country has earned more from its exports of goods than it has paid for its imports of goods.

Export and import of services are not so understandable as international trade with goods. That is why the balance of services is sometimes called the invisible balance. How the services like shipping, tourism, insurance, banking, advertising or legal aid cab be exported and imported? In practice the trading with services is not so complicated. For example, spending holidays abroad is recorded as an import of accommodation and other accompanied services form a tourist's home country point of view. Advertising campaign prepared by a Czech agency and ordered by Peugeot to boost sales of the 307 model in the Czech Republic must be recorded as an export of services from the Czech Republic to France. Hence the invisible balance shows the difference between revenue received for exports of services and payments made for imports of services.

In addition, receipts and payments of interest, dividends and profits are recorded in the current account and namely in the balance of incomes. These flows represent the rewards for investment in overseas companies, bonds and equity; while payments reflect the rewards to foreign residents for their investment in the domestic economy. It is important to remember that whereas rewards for investment are recorded in the current account the corresponding investment are kept in the financial account. The reader will note that there is an item referred to as unilateral transfers in the current account. These are payments or receipts for which there is no parallel *quid pro quo*. Examples of such transactions are migrant workers' remittances to their families back home, the payment of pensions to foreign residents, and foreign aid. Such receipts and payments represent a redistribution of income between domestic and foreign residents. Unilateral payments can be viewed as a fall in domestic income due to payments to

foreigners and so are recorded as a debit; while unilateral receipts can perceived as an increase in income due to receipts from foreigners and consequently are recorded as a credit.

Capital and Financial Accounts

The financial account records transactions concerning the movement of financial capital into and out of the country. Capital comes into the country by borrowing, sales of overseas assets, and investment in the country by foreigners. These items are referred to as capital inflows and are recorded as credit items in the balance of payments. Capital inflows are, in effect, a decrease in the country's holding of foreign assets or increase in liabilities to foreigners. The fact that capital inflows are recorded as credits in the balance of payments often presents students with difficulty. The easiest way to understand why they are pluses is to think of foreign borrowing as the export of an IOU (*I owe you)* instruments. Similarly investment by foreign residents is the export of those investments to foreigners. Conversely, capital leaves the country due to lending, buying of overseas assets, and purchases of domestic assets owned by foreign residents. These items represent capital outflows and are recorded as debits in the financial account. Capital outflows are, in effect, an increase in the country's holding of foreign assets or decrease in liabilities to foreigners. These items are recorded as debits as they represent the purchase of an IOU from foreigners, the purchase of foreign bonds or equity, and the purchase of investments in the foreign economy.

Items in the financial account are normally distinguished on direct investment, portfolio investment, and other investment. Direct investment refers to international investment in which the investor obtains a lasting interest in an enterprise in another country. More concretely, it may take the form of buying or constructing a factory in a foreign country or adding improvements to such a facility, in the form of property, plants or equipment. Portfolio investment is a category of investment instruments that are more easily traded, may be less permanent, and do not represent a controlling stake in an enterprise. These include investments via equity instruments (stocks) or debt (bonds) of a foreign enterprise which does not necessarily represent a long-term interest. Other investment represent mainly inter-country or inter-bank loans or banking accounts.

Capital account involves international asset movements of non-market activities, or represents movements of non-financial, non-produced, or intangible assets. For instance an US debt forgiveness (a debit) to a developing country, copyright and trademark payments, capital assets brought by immigrants.

Errors and Omissions

Given the huge statistical problems involved in compiling the balance of payments statistics there will usually be a discrepancy between the sum of all the items recorded in the current account, capital account, financial account and the balance of official financing (see below) which in theory should sum to zero. To ensure that the credits and debits are equal it is necessary to incorporate the errors and omissions account for any difference between the sum of credits and debits. There are several possible sources of such kind of statistical discrepancy.

One of the most important is that it is an impossible task to keep track of all the transactions between domestic and foreign residents; many of the reported statistics are based on sampling estimates derived from separate sources, so that some error is unavoidable. Another problem is that the desire to avoid taxes means that some of the transactions in the financial account are under-reported. Moreover some dishonest firms may deliberately under-invoice their exports and over-invoice their imports to artificially deflate their profits. Another problem is that of "leads and lags". The balance of payments records receipts and payments

for a transaction between domestic and foreign residents, but it can happen that a good is imported but the payment delayed. Since the import is recorded by the customs authorities and the payment by the banks, the time discrepancy may mean that the two sides of the transaction are not recorded at the same time and in the same set of figures.

Official Reserve Transactions

The summation of the current account, capital account, balance of financial account and statistical discrepancy gives the official settlements balance. The balance on this account is important because it shows the money available for adding to the country's official reserves or paying of the country's official borrowing. A central bank normally holds a stock of reserves made up of foreign currency assets - principally treasury bills and government bonds denominated in the world's leading currencies. Such reserves are held primarily to enable the central bank to purchase its currency should it wish to prevent it depreciating. Any official settlements deficits has to be covered by the authorities drawing on the reserves, or borrowing money from foreign central banks or the IMF (recorded as a plus in the accounts). If, on the other hand, there is an official settlements surplus then this can be reflected by the central bank increasing official reserves or repaying debts to the IMF or other sources overseas (a minus since money leaves the country).

The fact that reserve increases are recorded as a minus, while reserve falls are recorded as a plus in the balance of payments statistics is usually a source of confusion. It is most easily rationalized by thinking that reserves increase when the authorities have been purchasing foreign currency because the domestic currency is strong. This implies that the other items in the balance of payments are in surplus, so reserve increases have to recorded as a debit to ensure overall balance. Conversely, reserves fall when the authorities have been supporting a currency that is weak; that is, all other items sum to a deficit so reserve falls must be recorded as a plus to ensure overall balance.

1.2.3 What is Meant by the Balance of Payments Surplus or Deficit

Because we know that the balance of payments always balance it is logical to ask what economists mean when talking about balance of payments deficit or surplus. They are, in effect, saying that a subset of items in the balance of payments are in surplus or deficit.

Autonomous and Accommodating Items

Economists make a distinction between autonomous (above the line) items and accommodating (below the line) items. The former are transactions that take place independently of the balance of payments, whilst accommodating items are those transactions which finance any difference between autonomous receipts and payments. A surplus in the balance of payments is defined as a excess of autonomous receipts over autonomous payments, while a deficit is an excess of autonomous payments over autonomous receipts. The issue that then arises is which specific items in the balance of payments should be classified as autonomous and which as accommodating. Disagreement on which items qualify as autonomous leads to alternative views on what constitutes a balance of payments surplus or deficit. The difficulty arises because it is not easy to identify the motive underlying a transaction. For example, if there is a short term capital inflow in response to a higher domestic interest rate, it should be classified an autonomous item. The difficulty of items classification has led to several concepts of balance of payments disequilibrium. We shall now review some of the most important of these concepts and consider their usefulness as economic indicators.

Trade Balance and Current Account

These two accounts derive much of their importance because estimates are published on a monthly basis by most developed countries. Since the current account balance is concerned with visibles and invisibles, it is generally considered to be the more important of the two accounts. What really makes a current account surplus or deficit important is that a surplus means that the country as a whole is earning more that in it spending *vis-á-vis* the rest of the world; while a deficit means that the country is reducing its net claims on the rest of the world. Furthermore, the current account can readily be incorporated into economic analysis of an open economy. More generally, the current account is likely to quickly pick up changes in other economic variables such as changes in the real exchange rate, domestic and foreign economic growth and relative price inflation.

Basic Balance

Basic balance is the current account balance plus the net balance on long-term capital flows. The basic balance was considered to be particularly important during the 1950s and 1960s period of fixed exchange rates because it was viewed as bringing together the stable elements in the balance of payments. It was argued that any significant change in the basic balance must be a sign of a fundamental change in the direction of the balance of payments. The more volatile elements such as short-term capital flows and changes in official reserves were regarded as below the line items. Although a worsening of the basic balance is supposed to be a sign of a deteriorating economic situation, having an overall basic balance deficit is not necessarily a bad thing. For example, a country may have a current account deficit that is reinforced by a large long-term capital outflow so that the basic balance is in a large deficit. However, the capital outflow will yield future profits, dividends and interest receipts that will help to generate future surpluses on the current account.

Conversely, a surplus in the basic balance is not necessarily a good thing. A current account deficit which is more than covered by a net capital inflow so that the basic is in surplus could be open to two interpretations. It might be argued that because the country is able to borrow long run there is nothing to worry about since it regarded as viable by those foreigners who are prepare to lend it money in the long run. Another interpretation could argue that the basic balance surplus is a problem because the long-term borrowing will lead to future interests, profits and dividends payments which will worsen the current account deficit.

Official Settlements Balance

The official settlements balance focuses on the operations that the monetary authorities have to undertake to finance any imbalance in the current, capital and financial accounts. With the settlements concept, the autonomous items are all the current, capital and financial account transactions including the statistical error, while the accommodating items are those transactions that the monetary authorities have undertaken as indicated by the balance of official reserve transactions. The current, capital and financial account items are all regarded as being induced by independent households, firms, central and local government and are regarded as the autonomous items. If the sum of the current, capital and financial account is negative, the country can be regarded as being in deficit at this has to financed by the authorities drawing on their reserves of foreign currency, borrowing from foreign monetary authorities or the IMF.

The official settlements concept of a surplus or deficit is not as relevant to countries that have floating exchange rates as it is to those with fixed exchange rates. This is because if exchange rates are left to float freely the official settlements balance will tend to zero because the central authorities neither purchase nor sell their currency, and so there will be no changes

in their reserves. If the sales of a currency exceed the purchases then the currency will depreciate, and if sales are less than purchases the currency appreciates. The settlements concept is, however, very important under fixed exchange rates because it shows the amount of pressure on the authorities to devalue or revalue the currency. Under a fixed exchange rate system a country that is running an official settlements deficit will find that sales of its currency exceed purchases, and to avert a devaluation of the currency authorities have to sell reserves of foreign currency to purchase the home currency. On the other hand, under floating exchange rates and no intervention of the settlements balance automatically tends to zero as the authorities do not buy or sell the home currency since it is left to appreciate or depreciate.

1.3 Recording of Transactions in the Balance of Payments

To understand exactly why the sum of credits and debits in the balance of payments should sum to zero we present some types of economic transactions between domestic and foreign residents. There are basically five types of such transactions that can take place:

- An exchange of goods/services in return for financial asset.
- An exchange of goods/services in return for other goods/services. Such trade is known as barter or counter trade.
- An exchange of a financial item in return for a financial item.
- A transfer of goods/services with no corresponding *quid pro quo* (for example military and food aid).
- A transfer of financial assets with no corresponding *quid pro quo* (for example, migrant workers' remittances to their families abroad, a money gift).

To check your skills to record such kind of transactions properly in the balance of payments statistics solve the practical exercise number nine in the Questions section at the end of the chapter. The following section 1.3.1 that contains some examples of the transactions recording may serve the reader as a help.

1.3.1 Exercise of Transaction Recording

Outline of the Exercise

In this section we demonstrate how international transactions are recorded in the balance of payment accounts. The balance of payments accounts can be presented in ledger form with two columns. One column is used to record credit entries. The second column is used to record debit entries. In the following examples we will consider entries on the US balance of payments accounts. Since it is a US account, the values of all entries are denominated in US dollars. Note that each transaction between a US resident and a foreign resident would result in an entry on both the domestic and the foreign balance of payments accounts, but, we will look at only one of the country's accounts. Finally, we will classify entries in the balance of payments accounts into one of the two major accounts, the current account or the financial account. Any time an item in a transaction is a good or a service, that value of that item will be recorded in the current account. Any time an item in a transaction is an asset, the value of that item will be recorded in the financial account.

Consider two individuals, one a resident of the US, the other a resident of Japan. We will follow them through a series of hypothetical transactions and look at how each of these transactions would be recorded on the balance of payments. This story is very simple and represents the easiest transactions. However, the exercise will provide insight into the relationship between the current account and the financial account and give us a mechanism for interpreting trade deficits and surpluses.

Step 1

We begin by assuming that each individual wishes to purchase something in the other country. The US resident wants to buy something in Japan and thus needs Japanese currency (yen) to make the purchase. The Japanese resident wants to buy something in the US and thus needs US currency (dollars) to make the purchase. Therefore, the first step in the story must involve an exchange of currencies. So let us suppose the US resident exchanges USD 1,000 for JPY 140,000 on the foreign exchange market at a spot exchange rate of 140 JPY/USD. The transaction can be recorded by noting the following:

- The transaction involves an exchange of currency for currency. Since currency is an asset, both sides of the transaction are recorded in the financial account.
- The currency exported is USD 1,000 in US currency, hence we have made a credit entry in the financial account in the Scheme 1.2 below. What matters is not really whether the item leaves the country, but that the ownership changes from a US resident to a foreign resident.
- The currency imported into the country is the JPY 140,000. We record this as a debit entry in the financial account and value it at the current exchange value which is USD 1,000 as noted in the Scheme 1.2.

Scheme 1.2 Step 1 of the balance of payments recording example

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	0	0
Financial Account	+ 1,000 (USD currency)	- 1,000 (JPY currency)

Step 2

Next let us assume that the US resident uses his JPY 140,000 to purchase a camera from a store in Japan and then brings it back to the US. Since the transaction is between the US resident and the Japanese store owner, it is an international transaction and must be recorded in the balance of payments. The item exported in this case is the Japanese currency. We will assume that there has been no change in the exchange rate and thus the currency is still valued at USD 1,000. This is recorded as a credit entry in the financial account and labeled "JPY currency" in the Scheme 1.3. The item being imported into the US, is a camera. Since a camera is a merchandise good and is valued at JPY 140,000 = USD 1,000, the import is recorded as a debit entry on the current account in the Scheme 1.3. below.

Scheme 1.3 Step 2 of the balance of payments recording example

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	0	- 1,000 (camera)
Financial Account	+ 1,000 (JPY currency)	0

Step 3a

Next let us assume that the Japanese resident uses his USD 1,000 to spend one night in a luxury hotel in Las Vegas. The accommodation, valued at USD 1,000, is being invisibly exported out of the US and is some kind of service. Therefore, a credit entry of USD 1,000 is made in the following Scheme 1.4 in the current account and labeled "hotel". The other side of the transaction is the USD 1,000 of US currency being given to the US hotel owner by the Japanese resident. Since the

currency, worth USD 1,000, is being imported and is an asset, a USD 1,000 debit entry is made in the financial account and labeled "USD currency".

Scheme 1.4 Step 3a of the balance of payments recording example

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	+ 1,000 (hotel)	0
Financial Account	0	- 1,000 (USD currency)

Summary of Steps 1, 2, 3a

We can construct summary statistics for the entries that have occurred so far by summing the debit and credit entries in each account and eliminating double entries. In the Scheme 1.5 we show all of the transactions that have been recorded.. The sum of credits in the current account is the USD 1,000 hotel accommodation. The sum of debits in the current account is the USD 1,000 camera. In the capital account there are two credit entries of USD 1,000, one representing US currency the other representing yen currency. There are two identical entries on the debit side. Since there is a US currency debit and credit entry of equal value, this means that the net flow of currency is zero. The dollars that left the country, came back in subsequent transactions. The same is true for Japanese yen currency. When reporting the summary statistics the dollar and yen currency capital account entries would cancel leaving a net export of capital equal to zero and the net inflow of capital equal to zero as well.

Scheme 1.5 Summary of Steps 1, 2, 3a of the balance of payments recording example

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	+ 1,000 (hotel)	- 1,000 (camera)
Financial Account	+ 1,000 (USD currency)	- 1,000 (USD currency)
	+ 1,000 (JPY currency)	- 1,000 (JPY currency)

After cancellations then the summary balance of payments statistics would look as in the Scheme 1.6.

Scheme 1.6 Summary of Steps 1, 2, 3a of the balance of payments recording example (after cancellations)

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	+ 1,000 (hotel)	- 1,000 (camera)
Financial Account	0	0

The current account balance is found by summing the credit and debit entries representing exports and imports, respectively. This corresponds to the difference between exports and imports of goods and services. In this example, the current account (or trade) balance is CA = USD 1,000 – USD 1,000 = 0. This means the trade account is balanced - exports equal imports. The financial account balance is also found by summing the credit and debit entries. Since both entries are zero, the financial account balance is also zero.

Step 3b

Step 3b is meant to substitute for step 3a. In this case we imagine that the Japanese resident decided to do something other than spend one night in a luxury in Las Vegas with the previously acquired USD 1,000. Instead let us suppose that the Japanese resident decides to save his money by investing in a US savings bond. In this case, USD 1,000 is paid to the US government in return for a US savings bond certificate (an IOU) which specifies the terms of the agreement (i.e., the period of the loan, interest rate, etc.). The transaction is recorded as a credit entry of USD 1,000 representing the savings bond which is exported from the country and a debit entry of USD 1,000 of US currency which is imported back into the country.

Scheme 1.7 Step 3b of the balance of payments recording example

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	0	0
Financial Account	+ 1,000 (US savings bond)	- 1,000 (USD currency)

Summary of Steps 1, 2, 3b

We can construct summary statistics assuming that step 1, 2 and 3b have taken place. This is shown in the Scheme 1.8. The sum of credits in the current account in this case is zero since there are no exports of goods or services. The sum of debits in the current account is the USD 1,000 camera. In the capital account there are three credit entries of USD 1,000, one representing US currency the other representing yen currency and the third representing the US savings bond. There are two USD 1,000 entries on the debit side one representing US currency the other representing yen currency. Again, the dollar and yen currency financial account entries would cancel leaving only a net export of capital equal to the USD 1,000 savings bond. The net inflow of capital is equal to zero.

Scheme 1.8 Summary of Steps 1, 2, 3b of the balance of payments recording example

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	0	- 1,000 (camera)
Financial Account	+ 1,000 (USD currency) + 1,000 (JPY currency) + 1,000 (US savings bond)	- 1,000 (USD currency) - 1,000 (JPY currency)

After cancellations the summary balance of payments statistics would look as in the following scheme.

Scheme 1.9 Summary of Steps 1, 2, 3b of the balance of payments recording example (after cancellations)

	US Balance of Payments (USD)	
	credits (+)	***debits (-)***
Current Account	0	- 1,000 (camera)
Financial Account	+ 1,000 (US savings bond)	0

The current account balance is found by summing the credit and debit entries representing exports and imports, respectively. This corresponds to the difference between exports and imports of goods and services. In this example the current account (or trade) balance is CA = USD 0 – USD 1,000 = USD -1,000. This means there is a trade deficit of USD 1,000. Imports of goods and services exceeds exports of goods and services. The financial account balance is also found by summing the credit and debit entries. In this example the financial account balance is FA = USD 1,000 – USD 0 = USD +1,000. This means the financial account has a surplus of USD 1,000. Exports of assets exceeds imports of assets.

Questions and Exercises

1. *Give an example of each of the major categories in the current account.*
2. *Give an example of each of the major categories in the financial account.*
3. *Why must the sum of the current account, capital account and financial account be equal to zero? How are discrepancies accounted for?*
4. *Under what circumstances could a country simultaneously have a trade balance surplus and an official settlements balance deficit?*
5. *If a country has a current account deficit, is it a net lender or borrower to the rest of the world? Should a country necessarily be concerned if it experiences a current account deficit?*
6. *Why do the credit transactions influence supply of foreign currency and debit operations have an impact on foreign currency demand?*
7. *True or false: A credit entry in the balance of payments represents a demand for local currency whereas a debit entry represents a supply of local currency. Explain your answer.*
8. *Is it possible for a small and open transition economy to run a short-term and long-term current account surplus?*
9. *This exercise considers various types of transactions between Czech and German residents and shows how each transaction is recorded in each of the two countries' balance of payments. The exchange rate for all transactions is assumed to be 30 CZK/EUR. Fill up all blanks properly.*

Transaction 1
The Czech car manufacturer Škoda Auto exports its Octavia cars to Germany. The value of the exported cars is CZK 30 million. This sum is paid for by German importer debiting its Czech bank deposit account by a like amount.

Czech Balance of Payments		**German Balance of Payments**	
Current Account	*CZK*	*Current Account*	*EUR*
…… of goods	……	…… of goods	……
Financial Account		*Financial Account*	
Reduced Czech bank …… to UK residents	……	Reduction in Czech bank deposits ……	……...

Transaction 2
The Czech diary exports yogurts of CZK 1.5 million to Germany in exchange for new equipment installation of the same value.

Czech Balance of Payments		**German Balance of Payments**	
Current Account	*CZK*	*Current Account*	*EUR*
…… of goods	……	…… of goods	……
…… of services	……	…… of services	……

Transaction 3
A German investor decides to buy EUR 500 of Czech Treasury bills and to pay for them by debiting his German bank account and crediting the account of the Czech Treasury held in Frankfurt.

Czech Balance of Payments		**German Balance of Payments**	
Financial Account	*CZK*	*Financial Account*	*EUR*
…… to German residents	……	…….. in Czech Treasury bond ……	……
…… in German bank ……	……	…… in German bank ……	……

Transaction 4
The Czech Republic makes a gift of EUR 200,000 of goods to a German charitable organization

Czech Balance of Payments		**German Balance of Payments**	
Current Account	*CZK*	*Current Account*	*EUR*
…… of goods	……	…… of goods	……
Unilateral ……	……	Unilateral ……	……

Transaction 5
The Czech Republic pays interest, profits and dividends to German investors of CZK 90 million by debiting Czech bank accounts which are then credited to German residents bank accounts held in the Czech Republic.

Czech Balance of Payments		**German Balance of Payments**	
Current Account	*CZK*	*Current Account*	*EUR*
Interest, profits, dividends …….	……	Interest, profits, dividends …….	……
Financial Account		*Financial Account*	
…… Czech bank ……	……	…… in Czech bank ……	……...

2. FOREIGN EXCHANGE MARKET

The volume of international transactions has grown enormously over the past 50 years. Similarly, annual capital flows involving hundreds of billions of dollars occur among countries. International trade and investment of this magnitude would not be possible without the ability to buy and sell foreign currencies. Currencies must be bought and sold because none of currencies is acceptable means of payment in all countries. Investors, tourists, exporters, and importers must exchange local currency for foreign currencies, and vice versa.

The trading of currencies takes place in foreign exchange markets whose primary function is to facilitate international trade and investment. Knowledge of the operation and mechanics of these markets, therefore, is important for any fundamental understanding of international finance and international financial management. This chapter provides this information. It discusses the organization of the most important foreign exchange market - the interbank market - including the spot market, the market in which currencies are traded for immediate delivery, and the forward market, in which currencies are traded for future delivery.

2.1 Organization of the Foreign Exchange Market

If there were a single international currency, there would be no need for a foreign exchange market. As it is, in any international transaction, at least one party is dealing in a foreign currency.[1] The purpose of the foreign exchange market is to permit transfers of purchasing power denominated in one currency to another, that is, to trade one currency for another currency. For example, a Japanese exporter sells automobiles to a US dealer for dollars, and a US manufacturer sells machine tools to a Japanese company for yen. Ultimately, however, the US company will likely be interested in receiving dollars, whereas the Japanese exporter will want yen. Similarly, an American investor in Swiss frank denominated bonds must convert dollars into francs, and Swiss purchasers of US Treasury bills require dollars to complete these transactions. It would be inconvenient, to say the least, for individual buyers and sellers of foreign exchange to seek out one another, so a foreign exchange market has developed to act as an intermediary.

Trading in the Foreign Exchange Market

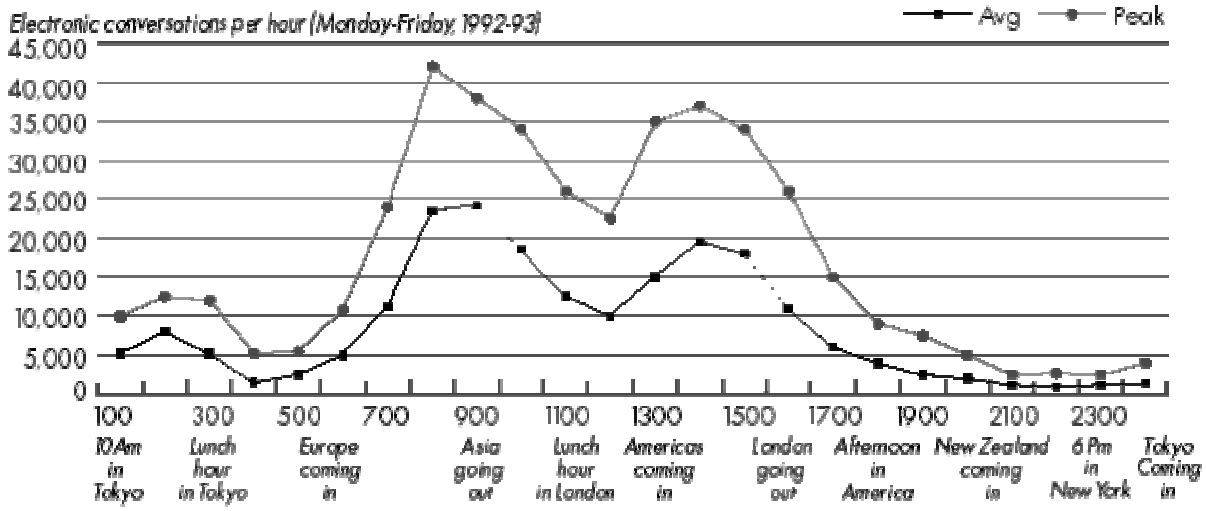
Most currency transactions are channeled through the worldwide interbank market, the wholesale market in which major banks trade with one another. This market, which accounts for 95 % of foreign exchange transactions, is normally referred to as the foreign exchange market. In this chapter we will follow this convention.[2] The wholesale market is an informal, geographically dispersed, network of about 2,000 banks and currency brokerage firms that deal with each other and with large corporations. However, the market is actually dominated by about 20 major banks. The foreign exchange market is open 24 hours a day, split over three time zones. Foreign exchange trading begins each day in Sydney, and moves around the world as the business day begins in each financial center, first to Tokyo, London and New York. Other important financial centers are Paris, Zurich, Amsterdam, Hong Kong, Frankfurt or Milan. Instead of

[1] We consider apart from a monetary union where independent countries use a common currency. We may mention the European Monetary Union in which 12 countries have the same currency and there is a prospect for further enlargement of the Union. For more about monetary integration and the European Monetary Union see the Chapter 9.

[2] The second segment covering the rest of transactions is the retail market where the small agents buy and sell foreign exchange.

and physical venue of the foreign exchange market where traders meet to deal in currencies, foreign exchange traders usually operate in a separate foreign exchange dealing room which can be found in every bank involved in foreign exchange trading. Each trader has several telephones and is surrounded by terminals displaying up-to-minute information. A trader enters a price for the USD/CHF exchange rate on her machine, and can then receive messages from anywhere in the world from people willing to meet that price. It does not matter to her whether the counterparties are sitting in London, Singapore, or, in theory, Buenos Aires. It is a hectic existence, and many trades burn out by age 35. Although foreign exchange trading takes place 24 hours a day, the trading volume varies depending on the number of potential counterparties available. Figure 2.1 indicates how participation levels in the global foreign exchange market vary by tracking electronic trading conversations per hour.

Figure 2.1 The circadian rhythms of the foreign exchange market



Note: Time (0100-2400 hours, Greenwich Mean Time)

Source: Reuters

Size of the Foreign Exchange Market

Currency markets are the largest of all financial markets in the world. A typical transaction in USD is about 10 million ("ten dollars", in dealer slang). In the last triennial survey conducted by the Bank of International Settlements (BIS) in April 2001, it was estimated that the average daily volume of trading on the foreign exchange market (spot, forward, and swap) was close to USD 1.2 trillion, a 19 % decline at current exchange rates, compared to April 1998. The daily average volume is about ten times the daily volume of international trade in goods and services and sixty times the US daily GDP. The exchange market's daily turnover is also equal to the combined reserves of all central banks of IMF member states.

Table 2.1 Average daily turnover in the foreign exchange market (USD billion)

market segment	***1989***	***1992***	***1995***	***1998***	***2001***
spot transactions	317	394	494	568	387
outright forward transactions	27	58	97	128	131
foreign currency swaps	190	324	546	734	656
errors	56	44	53	60	26
total turnover	**590**	**820**	**1 190**	**1 490**	**1 200**
total turnover in April 2001 exchange rates	570	750	990	1 400	1 200

Source: Bank for International Settlement (2002, p. 5)

In April 2001, the major markets were London, with daily trades averaging USD 637 billion, New York (USD 350 billion), Tokyo (USD 149 billion) and Singapore (USD 139 billion). Frankfurt, Zurich, Paris, and Hong Kong have a daily volume between USD 70 and 95 billion. The top three traded currencies were USD, EUR, and JPY. The USD/EUR was by far the most traded currency pair in 2001 and captured 30 % of global turnover, followed by USD/JPY with 20 % and USD/GBP with 11 %. Trading in local currencies in emerging markets captured about 4.5 % of foreign exchange activity in 2001, compared with 3.1 % in 1998. Given the international nature of the market, the majority (57 %) of all foreign exchange transactions involves cross-border counterparties. This highlights one of the main concerns in the foreign exchange market: counterparty risk. A good settlement and clearing system is clearly needed.

Settlement of Transactions

At the wholesale market, no real money changes hands. There are no messengers flying around the world with bags full of cash. All transactions are done electronically using an international clearing system. SWIFT *(Society for Worldwide Interbank Financial Telecommunication)* operates the primary clearing system for international transactions. The headquarters of SWIFT is located in Brussels, Belgium. SWIFT has global routing computers located in Brussels, Amsterdam, and Culpeper, Virginia, USA. The electronic transfer system works in a very simple way. Two banks involved in a foreign currency transaction will simply transfer bank deposits through SWIFT to settle a transaction.

The foreign accounts used to settle international payments can be held by foreign branches of the same bank, or in an account with a correspondent bank. A correspondent bank relationship is established when two banks maintain a correspondent bank account with one another. The majority of the large banks in the world have a correspondent relationship with other banks in all the major financial centers in which they do not have their own banking operation. For example, a large bank in Tokyo will have a correspondent bank account in a Malayan bank, and the Malayan bank will maintain one with the Tokyo bank. The correspondent accounts are also called *nostro accounts*, or *due from accounts*. They work like current (checking) accounts.

Box 2.1 Example of transaction settlement via SWIFT

Suppose Banco del Suquía, one of the largest Argentine private banks, sells Swiss francs to Malayan Banking Berhard, the biggest Malayan private bank, for Japanese yens. A transfer of bank deposits will settle this transaction. Banco del Suquía will turn over to Malayan Banking Berhard a CHF deposit at a bank in Switzerland, while Malayan Banking Berhard will turn over to Banco del Suquía a JPY deposit at a bank in Japan. The SWIFT messaging system will handle confirmation of trade details and payment instructions to the banks in Switzerland and Japan. Banco del Suquía will have a bank account in Japan, in which it holds JPY, and Malayan Banking Berhard will have a bank account in Switzerland, in which it holds CHF.

Basic Activities in the Foreign Exchange Market

Trades negotiated in the foreign exchange market are motivated by several factors. According to motivation they can be distinguished to the three basic activities. They are speculation, hedging and arbitrage. Speculation is the activity that leaves a currency position open to the risks of currency movements. Speculators take a position to "speculate" the direction of exchange rates. A speculator takes on a foreign exchange position on the expectation of a favorable currency rate change. That is, a speculator does not take any other position to reduce or cover the risk of this open position.

Hedging is a way to transfer part of the foreign exchange risk inherent in all transactions, such as an export or an import, which involves two currencies. That is, by contrast to speculation, hedging is the activity of covering an open position. A hedger makes a transaction in the foreign exchange market to cover the currency risk of another position.

Arbitrage refers to the process by which banks, firms or individuals attempt to make a risk-free profit by taking advantage of discrepancies among prices prevailing simultaneously in different markets. The simplest form of arbitrage in the foreign exchange market is *spatial arbitrage*, which takes advantage of the geographically dispersed nature of the market. For example, a spatial arbitrageur will attempt to buy GBP at 1.61 USD/GBP in London and sell GBP at 1.615 USD/GBP in New York. *Triangular arbitrage* takes advantage of pricing mistakes between three currencies. As we will see below, *cross-rates* are determined by triangular arbitrage. *Covered interest arbitrage* takes advantage of a misalignment of spot and forward rates, and domestic and foreign interest rates.

2.1.1 Participants in the Foreign Exchange Market

The major participants in the foreign exchange market are the large commercial banks, foreign exchange brokers in the interbank market, commercial customers and primarily multinational corporations, and central banks, which intervene in the market from time to time to smooth exchange rate fluctuations or to maintain target exchange rates.[3] Corporations enter into market particularly as hedgers, however, they might also speculate. Commercial banks and currency brokers primarily act as intermediaries, however, at different times, they might be also speculators, arbitrageurs, and hedgers. All the parties in the foreign exchange market communicate through traders and dealers.

Commercial banks account for the largest proportion of total trading volume. In 2001, the BIS reported that 87 % of all foreign exchange trading was either interbank (59 %) or between banks and financial institutions including investment houses and securities firms (28 %). Only 13 % of the trading was done between banks and corporations. The high volume of interbank trading is partially explained by the geographically dispersed nature of the market and the price discovering process.

Dealer and Market Maker

A dealer's main responsibility is to make money without compromising the reputation of his or her employer. To this end, they take positions, that is, buy and sell currencies using their employer's capital. At the end of the day, a dealer should have the book squared, which means all positions closed. Many dealers act as market makers. Therefore, they are obliged to provide bids and offers to both competitors and clients upon request. That is, any interested parties can ask market makers for a two-way quote, a *bid* and an *ask* quote. Once given, the quote is binding, that is, the market maker will buy foreign exchange at the bid quote and sell at the ask quote. The difference between the bid and the ask is the *spread*. Market makers make a profit from the bid-ask spread. Bid-ask spreads are close to 0.03 %, which are significantly lower than spreads in any other financial market with the exception of the Treasury bill market. The arithmetic average of the bid rate and the ask rate is called the *mid rate*. Market makers profit from the high volume in the foreign exchange market.[4]

[3] Central bank interventions involving buying or selling in the market is often indistinguishable from the foreign exchange dealings of commercial banks or of other private participants.

[4] Lyons (1995) analyzes in his study transactions of an interbank spot trader over a five-day period. This trader completed 267 transactions per day, that is one transaction every 67 seconds. The average daily volume traded by this trader was USD 1.2 billion. The majority of the transactions were direct deals, however, this trader tended to use brokers for larger than average transactions.

Broker

Another channel for dealing is through a broker. For example, a Bertoni Bank dealer contacts a broker offering to buy, say, JPY 500 million. The broker provides two prices: a bid and an ask, without revealing the name of the counterparty. If Bertoni Bank accepts the ask, then the broker will reveal the name of the counterparty so the electronic settlement of the transaction can be performed. If the broker cannot provide immediately a price, the broker will shop around and see if there are any sellers for this volume. Brokers make a profit from a fixed commission paid by both parties.[5] Some brokers tend to specialize in certain currencies, but they all handle major currencies such as USD, EUR, GBP, JPY, CAD, and CHF. Brokers help bank banks minimize their contracts with other traders (one call to a broker may substitute for half a dozen calls to traders at other banks). However, instead of going to a broker, Bertoni Bank can contact another bank and try to purchase directly from the other bank. This transaction is an interbank or *direct dealing* transaction. Direct dealing saves the commission charged by the broker. Direct dealing also reveals information about the position of other parties. Discovering other dealers' prices help dealers to determine the position of the market and then establish their prices. As in the stock market, the role of human brokers has declined as electronic brokers have significantly increased their share of the foreign exchange business.

Electronic Brokerage Systems

In 1992 Reuters introduced an automated, electronic brokerage system, *Reuters Dealing 2000-2*. The Reuters system allows dealers to enter their live prices. Prices appear on a screen as anonymous live quotations. Traders from around the world can hit a price from their terminals, then Reuters 2000 checks for mutual credit availability between the two counterparties and completes the transaction with ticket writing and confirmations. Therefore, trade can be executed by simply hitting two buttons. Since the introduction of Reuters 2000, other competing systems were developed. The main competitors of Reuters 2000 are *MINEX*, developed by Japanese banks and Dow Jones Telerate, and *Electronic Brokering Service (EBS)*, developed by Quotron and a consortium of US and European banks.

Electronic trading offers greater transparency compared to the traditional means of dealing described above. Spot foreign exchange markets have been traditionally opaque, given the difficulty of disseminating information in the absence of centralized exchanges. Before the introduction of electronic trading, dealers had to enter into a number of transactions just to obtain information on prices available in the market. Traders using an electronic brokerage system are able to know instantly the best price available in the market. The introduction of automated trading has also reduced the cost of trading, partly by eliminating foreign exchange brokers and partly by reducing the number of transactions traders had to engage in to obtain information on market prices. For example, small banks can now deal directly with each other instead of having to channel trades through larger ones.

The increasing appeal of electronic brokerage system shows up in the BIS triennial reports. According to the BIS, between 1995 and 1998, the share of electronic trading in spot foreign exchange market activity increased from about 20-30 % to 50 %. The share doubled in the following two years, and, in 2001, for certain market segments, such as those involving the major currencies, electronic brokers reportedly covered 90 % of the interbank market. The bid-ask spreads for the major currencies have fallen to about two to three hundredths of a US cent. While electronic trading has come to dominate the inter-dealer market, systems have made far less impact on the business of large corporate customers. This may be changing, however, as several internet-based systems aimed at this area are being rolled out. These

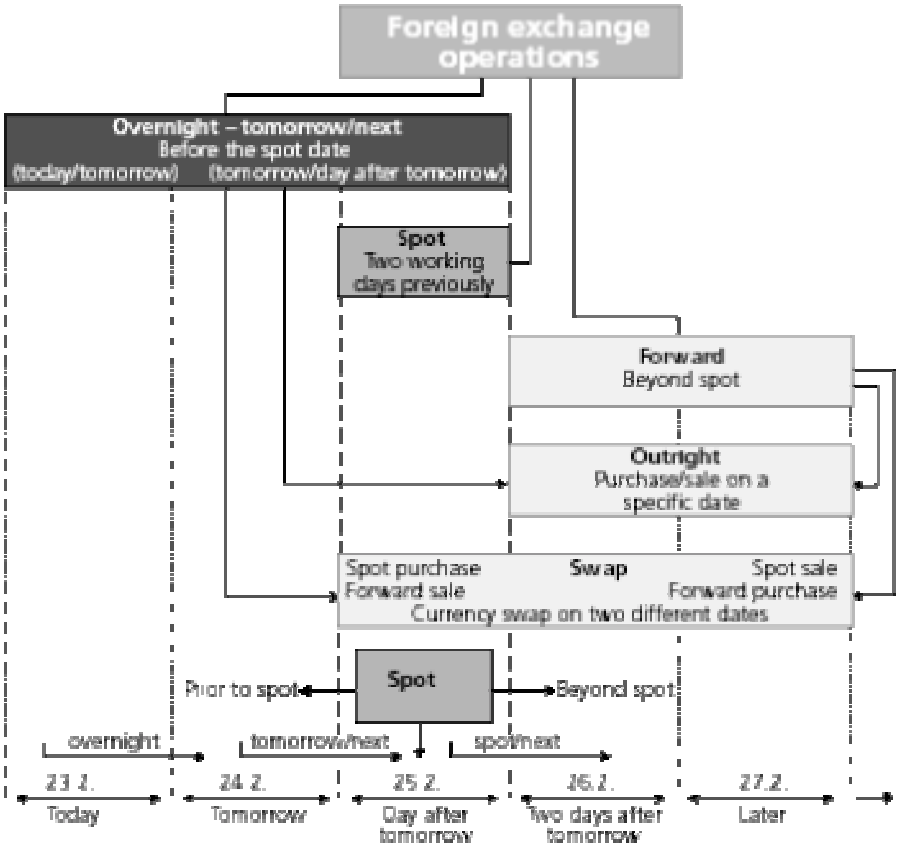
[5] Traditionally, 0.32 % in the US market, which translates into USD 312.50 on a USD 1 million trade.

systems promise more flexibility (for instance, tailored quantities and currency pairs available) and use the internet's ability to connect distant parties at low cost. The largest are two multibank systems (FXall and Atriax, which began operating in mid-2001) automating the process of customers obtaining a range of executable quotes from member banks.

2.2 The Spot Market

Foreign exchange trading operations will be explained with the aid of the Scheme 2.1. The type of operation selected depends on the date set for delivery of the currency. As a general rule, four types of operations are used: spot transactions, forward transactions, swaps and futures. Swaps and futures are discussed in the fourth chapter.

Scheme 2.1 Types of foreign exchange operations according to the delivery date



Spot Transactions

Spot transactions are the basic type of foreign exchange operation. Under spot agreements, both parties fulfill their obligations two working days after conclusion of the trade. In the old days, the two-day period between conclusion and execution of the agreement was required for completion of the accompanying paperwork. Although this no longer applies in the same way, the traditional system has been retained. In principle, spot transactions can also be concluded for execution on the next working day or even for the same day.

In 2001, the BIS estimated that the daily volume of spot contracts was USD 387 billion. Again, the majority of the spot trading is done between financial institutions. Only 19 % of the daily spot transactions involved non-financial customers. The high volume of interbank trading is partially explained by the geographically dispersed nature of the market. Dealers trade with one another to take and lay off risks, and to discover transaction prices.

Discovering other dealers' prices help dealers to determine the position of the market and then establish their prices.

Spot Quotations

Almost all major newspapers and web sites publish a daily list of exchange rates. For major currencies, up to four different foreign exchange quotes (prices) are displayed. One is the spot price. The others might include the 30-day, 90-day, and 180-day forward prices. These quotes are for trades among dealers in the interbank market. When interbank trades involve US dollars, these rates will be expressed in either *American terms* (number of US dollars per unit of foreign currency) or *European terms* (number of foreign currency units per US dollar). For example, on December 3, 2001, the American quote for the Swiss franc was 0.6044 USD/CHF (also expressed as CHF 1 = USD 0.6044), and the European quote was 1.6545 CHF/USD (or USD 1 = CHF 1.6545)

Direct vs. Indirect Quotation

Since American/European quotation is related to the interbank market and US dollar position in the quotation, the direct/indirect quote system is related to the banks' dealing with non-bank customers and to the position of a domestic currency. Direct quotation is nowadays used by banks in most countries. A direct exchange rate quote gives the home currency price of a certain quantity of the foreign currency quoted (usually 1, 100 or 1000 units). For example, the price of foreign currency is expressed in Czech korunas (CZK) in the Czech Republic and in euros in Germany. Thus, in the Czech Republic the euro might be quoted at 31.75 CZK/EUR, whereas in Germany the Czech koruna would be quoted at 3.15 EUR/100 CZK.

There are exceptions to this rule, though. Banks in Great Britain quote the value of the pound sterling (GBP) in terms of the foreign currency (for example, 1.2842 USD/GBP). This method of indirect quotation is also used in the US for domestic purposes and for the Canadian dollar (CAD). In their foreign exchange activities abroad, however, US banks adhere to the European method of direct quotation.

The discussion about exchange rate movements sometimes is confusing because some comments refer to direct quotations while other comments refer to indirect quotations. Direct quotations are the usual way prices are quoted in an economy. For example, a liter of milk is quoted in terms of units of the domestic currency. Thus, unless stated otherwise, we will use direct quotations. That is, the domestic currency will always be in the numerator while the foreign currency will always be in the denominator.

Two-way Quotation

Banks do not normally charge a commission on their currency transactions, but they profit from the spread between the buying and selling rates on both spot and forward transactions. Quotes are always given in pairs because a dealer usually does not know whether a prospective customer in the market to buy or to sell a foreign currency. The first rate is the buy, or bid, price; the second is the sell, or ask, or offer, rate. Suppose the euro is quoted as follows:

	bid	ask
PLN/EUR	4.3610	4.3890

This quote means that bank is willing to buy euros at 4.3610 Polish zlotys and sell euros at 4.3890 zlotys. If you are customer of the bank, you can expect to sell euros to the bank at the bid rate of PLN 4.3610 and buy euros from the bank at the ask rate of PLN 4.3890. The dealer will profit from the spread of PLN 0.028 (PLN 4.3890 - PLN 4.3610) between the ask and bid

rates. The middle rate is the mid-point between the bid and ask rates and is calculated as the arithmetic average of both the rates.

Note that when American terms are converted to European terms or direct quotations are converted to indirect quotations, bid and ask quotes are reversed. That is, the reciprocal of the American (direct) bid becomes the European (indirect) ask, and the reciprocal of the American (direct) ask becomes the European (indirect) bid. So, in the previous example, the direct bid of 4.3610 PLN/EUR becomes the indirect ask of 0.2293 EUR/PLN, and the direct ask of 4.3980 PLN/EUR results in indirect bid of 0.2278 EUR/PLN. Note, too, that the banks will always buy low and sell high.

The spot quotations are valid for a few seconds. If a trade is not done immediately over the phone or the computer, the quotes are likely to change over the next seconds. Because time is money, and the quotes' changes are rather minor, dealers do not quote the full rate to each other. Instead, they quote only the last two digits of the decimal. For example, the USD/JPY bid and ask quotes are 0.009002 - 0.009063. The "0.0090" is called the big figure, and it is assumed that all traders know it. The last two digits are referred as the small figure. Thus, it is clear for traders the meaning of a telephone quote of "02-63". Any dealer who is not up-to-date to know the preceding numbers will not remain in business for long.

Transaction Costs

The bid-ask spread for a currency is based on the breadth and depth of the market for that currency as well as on the currency's volatility. The spread repays traders for the costs they incur in currency dealing, including earnings a profit on the capital tied up in their business, and compensates them for the risks they bear. It is usually stated as a percentage cost of transacting in the foreign exchange market, which is computed as follows:

$$\text{Percent spread} = \frac{\text{ask rate - bid rate}}{\text{ask rate}} * 100$$

For widely traded currencies such as EUR, GBP, JPY, CHF, CAD the spread is on the order of 0.05 % - 0.08 %. Less heavily traded currencies, and currencies having greater volatility have higher spreads. In response to their higher spreads and volatility (which increases the opportunity for profit when trading for the bank's own account), the large banks have expanded their trading in emerging market currencies in Asia, Latin America, and Central and Eastern Europe. Development of the currency distribution in the foreign exchange market is given in Table 2.2.

Cross Rates

The direct/indirect quote system is related to the domestic currency. The European/American quote system involves the USD. But if a Hungarian trader calls a Hong Kong bank and asks for the JPY/CHF quote, the Hong Kong bank will quote a rate that does not fit under either quote system. The Hong Kong bank will quote a cross rate. Most currencies are quoted against the USD, so that cross-rates are calculated from USD quotations. This method of quoting currencies in dollar rates, standard practice since the 1950s, has had a serious impact on the meaning of arbitrage in foreign currency operations as it is shown in Box 2.2.

Table 2.2 Currency distribution of the foreign exchange market daily average turnover (April of a given year, in %)

currency	*1989*	*1992*	*1995*	*1998*	*2001*
USD	90.0	82.0	83.3	87.3	90.4
EUR	n.a.	n.a.	n.a.	n.a.	37.6
DEM	27.0	39.6	36.1	30.1	n.a.
FRF	2.0	3.8	7.9	5.1	n.a.
ECU and other currencies of the EMS	4.0	11.8	15.7	17.3	n.a.
JPY	27.0	23.4	24.1	20.2	22.7
GBP	15.0	13.6	9.4	11.0	13.2
CHF	10.0	8.4	7.3	7.1	6.1
CAD	1.0	3.3	3.4	3.6	4.5
AUD	2.0	2.5	2.7	3.1	4.2
SEK	n.a.	1.3	0.6	0.4	2.6
HKD	n.a.	1.1	0.9	1.3	2.3
SGD	n.a.	0.3	0.3	1.2	1.1
emerging markets currencies[1]	n.a.	0.5	0.4	3.0	5.2
others	22.0	8.5	7.9	9.3	10.1
TOTAL[2]	200.0	200.0	200.0	200.0	200.0

[1] For 1992 and 1995, South African rand; for 1998 and 2001, Brazilian real, Chilean peso, Czech koruna, Indian rupee, Korean won, Malaysian ringgit, Mexican peso, Polish zloty, Russian rouble, Saudi riyal, South African rand, Taiwan dollar and Thai baht.

[2] Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200 % instead of 100 %.

Source: Bank for International Settlement (2002, p. 9)

Box 2.2 Example of foreign exchange dealing during the inter-war period

Between the two world wars, foreign currencies were still quoted against the country's own currency. For example, a Swiss dealer enquiring about the DEM rate at a bank in Stockholm would have received a reply in SEK. If this resulted in a deal, the Swiss dealer would then have tried to sell the DEM in another country, covered by a purchase of SEK somewhere else. This resulted in a whole range of true arbitrage operations. Originally, "arbitrage" meant taking quick advantage of price differences prevailing in different markets, a process which tended to make these differences disappear quickly. Arbitrage in the earlier sense of the term is more or less impossible. Nowadays, arbitrage means exchange gains from professional interbank business, as against customer-related business.

Because most currencies are quoted against dollar, it may be necessary to work out the cross rates for currencies other than the dollar. Suppose Housemann Bank gives the following quotes:

	bid	ask
USD/JPY	0.0104	0.0108
USD/GBP	1.5670	1.5675

Housemann Bank wants to calculate the JPY/GBP cross-rates. The JPY/GBP bid rate is the price at which Housemann Bank is willing to buy GBP against JPY, that means, the number of JPY units it is willing to pay for one GBP. This transaction (buy GBP and sell JPY) is equivalent to selling JPY to buy one USD, at Housemann's bid rate of (1/0.0108) JPY/USD, and then reselling that USD to buy GBP, at Housemann's bid rate of 1.5670 USD/GBP. Formally, the transaction is as follows:

$$\text{bid}_{JPY/GBP} = \text{bid}_{JPY/USD} * \text{bid}_{USD/GBP}$$

where

$$\text{bid}_{JPY/USD} = 1 / \text{ask}_{USD/JPY}$$

therefore

$$\text{bid}_{JPY/GBP} = [(1/0.0108) * 1.5670] = 145.09 \text{ JPY/GBP}$$

That is, Housemann Bank will never set the JPY/GBP bid rate below 145.09 JPY/GBP.

Using the similar argument, Housemann Bank will set the ask JPY/GBP rate (sell GBP and buy JPY) using the following formula:

$$\text{ask}_{JPY/GBP} = \text{ask}_{JPY/USD} * \text{ask}_{USD/GBP}$$

where

$$\text{ask}_{JPY/USD} = 1 / \text{bid}_{USD/JPY}$$

therefore

$$\text{ask}_{JPY/GBP} = [(1/0.0104) * 1.5675] = 150.72 \text{ JPY/GBP}$$

Thus, Housemann Bank will always set the JPY/GBP rate at minimally 150.72 JPY/GBP.

Note that in calculating the cross rates you should always assume that you have to sell a currency at the lower (or bid) rate and buy it at the higher (or ask) rate, giving you the worst possible rate. This method of quotation is how banks make money in foreign exchange.

Currency Arbitrage

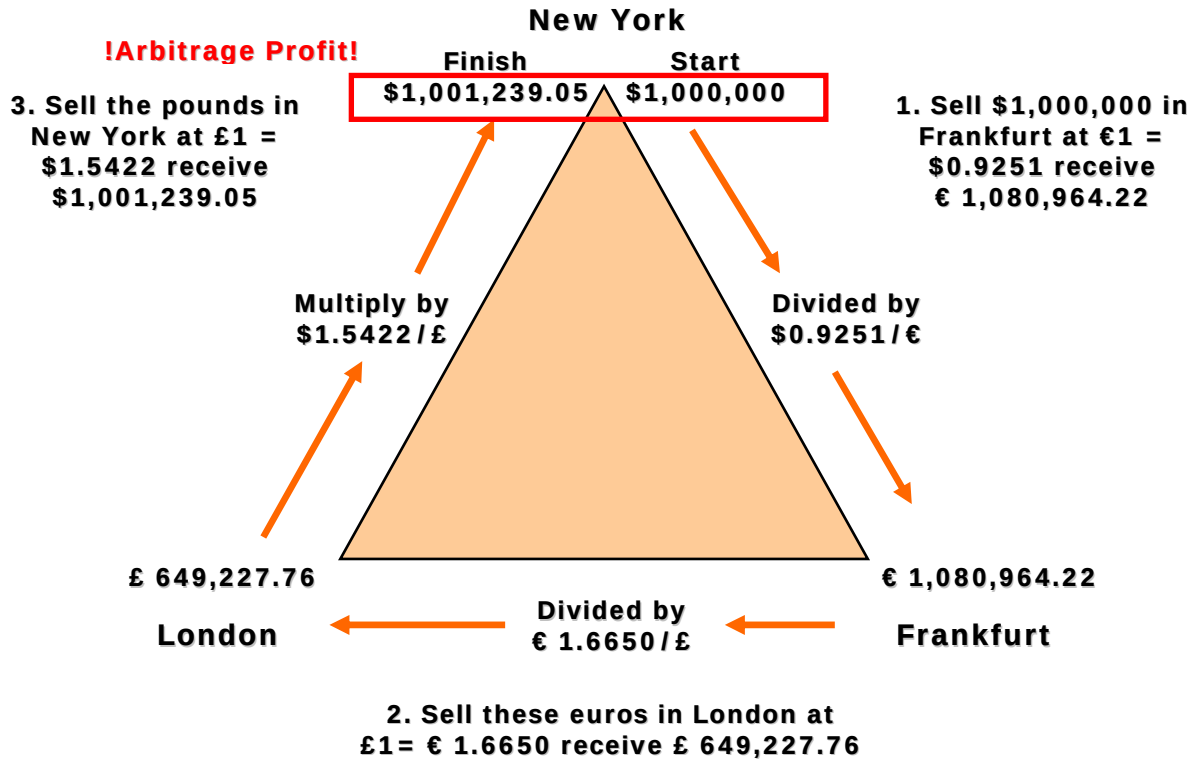
Although all currencies are quoted against dollars, in the local foreign exchange markets domestic currencies are normally quoted against other important currencies, too. For example, dealers in the Czech foreign exchange market quote the Czech koruna against EUR, Slovak koruna (SKK), GBP, CHF, and others. Similar situation can be seen in other countries. Exchange traders are continually alert to the possibility of taking advantage, through currency arbitrage transactions, of exchange rate inconsistencies in different money centers. Currency arbitrage transactions also explain why such profitable opportunities are fleeting. In the process of taking advantage of an arbitrage opportunity, the buying and selling of currencies tends to move rates in a manner that eliminates the profit opportunity in the future. When profitable arbitrage opportunities disappear, we say that the no-arbitrage condition holds. If this condition is violated on an ongoing basis, we would wind up with a money machine, as shown in the following example.

Triangular Currency Arbitrage

Suppose the exchange rates of three involved currencies (USD, EUR, GBP) quoted in three foreign exchange centers (New York, Frankfurt, London) at the same time. An astute trader see the following rates at his terminal screen and would sell dollars for euros in Frankfurt, use the euros to acquire pounds sterling in London, and sell the pounds in New York. This sequence of transaction is known as triangular currency arbitrage and it is depicted in Scheme 2.2.

		bid	ask
New York	USD/GBP	1.5422	1.5432
Frankfurt	USD/EUR	0.9245	0.9251
London	EUR/GBP	1.6640	1.6650

Scheme 2.2 Triangular currency arbitrage



Specifically, it trader begins in New York with USD 1 million, he could acquire EUR 1,080,964.22 for USD 1,000,000 in Frankfurt, sell these euros for GBP 649,227.76 in London, and resell the pounds in New York for USD 1,001,239.05. Thus, a few minutes' work would yield a profit of USD 1,239.05. Before starting arbitraging transactions a dealer must know whether the arbitrage opportunity exists or not. For this purpose traders usually use a cross rule. They compute a cross rate and when the theoretical rate differs from the rate quoted in reality, the arbitrage opportunity exists. The second step is to choose the profitable direction of the arbitrage because most profitable arbitrages result in a loss when taking the second way. Using data from preceding example, the cross rate USD/GBP is computed as follows:

$$\text{bid}_{\text{USD/GBP}} = \text{bid}_{\text{USD/EUR}} * \text{bid}_{\text{EUR/GBP}} = 0.9245 * 1.6640 = 1.5383 \text{ USD/GBP}$$

Since the computed "theoretical" cross rate is in variance with the real bid rate of 1.5422 USD/GBP, the arbitrage opportunity exists and a trader should realize all intended transactions as quickly as possible.

In the preceding example, the arbitrage transactions would tend to cause the euro to appreciate vis-á-vis the dollar in Frankfurt and to depreciate against the pound sterling in London. At the same time, sterling would tend to fall in New York against the dollar. Acting simultaneously, these currency changes will quickly eliminate profits from this set of transactions, thereby enforcing the no-arbitrage condition. Otherwise, a money machine would exist, opening up the prospect of unlimited risk-free profits. Such profits would quickly attract other traders, whose combined buying and selling activities would bring exchange rates back into equilibrium expressed by the cross rule almost instantaneously.

2.3 The Forward Market

Forward currency markets have a very old history. In the medieval European fairs, traders routinely wrote forward currency contracts. A forward transaction is simple. It is similar to a spot transaction, but the settlement date is deferred much further into the future. No cash moves on either side until that settlement date. That is, the forward currency market involves contracting today for the future purchase or sale of foreign currency. Forward currency transactions are indicated on dealing room screens for intervals of one, two, three and twelve month settlements. Most bankers today quote rates up to ten years forward for the most traded currencies, however the most common are contracts for 30-day, 60-day, 90-day, 180-day, or 360-day delivery. Banks will also tailor forward contracts for odd maturities to meet their customers' needs. Therefore, if one customer wants a 63-day forward contract a bank will offer it. Nonstandard contracts, however, can be more expensive. Forward transactions are used for a variety of purposes. They are most commonly used to hedge trading risks and the risks arising from financial transactions.

Forward Transactions

Forward operations cannot be set apart from cannot be set apart from currency swaps, which are a mixture of spot and forward transactions. To prevent confusion between these two types of forward transaction, traders use the term "outright" transactions for simple forward rate transactions that are not part of a swap operation. An outright forward transaction is an uncovered speculative position in a currency, even though it might be part of a currency hedge to the other side of the transaction. A foreign exchange swap transaction helps to reduce the exposure in a forward trade.

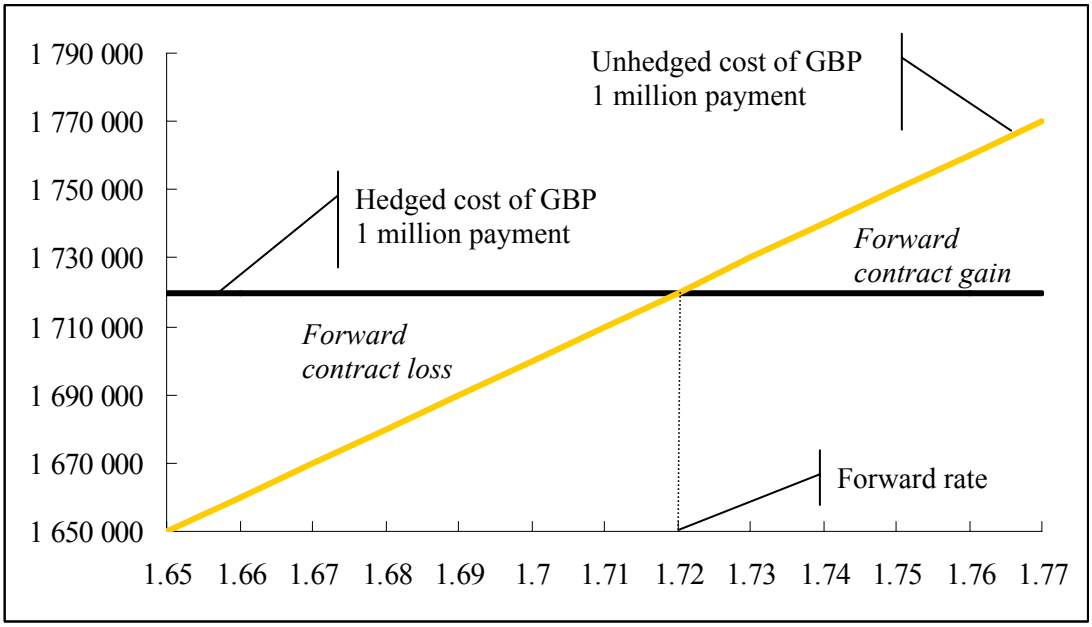
In 2001, the daily volume of outright forward contracts amounted to USD 131 billion, or 11 % of the total volume of the foreign exchange market. Unlike the spot market, 35 % of transactions involved a non-financial customer. These non-financial customers typically use forward contracts to manage currency risk. The majority of the forward contracts had very short maturities: 51 % of the contracts had a maturity of up to 7 days. Less than 4 % of the forward contracts had a maturity of over one year.

Typical Forward Transaction

In a typical forward transaction, for example a US company buys Scotch Whisky from Scotland with payment of GBP 1 million due in 90 days. Thus, the importer is "short" pounds, that is, it owes pounds for future delivery. Suppose the spot exchange rate is 1.7100 USD/GBP. During the next 90 days, however, the pound might rise against the dollar, raising the dollar cost of the whisky. The importer can guard against this exchange risk by immediately negotiating a 90-day forward contract with a bank at a price of, say, 1.7200 USD/GBP. According to forward contract, in 90 days the bank will give the importer GBP 1 million (which it will pay for its whisky order), and the importer will give the bank USD 1.72 million, which is the dollar equivalent of GBP 1 million at the forward rate 1.7200 USD/GBP. In technical terms, the importer is offsetting a short position in pounds by going "long" in the forward market, that is, by buying pounds for future delivery. In effect, use of the forward contract enables the importer to convert a short underlying position in pounds to a zero net exposed position, with the forward contract receipt of GBP 1 million canceling out the account payable of GBP 1 million and leaving the importer with a net liability of USD 1.72 million.

Figure 2.2 plots the importer's dollar cost of the whisky shipment with and without the use of forward contract (vertical axis). It also shows the gain or loss on the forward contract as a function of the contracted forward price and the spot price of the pound when the contract matures (horizontal axis).

Figure 2.2 Hedging a future payment with a forward contract



Gains and Losses from Forward Transaction

The gains and losses from long and short forward positions are related to the difference between the contracted forward price and the spot price of underlying currency at the time the contract matures. In the case of the whisky order, the importer is committed to buy pounds at USD 1.72 apiece. If the spot rate in 90 days is less than USD 1.72, the importer will suffer an implicit loss on the forward contract because it is buying pounds for more than the prevailing value in the spot market. However, if the spot rate in 90 days exceeds USD 1.72, the importer will enjoy an implicit profit because the contract obliges the bank to sell pounds at price less then current value.

Forward Quotations

Forward rates are not quoted directly. Professional traders work with the difference between spot and forward prices expressed in decimals. In other words, they work on the basis of premiums and discounts. Another term for this difference is the "swap rate", although as the term suggests, it strictly applies to swap operations. The term "outright" is used to show that the quote refers to the forward rate rather than the swap rate, i.e. the corresponding premium or discount. The table below shows how spot rates and swap rates are shown on the screens. Swap rates are always expressed as decimal places in the currency concerned in relation to the USD. Suppose that the rates are as follows:

	USD/GBP		USD/EUR		CHF/USD	
Spot	1.6604	1.6614	1.1575	1.1590	1.3820	1.3830
1 month	14	12	17	18	43	42
2 months	24	22	33	35	87	85
3 months	33	30	50	53	130	127
6 months	53	50	109	112	249	246
12 months	66	62	230	235	481	476

The forward rate is obtained by adding the premium to the spot rate or deducting the discount. Even when swap rates are quoted without a plus or minus sign, traders would see immediately that the GBP is trading at a discount to the USD. How? The answer is easy.

Regardless of whether they are looking at spot or forward operations, the bid price (purchase price) is always lower than the asked price (selling price). Moreover, the spread has to be wider for forward rates than for spot rates. Where the currency is trading at a discount, the figures on the bid side are higher than those on the ask side, and vice versa when the currency is trading at a premium. See the following examples for the illustration and better understanding.

USD/GBP	spot rate	1.6604	1.6614
	3-months swap	-33	-30
	forward rate	1.6571	1.6584

The spread is 10 pips[6] between the spot rates but 13 pips between the spot rate. The pound is likely to depreciate in three months and it is trading with discount against the dollar. Similarly, a 3-months forward rate of 50/53 for the EUR against the USD indicates a premium.

USD/EUR	spot rate	1.1575	1.1590
	3-months swap	50	53
	forward rate	1.1625	1.1643

The spread is 15 pips between the spot rates but 18 pips between the forward rates.

The forward premium or discount on a foreign currency may also be expressed as an annualized percentage deviation from the spot rate using the following formula:

$$\text{Forward premium/discount} = \frac{\text{forward rate - spot rate}}{\text{spot rate}} * \frac{360}{\text{number of contract days}}$$

Thus, the 3-months forward pound from the preceding examples is selling at a 0,72 % annualized discount. Accordingly, the 90-day annualized premium for the euro is 1,83 %.

Exchange Risk

Spreads in the forward market are a function of both the breadth of the market (volume of transactions) in a given currency and the risks associated with forward contracts. The risks, in turn, are based on the variability of future spot rates. Even if the spot market is stable, there is no guarantee that future rates will remain invariant. This uncertainty will be reflected in the forward market. Furthermore, because beliefs about distant exchange rates are typically less secure than those about nearer-term rates, uncertainty will increase with lengthening maturities of forward contracts. Dealers will quote wider spreads on longer-term forward contracts to compensate themselves for the risk of being unable to reverse their positions profitably. Moreover, the greater unpredictability of future spot rates may reduce the number of market participants. The increased thinness will further widen the bid-ask spread because if magnifies the dealer's risk in taking even a temporary position in the forward market.

[6] Pips represent the above mentioned last decimal places in an exchange rate quote. For the sake of simplicity, market makers use the last two decimal places only, as the other places generally do not change unless there are substantial movements in the market.

Questions and Exercises

1. *What risks confront dealers in the foreign exchange market? How can they cope with those risks?*
2. *Suppose a currency increases in volatility. What is likely to happen to its bid-ask spread? Why?*
3. *Who are the principal users of the forward market? What are their motives?*
4. *How does a company pay for the foreign exchange services of a commercial bank?*
5. *What are the short and long foreign exchange positions?*
6. *Explain the basic difference between spot and forward transaction.*
7. *Is the small figure the same as pips? If not, explain the difference.*
8. *Why did the daily turnover in the foreign exchange market fall during the period 1998-2001?*
9. *Is the 6-months USD from the example (page 29) trading against CHF with forward premium or discount?*
10. *A WestLB trader observes the following quotes. Can the trader make a profit?*

JPY/USD	*123.39*	*123.49*
CHF/USD	*1.7445*	*1.7787*
JPY/CHF	*61.545*	*61.507*

11. *A client wishes to buy CHF for EUR 15 million. What is the rate?*

EUR/USD	*1.1383*	*1.1388*
USD/CHF	*1.4150*	*1.4160*

3. EXCHANGE RATES AND THEIR DETERMINATION

This chapter describes basic types of exchange rates and presents simple models of exchange rate determination. These models apply arbitrage arguments in different contexts to obtain equilibrium relations that determine exchange rates. In this chapter, we define arbitrage as the act of simultaneously buying and selling (or borrowing and lending) the same or equivalent assets or commodities for the purpose of locking in a sure, known profit. This known profit is independent of expectations, uncertain events or states of nature. Financial markets are said to be in equilibrium if no arbitrage opportunities exist.

The equilibrium relations derived in this chapter are called parity relations. Because of the underlying arbitrage argument, parity relations establish situations where economic agents are indifferent between two financial alternatives. Thus, parity relations provide an "equilibrium" value or a "benchmark". These benchmarks are very useful. For example, based on a parity benchmark, investors or policy makers can analyze if a foreign currency is overvalued or undervalued.

3.1 Basic Types of Exchange Rates

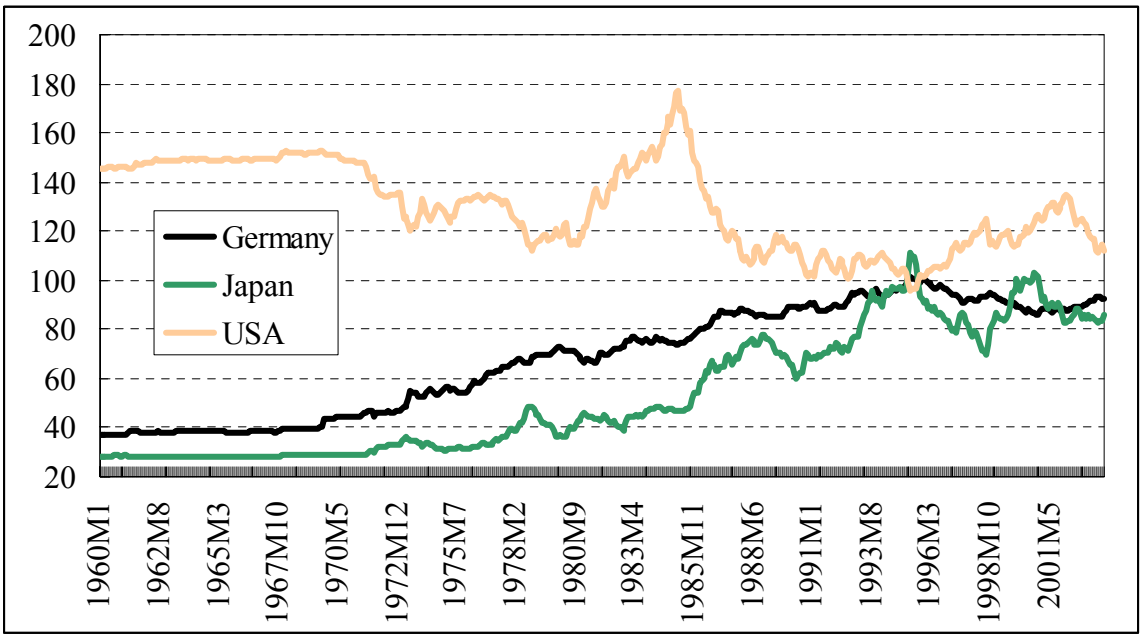
Nominal Bilateral Exchange Rate

Although we defined and used exchange rates in the previous chapter, it is only one of four possible types of exchange rates. It was the most common, the nominal bilateral exchange rate. This exchange rate is the rate at which you can swap the money of one country for that of another. Bilateral exchange rates are particularly important for foreign trade. For instance, if a German firm sells goods to Canada, then the bilateral euro-Canadian dollar rate is what matters. However, over any particular period, a currency will move in different directions against other currencies. For instance, the euro may rise against the US dollar and the pound but depreciate against the Canadian dollar and the Japanese yen. Has the euro appreciated or depreciated? To answer this question, we need a measure of how the currency has done on average against all countries rather than just one other currency.

Nominal Effective Exchange Rate

The effective exchange rate is a measure of this average performance. However, certain currencies are more important than others. For instance, in assessing the performance of the euro, it is more important to know how the euro has done against the US dollar rather than the Thai baht because Europe trades far more with the United States than with Thailand. We can measure a currency's performance by calculating the effective exchange rate on a trade-weighted basis. If a country's trade (the sum of imports and exports) with the United States is ten times more than with Thailand, the dollar will get a weight 10 times higher. Therefore, if the euro appreciates against the dollar by 1 % but depreciates by 1 % against the Thai baht, while remaining unchanged against all other currencies, the effective exchange rate will rise. The weights reflect trade in a particular year, and as trading patterns change over time, these weights are revised. Because the effective exchange rate represents an average across a variety of currencies, it has no natural units (what do you get when you cross a dollar with a euro, a yen, and British sterling?). Therefore, we always express the effective exchange rate in an index form, so that in one particular year (usually the year that the trade weights refer to), it has a value of 100. Therefore, if the effective exchange rate appreciates on average by 10 % from that date, the index will be 110, whereas if it depreciates, it will be 90.

Figure 3.1 Nominal effective exchange rates 1960-2003



Source: International Financial Statistics

Figure 3.1 plots the effective exchange rate since 1960 for the United States, Japan, and Germany. The main trend is a substantial appreciation of the yen, except for the last five years, when the Japanese recession has caused the yen to depreciate. The US and German currencies have, on the whole, been less volatile. But between 1979 and 1986, the dollar appreciated by 50 % before declining back to its original level. As it is evident from the figure the index level of 100 is associated with 1995 data.

Throughout this book we have distinguished between real and nominal variables. Real variables reflect quantities or volume measures, while nominal variables reflect money values. The nominal exchange rate is the rate at which you can swap two different currencies - this is the exchange rate we have just been discussing. If at an airport you wish to swap Australian for Canadian dollars, you can do so at the nominal exchange rate. The real exchange rate tells you how expensive commodities are in different countries and reflects the competitiveness of a country's exports. Consider the following simple example. A cup of coffee costs JPY 200 in Japan and USD 1 in the US, and the nominal exchange rate is JPY 100 to USD 1. Imagine that you are about to leave New Orleans for a holiday in Tokyo and want to buy a cup of coffee. In New Orleans coffee costs USD 1, but how many cups of coffee could you buy if you converted your money into yen and went to Japan? The current nominal exchange rate means that USD 1 can be swapped for JPY 100, but in Tokyo JPY 100 only buys half a cup of coffee. The real exchange rate is therefore 0.5 - one American cup of coffee costs the equivalent of 50 % of a cup of coffee in Japan. While the nominal exchange rate tells you how much you can swap money for, the real exchange rate tells you what you can purchase for your money. A New Yorker returning from a vacation who says that Tokyo was expensive is essentially saying that the US dollar - yen real exchange rate is low. In other words, goods in the United States are cheap by comparison. However, the real exchange rate is not just about one commodity; it reflects all the goods you purchase in a foreign country. It is about the overall price level in a country and not just the cost of a cup of coffee. The real exchange rate is the ratio of what you can buy in one country compared to what your money buys elsewhere. We define it as:

Real Exchange Rate

real exchange rate = nominal exchange rate * overseas price level / domestic price level;

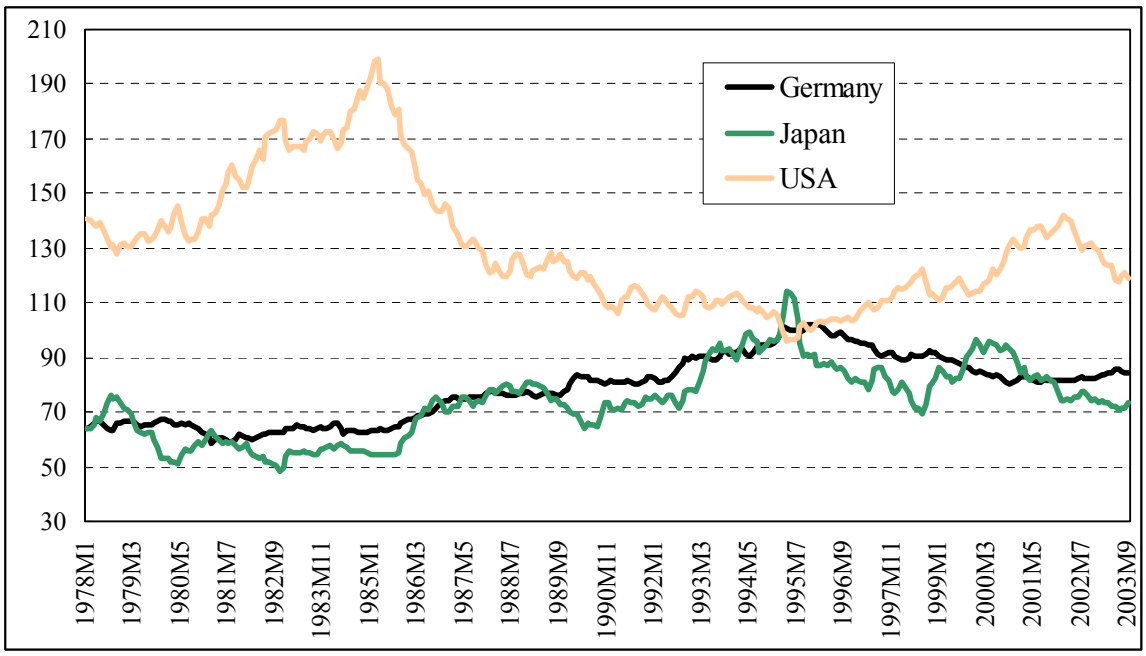
or in symbols as:

$$R = E * \frac{P^*}{P}$$

Development of Real Exchange Rate

As with the nominal exchange rate, we can express the real exchange rate either in a bilateral form or as an effective index. Figure 3.2 shows the behavior of the effective real exchange rate for the dollar, the German mark (euro lately), and the yen. Comparing Figures 3.1 and 3.2, we can see how closely fluctuations in the real exchange rate track movements in the nominal exchange rate. Explaining this similarity in the behavior of real and nominal exchange rates is a substantial challenge for exchange rate economists. One argument says that real and nominal exchange rates behave so similarly because the real exchange rate is just the nominal exchange rate multiplied by the ratio of overseas to domestic prices. Every minute of the day, the nominal exchange rate changes, often substantially, because of currency transactions - quoted exchange rates are volatile. However, prices in a country change only slowly. If prices hardly change, then movements in the nominal exchange rate will generate fluctuations in real exchange rates. A different argument is that because the factors that determine the real exchange rate are volatile, changes in the real exchange rate drive the substantial volatility in the nominal exchange rate.

Figure 3.2 Real effective exchange rates 1978-2003



Source: International Financial Statistics

3.2 A Simple Model of the Determination of the Spot Exchange Rate

A simple model of exchange rate determination was widely used prior to the adoption of floating exchange rates in 1973 and development of modern exchange rate determination theories. Despite its shortcomings the model serves as a useful introduction to exchange rate

determination and is a prerequisite for the understanding of the rest of this chapter. The basic tenet of the model is that the exchange rate (the price) of a currency can be analyzed like any other price by a resort to the tools of supply and demand. The exchange rate of the pound will be determined by the intersection of the supply and demand for pounds in the foreign exchange market.

Demand for Foreign Exchange

The demand for pounds in the foreign exchange market is a derived demand; that is, the pounds are not demanded because they have an intrinsic value in themselves, but rather because of what they can buy. Table 3.1 depicts the derivation of a hypothetical demand for pounds schedule with respect to changes in the exchange rate. As the pound appreciates against the dollar, that is moves from USD 1.40 towards USD 2, the price of the UK export to US importers increases and this leads to a lower quantity of exports and with it a reduced demand for pounds. Hence, the demand curve for pounds which is depicted in Figure 3.3 slopes down from left to right.

Table 3.1 The derivation of the demand for pounds

price of UK export good in GBP	*exchange rate USD/GBP*	*price of UK export good in USD*	*quantity of UK exports*	*demand for pounds*
10	1.40	14	1 400	14 000
10	1.50	15	1 200	12 000
10	1.60	16	1 000	10 000
10	1.70	17	900	9 000
10	1.80	18	800	8 000
10	1.90	19	700	7 000
10	2.00	20	600	6 000

Factors Influencing Demand

In this simple model, the demand for pounds depends upon the demand for UK exports. Any factor which results in an increase in the demand for UK exports, that is fourth column in Table 3.1, will result in an increased demand for pounds and a shift to the right of the demand curve for pounds. Among the factors that result in such a rightward shift are a rise in US income, a change in US tastes in favor of UK goods, and a rise in the price of US goods. All these factors result in an increased demand for UK exports and hence pounds, and a shift of the demand schedule to right.

Table 3.2 The derivation of the supply of pounds

price of US export good in USD	*exchange rate USD/GBP*	*price of US export good in GBP*	*quantity of US exports*	*supply of pounds*
20	1.40	14.29	600	8 571
20	1.50	13.33	700	9 333
20	1.60	12.50	800	10 000
20	1.70	11.76	950	11 176
20	1.80	11.11	1 100	12 222
20	1.90	10.53	1 225	12 895
20	2.00	10.00	1 350	13 500

Supply of Foreign Exchange

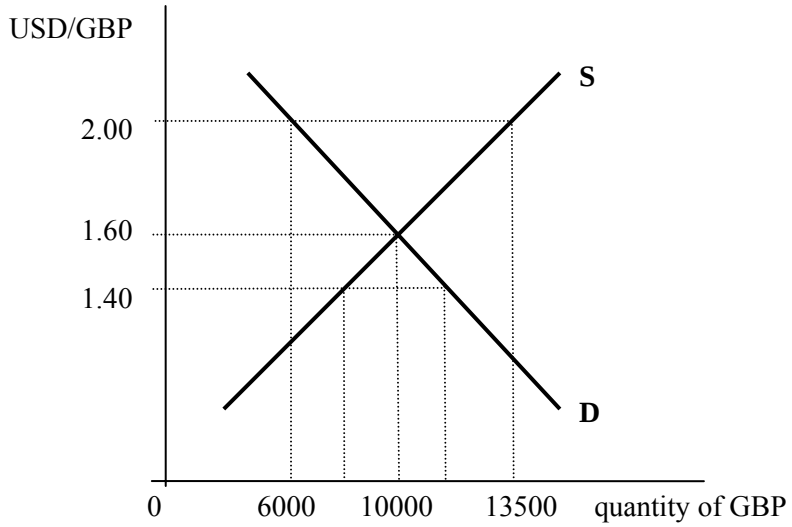
The supply of pounds is in essence the UK demand for dollars, and Table 3.2 sets out the derivation of a hypothetical supply of pounds schedule. As the pound appreciates the cost of US exports becomes cheaper for UK residents. As such, they demand more US exports and this results in an increased demand for dollars which are purchased by increasing the amount of pounds supplied in the foreign exchange market. This yields an upward sloping supply of pounds curve as one can see in Figure 3.3.

Factors Influencing Supply

The supply of pounds schedule depends upon the UK demand for US exports. The position of the schedule will shift to the right if there is an increase in UK income, a change in British tastes in favor of US goods, or a rise in UK prices. All these factors imply an increased supply of pounds. Since the exchange market merely brings together those people that wish to buy a currency (which represents the demand) with those that wish to sell the currency (which represents the supply), then the spot exchange rate can most easily be thought of as being determined by the interaction of the supply and demand for the currency.

Figure 3.3 depicts the determination of the USD/GBP exchange rate in the context of such a supply and demand framework in the foreign exchange market. The equilibrium exchange rate is determined by the intersection of the supply and demand curves to yield a USD/GBP exchange of 1.60 USD/GBP. When the exchange rate is left to float freely, it is determined by the interaction of the supply and demand curves.

Figure 3.3 Determination of the USD/GBP exchange rate



3.3 Exchange Rates in the Short-Term

The foreign exchange market is a “fast-moving” market. It can react immediately to any news which could potentially impact exchange rates. Changes in expectations are almost immediately noticeable on the foreign exchange market in the form of rate realignments. This section describes the factors that have an immediate impact on foreign exchange market movements. It starts by explaining the concept of interest rate parity.

Interest Rate Parity

In the short run, the primary factor affecting the value of exchange rates is demand for currencies from investment decisions. These capital flows are oriented to expected returns. The returns on investments abroad depend on the relevant foreign interest rate and the expected movement in the value of the currency. These expected exchange rate movements can be derived from the difference between the relevant interest rates of the two currencies. For example, if the foreign interest rate is higher than the domestic rate, and no exchange rate movement is anticipated, capital will flow abroad because interest rates are higher there. When capital starts to flow out, a shortage would occur in the domestic capital markets and interest rates would start to rise. On the foreign exchange markets, the demand for foreign currency and the supply of domestic currency would rise, which is why any expectation that there will be no change cannot be correct. The concept of interest rate parity gives us one answer to this apparent contradiction. This says that the domestic interest rate equals the foreign interest rate, plus the expected movement in the exchange rate. The interest differential reflects the anticipated future development of the exchange rate. More specifically, in an efficient market with no transaction costs, the interest differential should be (approximately) equal to the forward differential.

That is, world interest rates are linked together through the currency markets. The interest rate parity embodies this relation: If the interest rate on a foreign currency is different from that of the domestic currency, the forward exchange rate will have to trade away from the spot exchange rate by a sufficient amount to make profitable arbitrage impossible.

Covered Interest Arbitrage

Covered interest arbitrage is the activity that forces the interest rate parity to hold. Assume that there are no barriers to the free movement of capital across international borders; that means there is perfect capital mobility. Consider the following notation:

i_d	…	domestic nominal risk-free interest rate for T days.
i_f	…	foreign nominal risk-free interest rate for T days.
S_t	…	time t spot rate (direct quote: units of domestic currency per unit of foreign currency).
$F_{t,T}$	…	forward rate for delivery at date T, at time t.

Now, consider the following strategy:

1. At time t, we borrow from a foreign bank one unit of a foreign currency for T days. At time T, we should pay the foreign bank $(1+i_f * T/360)$ units of the foreign currency.
2. At time t, we exchange the unit of foreign currency for domestic currency, that is, we get S_t units of domestic currency.
3. At time t, we deposit S_t units of domestic currency in a domestic bank for T days. At time T, we should receive from the domestic bank $S_t (1+i_d * T/360)$ units of domestic currency.
4. At time t, we also enter into a T-day forward contract to buy foreign (sell domestic currency) at a pre-specified exchange rate ($F_{t,T}$).
5. At time T, we exchange the $S_t (1+i_d)$ units of domestic currency for foreign currency, using the pre-specified exchange rate in the forward contract. That is, we get $S_t (1+i_d * T/360) / F_{t,T}$ units of foreign currency.

This strategy will not be profitable if at time T, what we receive in units of foreign currency is equal to what we have to pay in units of foreign currency. Since arbitrageurs will be searching for an opportunity to make a risk- free profit, arbitrage will ensure that

$$S_t (1 + i_d * T/360) / F_{t,T} = (1 + i_f * T/360).$$

Solving for $F_{t,T}$, we obtain the following expression for the interest rate parity:

$$F_{t,T} = S_t (1 + i_d * T/360) / (1 + i_f * T/360)$$

If the forward rate is not set according to last equation arbitrage will occur. If a bank trader quotes a forward rate that violates this equation other traders, immediately, will take advantage of the arbitrage opportunity. How can a bank make sure that other banks do not profit from its forward quotes? The answer is very easy: use previous equation to price forward foreign currency contracts.

Interest Rate Parity at Work

For better understanding of the interest rate parity and covered interest arbitrage issue we illustrate them on concrete example and figures. Assume that a Japanese company wants to calculate the one-year forward JPY/USD rate. With spot yen selling at 150 JPY/USD and the JPY annual interest rate equal to 7 % and the USD annual interest rate equal to 9 %, the one-year forward rate should be 147.03 JPY/USD, using the continuous formulation. For the linear approximation:

$$F_{t,1Y} = S_t (1 + i_d) / (1 + i_f) = 150 \text{ JPY/USD} * (1 + 0.07) / (1 + 0.09) = 147.25 \text{ JPY/USD}$$

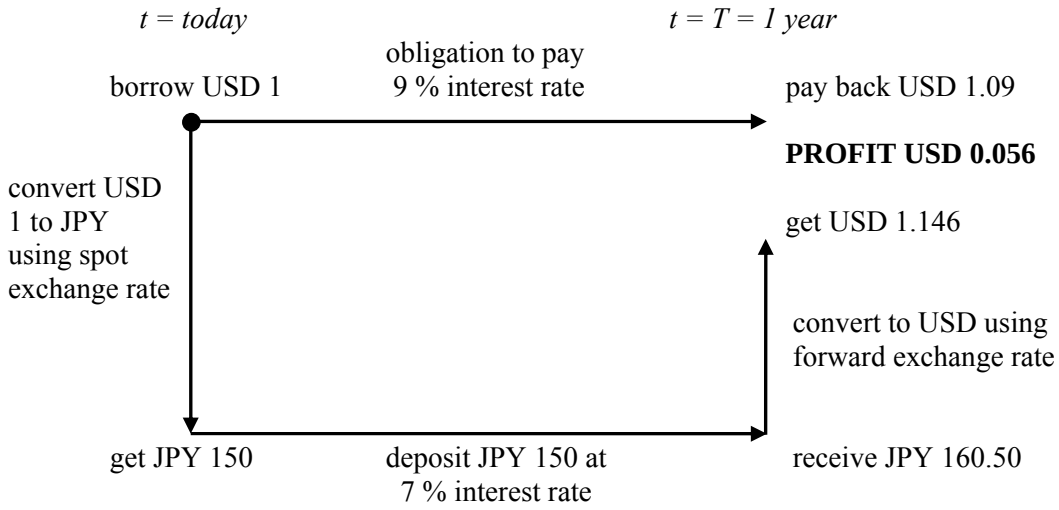
Now, suppose instead that the interest rate parity is violated. For example, Bertoni Bank is quoting the forward rate for delivery in one-year at time t at $F_{t,1Y}$ = 140 JPY/USD. Arbitrageurs will use covered interest arbitrage to take advantage of this situation. The forward rate, $F_{t,1Y}$ = 140 JPY/USD, is less than what the arbitrage-free valuation should be. That is, the forward JPY is currently overvalued. Therefore, an arbitrageur would like to take advantage of this overvaluation of the forward JPY.

A covered interest arbitrage strategy works as follows:

1. Borrow one USD from a US bank for one year.
2. Exchange the USD for JPY 150
3. Deposit the JPY 150 in a Japanese bank for one year.
4. Sell JPY (buy USD) forward to Bertoni Bank at the forward rate 140 JPY/USD.

For example, a US arbitrageur borrows USD 1 for a year (and he will pay back USD 1.09 at the end of the year). Then, he takes this USD 1 and buys JPY 150. He lends the JPY 150 for a year at the 7 % rate. Simultaneously, he buys a one year forward contract at the exchange rate of 140 JPY/USD. At the end of the year, he will sell JPY for USD at the 140 JPY/USD exchange rate. At the end of the year, the loan will pay his USD 1.146 (which equals to 160.5/140). The whole set of transactions is graphically showed in the following Scheme 3.1

Scheme 3.1 Covered interest arbitrage



After one year, the US arbitrageur will realize a risk-free profit of USD 0.056 per USD borrowed. Arbitrageurs will take advantage of this situation. Bertoni Bank will soon realize its forward quote is not correct, because it will receive an unusually large number of "sell JPY forward" orders. Arbitrage of this type will ensure that $F_{t,1Y}$ = 147.25 JPY/USD.

We can manipulate the above written expression of the interest rate parity to obtain a simpler formulation. By dividing both sides by S_t, we obtain:

$$F_{t,T} / S_t = (1 + i_d * T/360) / (1 + i_f * T/360).$$

Now, we subtract 1 from both sides, giving us:

$$(F_{t,T} - S_t) / S_t = (i_d - i_f)* T/360 / (1 + i_f * T/360).$$

The above expression can be approximated by

$$(F_{t,T} - S_t) / S_t \approx (i_d - i_f)* T/360$$

The approximation is quite accurate when i_d and i_f are small. The above equation gives us a linear approximation.

$$F_{t,T} \approx S_t [1 + (i_d - i_f)* T/360]$$

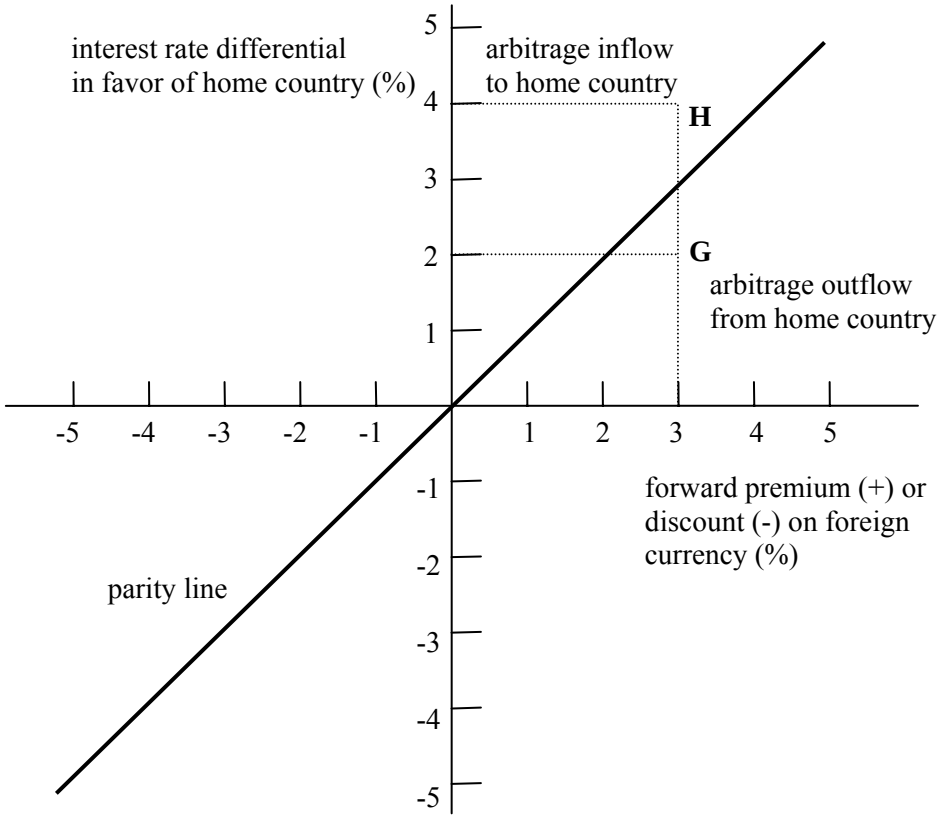
Mutual Relationship between exchange and interest rates

The relationship between the spot and forward rates and interest rates in a free market can be shown graphically, as in Figure 3.4. Plotted on the vertical axis is the interest differential in favor of the home country. The horizontal axis plots the percentage forward discount (negative) or premium (positive) on the foreign currency relative to the home currency. The interest parity line joins those points for which the forward exchange rate is in equilibrium with the interest differential. For example, if the interest differential in favor of the foreign country is 2 %, the currency of that country must be selling at 2 % forward discount for equilibrium to exist. Point G indicates a situation of disequilibrium. Here, the interest differential is 2 %, whereas the

forward premium on the foreign currency is 3 %. The transfer of funds abroad with exchange risks covered will yield an additional 1 % annually. At point H, the forward premium remains at 3 %, but the interest differential increases to 4 %. Now reversing the flow of funds becomes profitable. The 4 % higher interest rate more then makes up for 3 % loss on the forward exchange transaction, leading to a 1 % increase in the interest yield.

In reality, the interest parity line is a band because transaction costs, arising from the spread on spot and forward contracts and brokerage fees on security purchases and sales, cause effective yields to be lower than nominal yields. For example, if transaction costs are 0.75 %, a covered yield differential of only 0.5 % will not be sufficient to induce a flow of funds. For interest arbitrage to occur, the covered differential must exceed the transaction costs involved.

Figure 3.4 Interest rate parity theory



Interest Rate Parity with Bid-Ask Spreads

As we already know, exchange rates are prices quoted with bid-ask spreads. Let $S_{bid,t}$ and $S_{ask,t}$ be the bid and asked domestic spot rates. Let $F_{bid,t,T}$ and $F_{ask,t,T}$ be the bid and asked domestic forward rates for delivery at date T. In addition, interest rates are also quoted with bid-ask spreads. Let $i_{bid,d}$, $i_{bid,f}$, and $i_{ask,d}$, $i_{ask,f}$ be the bid and asked relevant interest rates on Eurodeposits denominated in the domestic and the foreign currency. Now, consider a trader in the interbank market. The trader will have to buy or borrow at the other party's asked price while he will sell or lend at the bid price. If the trader wishes to do arbitrage, there are two roads to take: borrow domestic currency or borrow foreign currency.

Consider the following covered arbitrage strategy:

1. Borrow one unit of domestic currency for T days.
2. Exchange the domestic currency for foreign currency.

3. Deposit the foreign currency for T days.
4. Sell the foreign currency forward.

That is, the trader can borrow 1 unit of domestic currency at time t=0, and repay $1+i_{ask,d}$ at time T. Using the borrowed domestic currency, he can buy spot foreign currency at $S_{ask,t}$ and sell the currency forward for T days at $F_{bid,t,T}$, while depositing the foreign currency at the foreign interest rate, $i_{bid,f}$. This strategy would yield, in terms of domestic currency:

$$(1/S_{ask,t}) (1+i_{bid,f} * T/360) * F_{bid,t,T}$$

For this strategy to yield no profit, it must be the case that it produces an amount less than or equal to $(1+i_{ask,d})$ units of domestic currency that must be repaid on the domestic loan. That is,

$$(1/S_{ask,t}) (1+i_{bid,f} * T/360) * F_{bid,t,T} \leq (1+i_{ask,d} * T/360).$$

Solving for $F_{bid,t,T}$,

$$F_{bid,t,T} \leq S_{ask,t} [(1+i_{ask,d} * T/360) / (1+i_{bid,f} * T/360)] = U_{bid}.$$

Now, consider the following covered arbitrage strategy:

1. Borrow one unit of foreign currency for T days.
2. Exchange the foreign currency for domestic currency.
3. Deposit the domestic currency for T days.
4. Buy the foreign currency forward.

That is, the trader can borrow 1 unit of foreign currency at time t=0, and repay $1+i_{ask,f}$. Following a similar procedure as the one detailed above, we get:

$$F_{ask,t,T} \geq S_{bid,t} [(1+i_{bid,d} * T/360) / (1+i_{ask,f} * T/360)] = L_{ask}.$$

The above inequalities provide bounds (together with the condition $F_{ask,t,T} > F_{bid,t,T}$) for the bid and ask forward rates.

Suppose we have the following information:

S_t	USD/GBP	1.6540	1.6580
i_{USD}		$7^{1/4}$	$7^{1/2}$
i_{GBP}		$8^{1/8}$	$8^{3/8}$
$F_{t,\,1Y}$	USD/GBP	1.6400	1.6450

Given these prices, we should check if there is an arbitrage possibility. If a trader borrows one USD, he will repay USD 1.075. If he buys GBP, deposit them at the GBP rate, and sells GBP forward, he will obtain

$$(1/1.6580) * (1+0.08125) * 1.6400 = \text{USD } 1.06951$$

Therefore, there is no arbitrage opportunity. For each USD the trader borrows, he would lose USD 0.00549. On the other hand, if the trader borrows one GBP, he will repay GBP 1.08375. If he buys USD, deposit them at the USD rate, and buy GBP forward, he will obtain

$$1.6540 * (1+0.07250) * (1/1.6450) = \text{GBP } 1.07837$$

Again, there is no arbitrage opportunity. That is, the bid-ask forward quote is consistent with no arbitrage. That is due to the fact that the forward quote is within the IRP bounds. To chech this point, we calculate the bounds for the forward rate, U_{bid} and L_{ask}.

$$U_{bid} = S_{ask,t} [(1+i_{ask,d}) / (1+i_{bid,f})] = 1.6580 * [1.0750 / 1.08125] = 1.6524 \text{ USD/GBP} \geq F_{bid,t,T}$$

$$L_{ask} = S_{bid,t} [(1+i_{bid,d}) / (1+i_{ask,f})] = 1.6540 * [1.0725 / 1.08375] = 1.6368 \text{ USD/GBP} \leq F_{aks,t,T}$$

Evidence for Interest Rate Parity

Overall, the evidence for the interest rate parity is very strong. There are, however, small deviations. What is the meaning of these small deviations? Are arbitrageurs not taking advantages of these departures from the IRP? The answer to the last question is no. There are several variables that explain departures from the theory. The first reason behind departures from the parity is the time lag that exists between the observation of an arbitrage opportunity and the actual execution of the covered arbitrage strategy. Once an arbitrageur decides to take advantage of the IRP not holding, the deviation has disappeared. That is, the prices we use to test the IRP are misleading. Arbitrageurs were not able to use those quoted prices. The second reason, and the most obvious, for observing deviations from the IRP is transaction costs. Arbitrageurs cannot take advantage of violations of the IRP that are smaller than the transaction costs they need to pay to carry out a covered arbitrage strategy. That is, the existence of transaction costs would allow deviations from theory equal or smaller than these transaction costs.

Suppose that the parity deviations are such that after taking into account transaction costs, there still are arbitrage opportunities. There is another factor that can explain the lack of covered arbitrage strategies: political risk. The forward contract locks in the rate at which foreign currency should be converted into domestic currency. There is, however, no guarantee that the funds will be allowed to leave the country. A political or economic crisis in the foreign market might trigger capital controls. If governments can effectively control the flows of capital into and from the country, then one of the steps of the covered arbitrage strategy cannot take place. Moreover, the threat of capital controls or default on foreign debt can be enough deterrent for arbitrageurs not to act. In general, any potential impediment to the free flow of capital in and out from a country will make deviation from the IRP very likely. Another variable to consider is differential taxation. Taxes tend to be different in different countries. Thus, the same arbitrage opportunity in one country will result in a different return to residents of a different country. Note that in this section we have considered pretax returns. Differential taxes can substantially affect a covered arbitrage strategy.

3.4 Exchange Rates in the Long-Term

In the long run, we would expect that equivalent goods in different countries should cost the same in a free market after conversion into a particular currency. The profit opportunities from cross-border trade should only be temporary. If prices and exchange rates are flexible, they should change in such a way that these opportunities for arbitrage gradually disappear. The price alignment process starts when goods which are cheaper abroad are imported. This will cause demand for foreign currencies. The increase in demand for a foreign currency will result in its costing more. This in turn will cause a gradual increase in the price of the foreign goods, and this process will continue until the goods cost the same in both countries and the exchange rate evens out the purchasing power of both currencies. Different prices for market goods are thus a driving force behind exchange rate movements.

Law of One Price

In a world where goods and capital move freely, it would therefore be natural to expect the prices of similar products to be in proportion to the exchange rate. This equilibrium will emerge across a long period, during which all prices have been aligned. We say that the "law of one price" applies, which means all goods and services cost the same after conversion.

In the absence of substantial trade barriers and other transaction costs, the law of one price should hold, otherwise, arbitrage opportunities will arise. The law of one price, however, should only apply to international traded goods. It is unthinkable to use the law of one price to price land or haircuts. Land may be much cheaper in Australia than in the US, but this will not induce US residents to import land from Australia.

3.4.1 Elementary Versions of Purchasing Power Parity

Purchasing Power Parity

Purchasing power parity (PPP) was first stated in a rigorous manner by the Swedish economist Gustav Cassel in 1918. He used it as the basis for recommending a new set of official exchange rates at the end of World War I that would allow for the resumption of normal trade relations.[1] Since then, PPP has been widely used by central banks as a guide to establishing new par values for their currencies when the old ones were clearly in disequilibrium. From a management standpoint, purchasing power parity is often used to forecast future exchange rates, for purposes ranging from deciding on the currency denomination of long-term debt issues to determining in which countries to build plants.

Absolute Version of PPP

In its absolute version, purchasing power parity states that price levels should be equal worldwide when expressed in a common currency. In other words, a unit of home currency should have the same purchasing power around the world. This theory is just an application of the law of one price to national price levels rather then to individual prices. (That is, it rests on the assumption that free trade will equalize the price of nay good in all countries; otherwise, arbitrage opportunities would exist.) Thus, the absolute version of the PPP postulates that the equilibrium exchange rates between two currencies is simply the ratio of the two countries' generate price levels expressed in local currencies.

$$S_t = \frac{\text{domestic price level}}{\text{foreign price level}} = \frac{P_d}{P_f}$$

For absolute PPP to work, we need arbitrage based on aggregate price levels. For example, suppose aggregate prices in the US increase and the exchange rate remains constant. Traders will take advantage of this disequilibrium situation: US exports will decrease and US imports will increase. A new equilibrium will be reached when the USD depreciates to compensate for the increase in the US aggregate price level. We can think of PPP as providing an exchange rate at which there is no "arbitrage" of the consumption basket. Thus, according to absolute PPP, the ratio of aggregate price levels delivers an equilibrium (fair valuation) exchange rate. This equilibrium ratio is also called PPP parity.

Suppose that the cost of the consumption basket of an average consumer in Switzerland is CHF 1241.2 and in the US is USD 755.3. Then, according to PPP, the equilibrium exchange rate is:

[1] Cassel, G. Abnormal Deviations in International Exchange. *Economic Journal,* December 1918, pp. 413-415.

$$S_t = P_{USA} / P_{SUI} = \text{USD } 755.3 / \text{CHF } 1241.2 = 0.6085 \text{ USD/CHF}.$$

Suppose that the actual exchange rate is $S_t = 0.6420$ USD/CHF. Then, according to PPP, we can consider the CHF to be overvalued (with respect to "PPP fair valuation") by: (0.6420 / 0.6085 - 1) = 0.05505 (or 5.51 %).

The British world famous magazine "The Economist" uses a special international product to measure purchasing power parity, the Big Mac. It is prepared using the same recipe and ingredients by McDonald's in more than 80 countries. Global Big Mac purchasing power parity would be reached if Big Macs were to cost the same in all countries after conversion using actual exchange rates. Comparing the purchasing power of the USD with other currencies gives the following picture shown in the Figure 3.5.

Figure 3.5 Big Mac purchasing power parity in 2003

	Big Mac prices		Implied PPP* of the dollar	Actual dollar exchange rate April 22nd	Under (-)/over (+) valuation against the dollar, %
	in local currency	in dollars			
United States†	$2.71	2.71			
Argentina	Peso 4.10	1.43	1.51	2.88	-47
Australia	A$3.00	1.86	1.11	1.61	-31
Brazil	*Real* 4.55	1.48	1.68	3.07	-45
Britain	£1.99	3.14	1.36‡	1.58‡	+16
Canada	C$3.20	2.21	1.18	1.45	-18
Chile	Peso 1,400	1.95	517	716	-28
China	Yuan 9.90	1.20	3.65	8.28	-56
Czech Rep	Koruna 56.57	1.96	20.9	28.9	-28
Denmark	DKr27.75	4.10	10.2	6.78	+51
Egypt	Pound 8.00	1.35	2.95	5.92	-50
Euro area	€2.71	2.97	1.00§	1.10§	+10
Hong Kong	HK$11.50	1.47	4.24	7.80	-46
Hungary	Forint 490	2.18	181	224	-19
Indonesia	Rupiah 16,100	1.84	5,941	8,740	-32
Japan	¥262	2.19	96.7	120	-19
Malaysia	M$5.04	1.33	1.86	3.80	-51
Mexico	Peso 23.00	2.18	8.49	10.53	-19
New Zealand	NZ$3.95	2.21	1.46	1.78	-18
Peru	New Sol 7.90	2.29	2.92	3.46	-16
Philippines	Peso 65.00	1.24	24.0	52.5	-54
Poland	Zloty 6.30	1.62	2.32	3.89	-40
Russia	Rouble 41.00	1.32	15.1	31.1	-51
Singapore	S$3.30	1.86	1.22	1.78	-31
South Africa	Rand 13.95	1.84	5.15	7.56	-32
South Korea	Won 3,300	2.71	1,218	1,220	nil
Sweden	SKr30.00	3.60	11.1	8.34	+33
Switzerland	SFr6.30	4.59	2.32	1.37	+69
Taiwan	NT$70.00	2.01	25.8	34.8	-26
Thailand	Baht 59.00	1.38	21.8	42.7	-49
Turkey	Lira 3,750,000	2.34	1,383,764	1,600,500	-14
Venezuela	Bolivar 3,700	2.32	1,365	1,598	-15

Source: The Economist

The price of a Big Mac in local currency in April 2003 is divided by its price in the US (USD 2.71 as an average of prices in New York, Chicago, San Francisco and Atlanta). This

figure shows the purchasing power of the local currency against the dollar. For example, on April 25, 2003 a Big Mac cost PLN 6.30 in Poland. If the exchange rate had been 2.32 PLN/USD, the Big Mac would have cost the same in both countries. However, the actual exchange rate on the day in question was 3.89 PLN/USD. In other words, the Polish Big Mac cost USD 1.62, that means USD 1.09 less than if it had been bought in the US, implying that the PLN was 40 % undervalued against the dollar.

Reasons for Variations in Absolute PPP

A comparison of prices shows clearly that exchange rates and purchasing power parity can differ widely. There are a number of reasons for this "infringement" of purchasing power parity. Transport costs can affect the price of the final products. This means that the same products should be priced differently in different places: they should be cheapest close to where they are produced. But trade barriers too, such as customs duties or import restrictions, can lead to a gap between domestic and foreign prices. In addition, the cross-border mobility of the working population is low. This can result in permanent wage differentials. Finally, a variety of goods and services which help make up the final price are not marketable. For example, you can buy real estate abroad, but you cannot use it as a retail site in your own country.

Box 3.1 Important qualifications of the PPP

(1) The PPP approach focuses solely on trade as a determinant of the supply and demand of foreign exchange. It completely ignores financial transactions.
(2) An important implicit assumption behind the absolute version of PPP is the absence of transportation costs, tariffs, or other obstruction to the free flow of trade.
(3) PPP is unlikely to hold if the prices of individual goods comprising the consumption basket are not the same across countries. In addition, there is also the problem of internationally traded, or traded, goods and non-traded goods, and the relative weight of those goods in the price index.
(4) PPP implicitly assumes that prices and exchange rates are flexible.

Relative Version of PPP

As it is mentioned in Box 3.1, one important criticism of absolute PPP is that it assumes the absence of transportation costs, tariffs, or other obstruction to the free flow of trade. The relative version of the PPP theory takes into account this criticism. Relative PPP, which is use more commonly now, is a weaker version of PPP. This version states that the rate of change in the prices of products should be similar when measured in a common currency, as long as transportation costs and trade barriers are unchanged. In other words, the exchange rate between the home currency and any foreign currency will adjust to reflect changes in the price levels of the two countries. For example, if inflation is 5 % in the US and 1 % in Japan, then the dollar value of the Japanese yen must rise by about 4 % to equalize the dollar price of goods in the two countries. The following formula reflects the relationship between relative inflation rates and changes in exchange rate according to the relative version of PPP:

$$s_{t,T} = (S_{t+T} / S_t) - 1 = [(1 + p_d) / (1 + p_f)] - 1$$

where

$p_d = (P_{d,t+T} / P_{d,t}) - 1$ … domestic inflation rate from t to t+T
$p_f = (P_{f,t+T} / P_{f,t}) - 1$ … foreign inflation rate from t to t+T

We can use a linear approximation to the above formula; similar to the approximation we use for the IRP formula. This linear approximation works very well for small inflation rates. Under this approximate formula, the percent change in exchange rates is proportional to the change in the ratio of the two countries' price levels. That is,

$$s_{t,T} \approx p_d - p_f$$

In effect, PPP says that currencies with high rates of inflation should devalue relative to currencies with lower rates of inflation. Since this relationship is not expected to hold at every time interval, it is usually rewritten in terms of conditional expectations:

$$E_t[s_{t,T}] \approx E_t[p_d] - E_t[p_f]$$

As long as there are no changes in transportation costs, obstructions to trade, or the ratio of traded goods to non-traded goods, the change in the exchange rate should be roughly proportional to the change in the ratio of the two countries' general price levels. That is, under the relative version of PPP, the real exchange rate, R_t, remains constant. Relative PPP is often used to classify a currency as overvalued or undervalued. The term overvalued or undervalued insinuates that exchange rates are not supposed to be what the free-market rates are. For example, suppose that, over time, domestic inflation is higher than foreign inflation. According to PPP, we should expect a depreciation of the domestic currency. If the domestic currency depreciates less than what PPP suggests, it is said that the domestic currency is overvalued. Similarly, if the domestic currency depreciates by more than what PPP suggests, the domestic currency is undervalued.

Generalized Version of PPP

One of the major problems with PPP theory as we have so far examined it, is that it is suggested to hold for all types of goods. However, a more generalized version of PPP that provides some useful insights makes a distinction between traded and non-traded goods. Traded goods are susceptible to the rigorous of international competition be they exports or import-competing industries, such as most manufactured goods; whereas non-traded goods are those that cannot be traded internationally at a profit. Remind here, as examples, certain services such as a haircut or restaurant food and houses or land.

The point of the traded/non-traded goods distinction is that on a priori grounds PPP is more likely to hold for traded than non-traded goods. This is because the price of traded goods will tend to be kept in line by international competition, while the price of non-traded goods will be determined predominately by domestic supply and demand considerations. For example, if a car costs GBP 15,000 in the UK and USD 30,000 in the US, arbitrage will tend to keep the dollar-pound rate at 2 USD/GBP. However, if the price of the house costs GBP 150,000 in the UK and USD 80,000 in the US, and the exchange rate is 2 USD/GBP, arbitrage forces do not easily come into play (unless fed-up UK citizens emigrate to America pushing up US house prices and lowering UK prices). Similarly, if a haircut costs GBP 10 in the UK but USD 10 in the US and the exchange rate is 2 USD/GBP, only insane people in the UK will travel to the US for a haircut knowing that they can save GBP 5 because of the time and transport costs involved.

We now consider the importance of the tradeables/non-tadeables distinction for PPP when aggregate price-indices made up of both tradeables and non-tradeables are considered. In the first instance we assume that PPP holds for tradable goods, which means that:

$$P_{d,TR} = S * P_{f,TR}$$

where S is the directly quoted exchange rate, $P_{d,TR}$ is the price of traded goods in the domestic country measured in terms of the domestic currency, and $P_{f,TR}$ is the price of traded goods in the foreign country measured in terms of the foreign currency.

The average price index P_d for the domestic economy is made up of a weighted average of the prices of both tradeable ($P_{d,TR}$) and non-tradeable goods ($P_{d,NT}$), priced in the domestic currency. Likewise, the foreign aggregate price index P_f is made up of a weighted average of the prices of both tradeables ($P_{f,TR}$) and non-tradeables ($P_{f,NT}$), priced in the foreign currency. This gives:

$$P_d = \alpha * P_{d,NT} + (1 - \alpha) * P_{d,\,TR}$$

where α is the proportion of non-traded goods in the domestic price index.

$$P_f = \beta * P_{f,NT} + (1 - \beta) * P_{f,\,TR}$$

where β is the proportion of non-traded goods in the foreign price index. Dividing the first equation by the second we obtain:

$$P_d / P_f = [\alpha * P_{d,NT} + (1 - \alpha) * P_{d,\,TR}] / [\beta * P_{f,NT} + (1 - \beta) * P_{f,\,TR}]$$

If we divide the numerator by $P_{d,TR}$ and the denominator by $S * P_{f,TR}$ which because of assumption of PPP for tradeable goods are equivalent expressions we obtain:

$$P_d / P_f = S * [\alpha * (P_{d,NT} / P_{d,\,TR}) + (1 - \alpha)] / [\beta * (P_{f,NT} / P_{f,\,TR}) + (1 - \beta)]$$

which can be rearranged to give the solution for the exchange rate as:

$$S = (P_d / P_f) * [\alpha * (P_{d,NT} / P_{d,\,TR}) + (1 - \alpha)] / [\beta * (P_{f,NT} / P_{f,\,TR}) + (1 - \beta)]$$

Relations between Prices of Traded and Non-traded Goods

The last equation is an important modification to our simple PPP equation because PPP no longer necessarily holds in terms of aggregate price indices due to the multiplicative term on the right-hand side. Furthermore, the equation suggests that the relative price of non-traded goods to traded goods will influence the exchange rate. If the domestic price of non-tradeables rise relative to tradeables, this will lead to an appreciation of the home currency. The reason is that PPP holds only in terms of tradeable goods. A rise in the relative price of non-tradeables while keeping the aggregate price index constant, implies that the price of tradeables must have fallen which will then induce an appreciation of the home currency (to maintain PPP for tradeable goods) even though the aggragate price index has remained unchanged. Conversely, the price of tradeables while holding the aggregate price index constant leads to a depreciation of the domestic currency to maintain PPP for tradeable goods.

Evidence on PPP

There is overwhelming evidence against PPP in the short-run. In the short run, financial prices, like exchange rates, adjust very quickly to disequilibrium situations. Long-term contracts and implicit price agreements make many prices in the economy sticky, in the short- and medium-run. Thus, since prices, trade, and commodity arbitrage respond sluggishly, PPP is not expected to be a good model. In the long-run, however, there is evidence supporting PPP.

Over time, countries with persistent positive inflation rate differentials tend to see a depreciation of their domestic currencies. Similarly, over time, countries with persistent negative inflation rate differentials tend to see an appreciation of their domestic currencies. Over the years, relative price levels matter.

Figure 3.6 USD/GBP exchange rate: Does PPP hold?

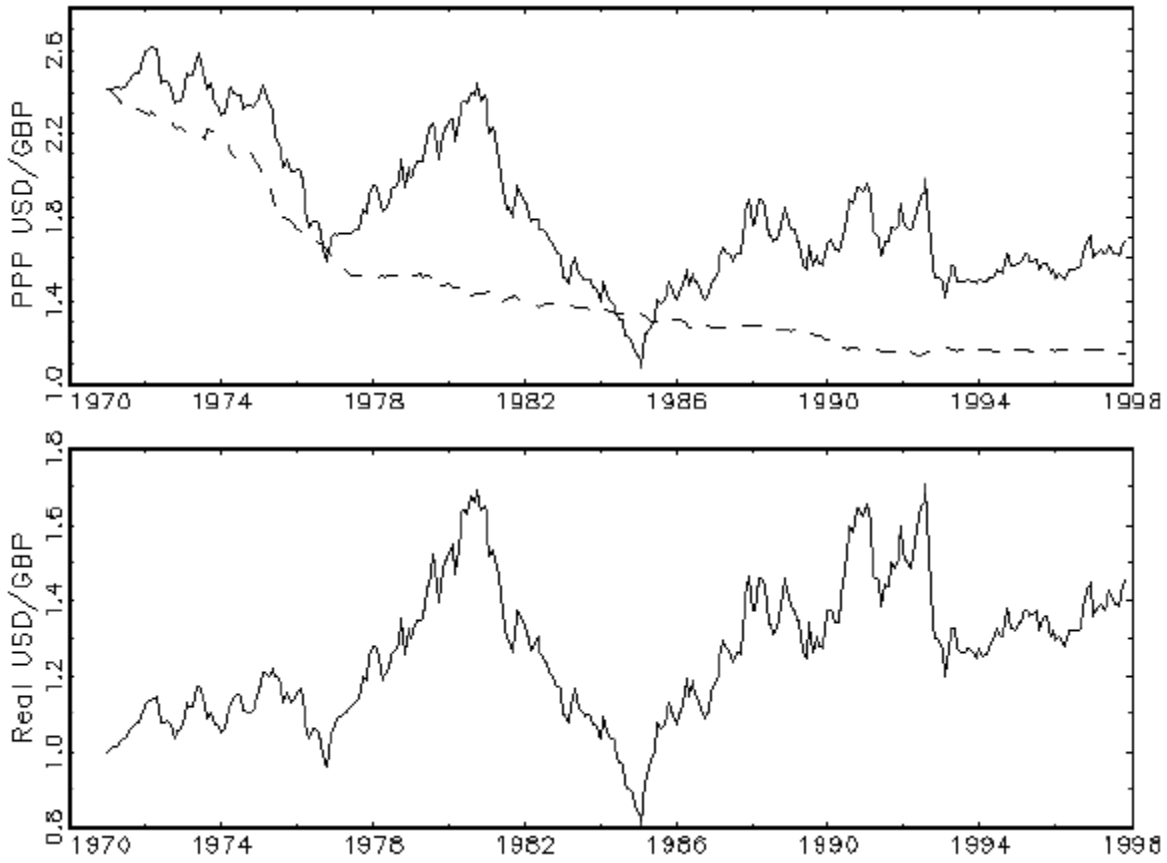


Figure 3.6 plots on the first panel the USD/GBP monthly nominal exchange calculated using PPP (dotted line) and the actual monthly USD/GBP exchange rate (full line). Figure 3.6 plots on the second panel the USD/GBP real exchange rate. The actual USD/GBP exchange rate is almost always above the PPP USD/GBP exchange rate. The PPP USD/GBP exchange rate is also much more stable than actual USD/GBP exchange rates. Thus, PPP gives a very poor model to explain the short-term USD/GBP movements. Both exchange rates, however, share the same trend: the GBP is losing value against the USD throughout the sample period. PPP points toward a devaluation of the GBP against the USD.

Now, consider the second panel in Figure 3.6, where we plot the real USD/GBP exchange rate. According to the panel, the UK has been, on average, less competitive than the US. Recall that PPP implies that the average real exchange rate is constant and equal to one. Substantial deviations from the mean are observed throughout the sample. The real USD/GBP shows some evidence of mean reversion. Thus, when the real USD/GBP is above the mean, it tends to revert, that is, the USD tends to appreciate. The reversal of trends is clearly observed when the GBP shows a 60 % real appreciation. On the other hand, when the real USD/GBP exchange rate is below the mean, the USD tends to depreciate. This panel suggests that PPP has power to predict long-run movements in the USD/GBP exchange rate. The experience with other currencies is similar to the experience with the USD/GBP exchange rate displayed above.

3.4.2 Explaining the Poor Performance of PPP Theory

There have been many explanations put forward to explain the general failure of exchange rates to adjust in line with that suggested by PPP theory and we proceed to look at some of the most important.

Statistical Problems

We have seen that PPP theory is based upon the concept of comparing identical baskets of goods in two economies. An important problem facing researchers in this respect is that different countries usually attach different weightings to various categories of goods and services when constructing their price indices. This means that it is difficult to compare "like with like" when testing for PPP. This factor is probably very significant when testing for PPP between developed and developing economies which have vastly different consumption patterns. People in developing countries usually spend a high proportion of their income on basics such as food and clothing, while these take up a much smaller proportion of people's expenditure in developed economies.

Trade Costs and Trade Impediments

Some empirical studies that note that PPP holds better when the countries concerned are geographically close and trade linkages are high, can partly be explained by transport costs and the existence of other trade impediments such as tariffs. If a bundle of goods costs GBP 100 in the UK and USD 200 in the US, PPP would suggest an exchange rate of 2 USD/GBP. If transport costs are GBP 20 then the exchange rate could lie anywhere between 1.6 USD/GBP and 2.4 USD/GBP without bringing arbitrage forces into play. Nonetheless, since transport costs and trade barriers do not change dramatically over time they are not sufficient explanations for the failure of the relative version of PPP.

Imperfect Competition

On the notions underlying PPP is that there is sufficient international competition to prevent major departures of the price of a good in one country from its price in another. However, it is clear that there are considerable variations in the degree of competition internationally. These differences mean that multinational corporations can often get away with charging different prices in different countries. In fact, the conditions necessary for successful price discrimination - namely, variations in the willingness to pay of different sets of consumers; the ability to prevent resale from the low-cost to the high-cost market; and some degree of monopoly power - are for the most part more likely to hold between rather then within countries.

Differences between Goods and Capital Markets

PPP is based upon the concept of goods arbitrage and has nothing to say about the role of capital movements. In a classic paper form 1976, Rudiger Dornbusch hypothesized that in a world where capital markets are highly integrated and goods markets exhibit slow price adjustment, there can be substantial prolonged deviations of the exchange rate from PPP. The basic idea is that in the short run goods prices in both the home and foreign economies can be considered as fixed, while the exchange rate adjusts quickly to new information and changes in economic policy. This being the case, exchange rate changes represents deviations from PPP which can be quite substantial and prolonged.

Questions and Exercises

1. *Suppose the dollar/rupiah rate is fixed but Indonesian prices are rising faster than US prices. Is the Indonesian rupiah appreciating or depreciating in real terms?*
2. *Comment on the following statement. "It makes sense to borrow during times of high inflation because you can repay the loan in cheaper dollars".*
3. *What is purchasing power parity? What are some reasons for deviations from PPP? Under what circumstances can PPP be applied?*
4. *Why are interest rates a driving force of exchange rate movements in the short-term?*
5. *What factors might lead to persistent covered interest arbitrage opportunities among countries?*
6. *In early 1990, Japanese and German interest rates rose while US rates fell. At the same time, the yen and mark fell against the US dollar. What might explain the divergent trends in interest rates?*
7. *In 1993 and early 1994, Turkish banks borrowed abroad at relatively low interest rate to fund their lending at home. The banks earned high profits because rampant inflation in Turkey forced up domestic interest rates. At the same time, Turkey's central bank was intervening in the foreign exchange market to maintain the value of the Turkish lira. Comment on the Turkish banks' funding strategy.*
8. *Explain why relative purchasing power parity may hold when absolute purchasing power parity does not.*
9. *Assume that the cost of a particular basket of goods is equal to USD 108 in the US and JPY 14,000 in Japan. What should the JPY/USD exchange rate be according to absolute version of PPP? If the actual exchange rate were equal to 120 JPY/USD, would the dollar be considered undervalued or overvalued?*
10. *Is purchasing power parity a good measure of what exchange rates should be?*
11. *Suppose you are given the following data for the Islraeli shekel (ISS) and the USD:*
    S_t = 3.40 ISS/USD; $i_{ISS,1Y}$ = 8 %; $i_{USD,1Y}$ = 5.5 %, $F_{t,1Y}$ = 4.30 ISS/USD.
    a) determine if the ISS is a discount or premium currency
    b) determine if Israel will experience capital inflows or capital outflows
    c) is it possible to construct a covered interest rate strategy to profit prom the above prices?
12. *The bid-ask rates are as follows:*

CHF/USD	*1.5100*	*1.51400*
$i_{CHF,1Y}$	$4^{1/4}$	$4^{5/8}$
$i_{USD,1Y}$	$6^{3/4}$	$6^{7/8}$

Provide a quotation for one-year CHF/USD forward exchange rate.

4. CURRENCY DERIVATIVES

In an international context, a very important area of risk management is currency risk. This risk represents the possibility that a domestic investor's holding of foreign currency will change in purchasing power when converted back to the home currency. Currency risk also arises when a firm has assets or liabilities expressed in a foreign currency. Consider the following examples.

Box 4.1 Examples of currency risk

After a six-year battle won in the courts, Freddie Laker obtained a permit for his Laker Airways to operate the Skytrain service on both sides of the Atlantic, using two DC-10 planes. The Skytrain was a no-reservation, low cost air service, which revolutionized the air transport industry. On September 26, 1977, the first Skytrain flight departed London for New York, and subsequently went on to carry over 50,000 passengers before the end of the year with each flight over 80 percent full. The success was such that the Skytrain service was expanded to include a London to Los Angeles service in 1978, London to Miami in 1980 and London to Tampa in 1981. During this time of expansion, the USD was weak against the GBP, and US trips were relatively cheap for UK residents. Freddie Laker was able to expand the Skytrain concept by buying more DC-10s, financing them in USD. Thus, Skytrain's debt payments were in USD, while Skytrain's revenues were primarily in GBP. In 1981, the USD started to gain against all European currencies and Laker's expenses increased, while Laker's revenues decreased. In February 1982, Laker Airways was forced to file for bankruptcy. Skytrain's foreign exchange losses were one of the main factors behind Laker Airways' bankruptcy.

On July 2, 1997, Thailand devalued its currency, the baht (THB), by 18 %. Siam City Cement, Thailand's second largest cement producer, lost THB 5,870 million (USD 146 million), giving a net deficit for the nine-month period of 1997 of THB 5,380 million. Siam City Cement reported a net profit of THB 817 million during the first nine months of 1996. Industry analysts said that the company was affected by foreign exchange losses on USD 590 million foreign debt, reported as of June 30.

These examples show that having assets and liabilities denominated in foreign exchange creates risk for domestic investor or firm. Managing currency risk is very important for many companies doing international business. This chapter studies derivative instruments and their ability to contribute to the currency risk management. First part is focused on futures, while the second part analyses options and the third part explains swaps. Currency derivatives are frequently used in speculation as well. Nevertheless, we are going to concentrate our attention primarily on currency derivatives as currency risk management tools.

4.1 Currency Futures

Futures contracts are based upon similar principles as forward contracts introduced in the Chapter 2. Both of them are instruments used for buying or selling a stated amount of foreign currency at a stated price per unit at a specified time in the future. When a forward or futures contract is signed there is no up-front payment. Both forward and futures contracts are sometimes classified as derivatives because their values are derived from the value of the underlying security. Forward and futures contracts play a similar role in the management of

currency risk. The empirical evidence shows that both contracts do not show significantly different prices. Although a futures contract is from the general point of view similar to a forward contract, there are many differences between the two.

Differences between Forward and Futures Contracts

A forward contract is a tailor-made contract. Forward contracts are made directly between two parties, and there is no secondary market. In general, at least one of the parties is a bank. Forward contracts are traded over the counter: traders and brokers can be located anywhere and deal with each other over the phone. To reverse a position, one has to make a separate additional forward contract. Reversing a forward contract is not common. Ninety percent of all contracts result in the seller making delivery of the underlying currency. Forward contracts are quoted in the interbank market for maturities of one, three, six, nine and 12 months. Non-standard maturities are also available. For good clients, banks can offer a maturity extending out to 10 years.

A futures contract has standardized features and is exchange-traded, that is, traded on organized exchanges rather than over the counter. Foreign exchange futures contracts are for standardized foreign currency amounts, terminated at standardized times, and have minimum allowable price moves (called "ticks") between trades. Foreign exchange futures contracts are traded on the market floor of several exchanges around the world. For example, they are traded on the Chicago Mercantile Exchange (CME), the Tokyo International Financial Futures Exchange (TIFFE), the Sydney Futures Exchange, the New Zealand Futures Exchange, the MidAmerica Commodities Exchange, the New York Futures Exchange, and the Singapore International Monetary Exchange (SIMEX).

Chicago Mercantile Exchange

The CME is the biggest and most important market in the world for foreign exchange futures contracts. CME futures contracts have been copied by other organized exchanges around the world. CME futures are quoted in direct quotes, that means US dollar price of a unit of foreign exchange. CME futures specify a contract size, that is, the amount of the underlying foreign currency for future purchase or sale, and the maturity date of the contract. Futures contracts have specific delivery months during the year in which contracts mature on a specified day of the month. Contracts are traded on the traditional three-month cycle of March, June, September, and December. In addition, a current month contract is also traded. For some currencies, however, the CME offers currency futures with additional expiration dates. For example, for the GBP and the EUR contracts, the CME also offers January, April, July, and October as expiration dates. The month during which a contract expires is called the spot month. At the CME, delivery takes place the third Wednesday of the spot month or, if that is not a business day, the next business day. Trading in a contract ends two business days prior to the delivery date (i.e., the third Wednesday of the spot month). CME's trading hours are from 7:20 AM to 2:00 PM (CST).

Futures Trading Principles

Futures contracts are netted out through a clearinghouse, so that a clearinghouse stands on the other side of every transaction. This characteristic of futures markets stimulates active secondary markets since a buyer and a seller do not have to evaluate one another's creditworthiness. The presence of a liquid clearing house substantially reduces the credit risk associated with all forward contracts. The clearing house makes a trader only responsible for his/her net positions. The clearinghouse is composed of clearing members. Clearing members are brokerage firms that satisfy legal and financial requirements set by the government and

the exchange. Individual brokers who are not clearing members must deal through a clearing member to clear a customer's transaction. In the event of default of one side of a futures transaction, the clearing member stands in for the defaulting party, and seeks restitution from that party. Given this structure, it is logical that the clearinghouse requires some collateral from clearing members. This collateral requirement is called margin requirement. All differences between forward and futures contracts are summarized in Table 4.1.

Table 4.1 Differences between forward and futures contracts

	forward	***futures***
amount	negotiated	standardized
delivery date	negotiated	standardized
counter-party	bank	clearinghouse
collateral	negotiated	margin account
market	dealer market	auction market
costs	bid-ask spread	brokerage and exchange fees
secondary market	highly illiquid	very liquid
regulation	self-regulated	government
location	worldwide	central exchange floor

Margins and Marking-to-Market

Organized futures markets have margin requirements, to minimize credit risk. There are two types of margin requirements: the *initial margin* and the *maintenance margin*. The idea behind the margin account is that the margin should cover virtually all of the one-day risk. This reduces both one's incentive to default as well as the loss to the clearinghouse in the event of default. If margin is posted in cash, there is an opportunity cost involved in dealing with futures, because the cash could otherwise be held in the form of an interest-bearing asset. In general, however, a part of the initial margin can be posted in the form of interest-bearing assets, such as Treasury bills. This allows market participants to reduce the opportunity costs associated with margin requirements.

A futures contract is *marked-to-market* daily at the settlement price. The settlement price is an exchange's official closing price for the session, against which all positions are marked to market. In a liquid contract this may be the last traded price, but for less liquid contracts it may be an average of the last few traded prices, or a theoretical price based on the traded prices of related contracts. Every favorable (adverse) move in exchange rates creates a cash inflow (outflow) to the margin account. In order to avoid the cost and inconvenience of frequent but small payments, losses are allowed to accumulate to certain levels before a margin call (a request for payment) is issued. These small losses are simply deducted from the initial margin until a lower bound is reached. The lower bound is the maintenance margin. Then, additional money should be added to the account to restore the account balance to the initial margin level. This amount of money, usually paid in cash, is called *variation margin*.

Margin requirements and the associated cash flows are a major difference between forward and futures contract. In futures contracts traders realize their gains or losses daily, at the end of each trading day. In forward contracts, however, there are no cash flows until the position is closed, that is, the gains or losses are realized at maturity. The CME sets margin requirements according to a formula that takes into account the volatility of each currency. Currencies with lower volatility have lower margin requirements than currencies with higher volatility. One can see the differences among currencies in Table 4.2 that summarizes the contract terms for major currency contracts traded on the CME as of November 1998.

Table 4.2 Specifications of the most active currency futures contracts at the CME

currency	*size*	*minimum price fluctuation*	*margin requirements*	
			initial	*maintenance*
AUD	100,000	.0001 (USD 10)	USD 1,890	USD 1,400
BRR	100,000	.0001 (USD 10)	USD 9,800	USD 7,000
CAD	100,000	.0001 (USD 10)	USD 1,316	USD 975
CHF	125,000	.0001 (USD 12.5)	USD 2,700	USD 2,000
GBP	62,500	.0002 (USD 12.5)	USD 1,452	USD 1,075
JPY	12,500,000	.000001 (USD 12.5)	USD 2,700	USD 2,000
MXP	500,000	.000025 (USD 12.5)	USD 3,125	USD 2,500
EUR	125,000	.0001 (USD 12.5)	USD 2,565	USD 1,900

We should note that for certain transactions, in general, big transactions, the minimum price fluctuation is cut in half. That is, for a big GBP transaction the minimum price fluctuation can be set at 0.0001, or USD 6.25.

Hedging with Futures

A hedger uses the futures markets to reduce or eliminate the risk of adverse currency fluctuations. Usually, hedging involves taking a position in futures that is the opposite either to a position that one already has in the cash market or to a future cash obligation that one has or will incur. Therefore, the position in the futures market will depend on the position in the cash market. The short hedger sells short in the futures market against a long cash position in the underlying commodity. For example, a typical US short hedger is someone who will receive in the future a payment denominated in a foreign currency. A long hedger is long the futures contract and is short a contract denominated in the underlying foreign currency. A short cash position in the underlying currency means that the hedger has a commitment to deliver a given amount of foreign currency. For example, a typical US long hedger is someone who will pay in the future a given amount denominated in a foreign currency.

Hedging with futures is very simple: one takes a position on futures contracts, which is the reverse of the underlying (cash) position. Many argue that the goal of hedging is to construct a perfect hedge. A perfect hedge completely eliminates currency risk. In a hedge, risk is eliminated to the extent that the gain (loss) on the futures position exactly compensates the loss (gain) on the underlying (cash) position. A hedger makes two decisions. First, a hedger has two decide which futures contract to use. Second, a hedger has to determine the hedge ratio, that is, the size of the opposite position relative to the size of the underlying position.

Choice of Futures

In the forward market a party can tailor the amount, date, and the currency to a given exposed position, this is not always possible in the futures market. There are three problems associated with hedging in futures markets:

- The contract size is fixed and is unlikely to match the cash position to be hedged.
- The expiration dates of futures contracts rarely match those for the currency receivables or payables that the contract is meant to hedge.
- The choice of underlying assets in the futures market is limited, and the currency one wishes to hedge may not have a futures contract.

There is very little a hedger can do with respect to the first problem in the futures market. Note that in the forward market, in general, contract size is not a problem. With respect to the second and third problem hedgers can construct imperfect hedges. An imperfect hedge is called a *delta-hedge* when the maturities do not match, and is called *cross-hedge* when the currencies do not match.

Delta Hedging

Suppose a hedger has decided to establish a GBP futures position to hedge a foreign currency cash position. Now, the hedger has to decide on which contract month to use. It might seem logical that that when the expiration of the underlying position corresponds to a delivery month, the contract with that delivery month is selected. Many times, however, a contract with a later delivery month is chosen. This is because futures prices are in some instances very volatile during the delivery month. Other times, hedgers want to minimize basis risk. Near month currency futures contracts track the behavior of the spot exchange rates better and, therefore, they have the higher correlation with spot rates. Thus, near month currency futures are preferable since they minimize the basis variation.

In many situations, basis risk is not the only factor to consider. Liquidity considerations are important. Sometimes, liquidity and basis risk should be treated as trade-off. For short-term currency positions, there is no trade-off: short-term futures contracts minimize basis variation and also have greater trading volume (are more liquid) than long-term contracts. For medium and long-term currency position, however, there is often a trade-off. For example, suppose a hedger needs to establish a position in a contract whose expiration cycle is a year or more in the future. Since the futures price and the spot price converge at delivery, basis risk can be minimized or eliminated by matching spot and futures long-term obligations. Liquidity, however, in this situation is a major consideration. It is common to find that the size of the position you want to establish is too big for the level of open interest now held in your preferred expiration month. It is common to find, for long-term futures, wide bid-ask spreads, which can make the cost of a hedge very expensive. A solution to this illiquidity problem is to establish a position in the nearest contract month. Once the delivery cycle is near, all outstanding futures contracts are closed and, then, rolled forward to the next expiration month. Rolling forward, however, often exposes the hedger to basis risk. In addition, transaction costs are greater when futures positions are closed and re-established.

In summary, medium- and long-term hedgers can select from three basic contract terms:

- Short-term contracts, which must be rolled over at maturity.
- Contracts with a matching maturity.
- Longer-term contracts with a maturity extending beyond the hedging period.

If there is uncertainty regarding the date of a cash obligation, a hedger will not be able to match maturities. In this case, a hedger usually prefers a rolling forward approach to hedge a cash position with near month contracts. Even though a more distant contract might reduce transaction costs, the minimization of basis risk tends to be the main consideration.

Cross Hedging

When a hedger has a cash position on a foreign currency on which a futures contract is traded, it is almost always preferable to hedge with that contract, since futures and spot prices of the same currency have the highest correlation. Futures and forward currency contracts, however, are only actively traded for the major currencies. International portfolios are often invested in assets in Hungary, India, Thailand, Peru, and other countries where futures and forward contracts are either not traded or very illiquid in the domestic currency. In these situations, hedgers try to establish futures positions using closely linked and highly correlated currencies. For example, a US investor could use EUR futures to hedge a currency risk on Hungarian stocks, since the Hungarian forint (HUF) and the EUR are strongly correlated.

A complete foreign currency hedge can be achieved by hedging the investment in each foreign currency. But this is difficult, and could be very expensive, for many currencies. In a portfolio with assets in many currencies, the residual risk of each currency gets partly diversified away. Optimization techniques can be used to construct a hedge with futures

contracts in only a few currencies (JPY, EUR, and GBP). Once a decision has been taken to (cross) hedge with only a few currencies, the manager has to decide the number of contracts needed to hedge her foreign currency exposure.

4.2 Currency Options

In Section 4.1 we introduced currency futures and forwards as currency risk management tools. This section introduces another risk management tool: currency option contracts. Options are contracts that help a firm to reduce the uncertainty created by having assets and liabilities denominated in foreign currency. An option contract provides a flexibility that a futures contract does not have. An option contract gives its holders a right, not obligation, as is the case of a futures contract.

Brief Review of Options

In general, an option gives to the buyer the right, but not the obligation, to buy or sell an asset, whereas the option seller must respond accordingly. Many different types of option contracts exist in the financial world. The two major types of contracts traded on organized options exchanges are *calls* (which gives the holder the right to buy) and *puts* (which gives the holder the right to sell). The complete definition of an option must clearly specify the exercise or strike price, X, (the price at which the right is "exercised"), the expiration date, and how the option can be exercised. A *European-type* option can only be exercised at expiration date. An *American-type* option can be exercised by the buyer at any time until the expiration date.

A call (put) option is said to be *in-the-money* if the price of the underlying asset exceeds (is below) the exercise price. On the other hand, if the price of the underlying asset is below (exceeds) the exercise, the call (put) option is said to be *out-of-the-money*. When the current price of the underlying asset is approximately equal to the exercise price, both the call and the put are *at-the-money*. The option to buy or sell an asset has a price that must be paid at the time of contracting. As we will discuss below, the price of an option, the *premium*, fluctuates over time depending on the value of the underlying asset and other parameters. The *intrinsic value* of an option is defined as the maximum of zero and the value it would have if it were exercised immediately. For a call option, the intrinsic value is max (S-X,0), where S represents the value of the underlying asset. For a put option, it is max (X-S,0). Often it is optimal for the holder of an in-the-money American option to wait rather than exercise immediately. The option is said to have *time value*. The *total value* of an option can be thought of as the sum of its intrinsic value and its time value.

In the case of foreign exchange, every currency option is both a call and a put. For example the buyer of a EUR call / USD put has the right to buy a face amount of EUR in exchange for USD, the quantity of USD being determined by the strike price of the option. Conversely, this option can be considered as the right to sell (put) USD for EUR at an exchange rate defined by the strike price of the option. The positions of buyer and seller in call and put options are described in following summary.

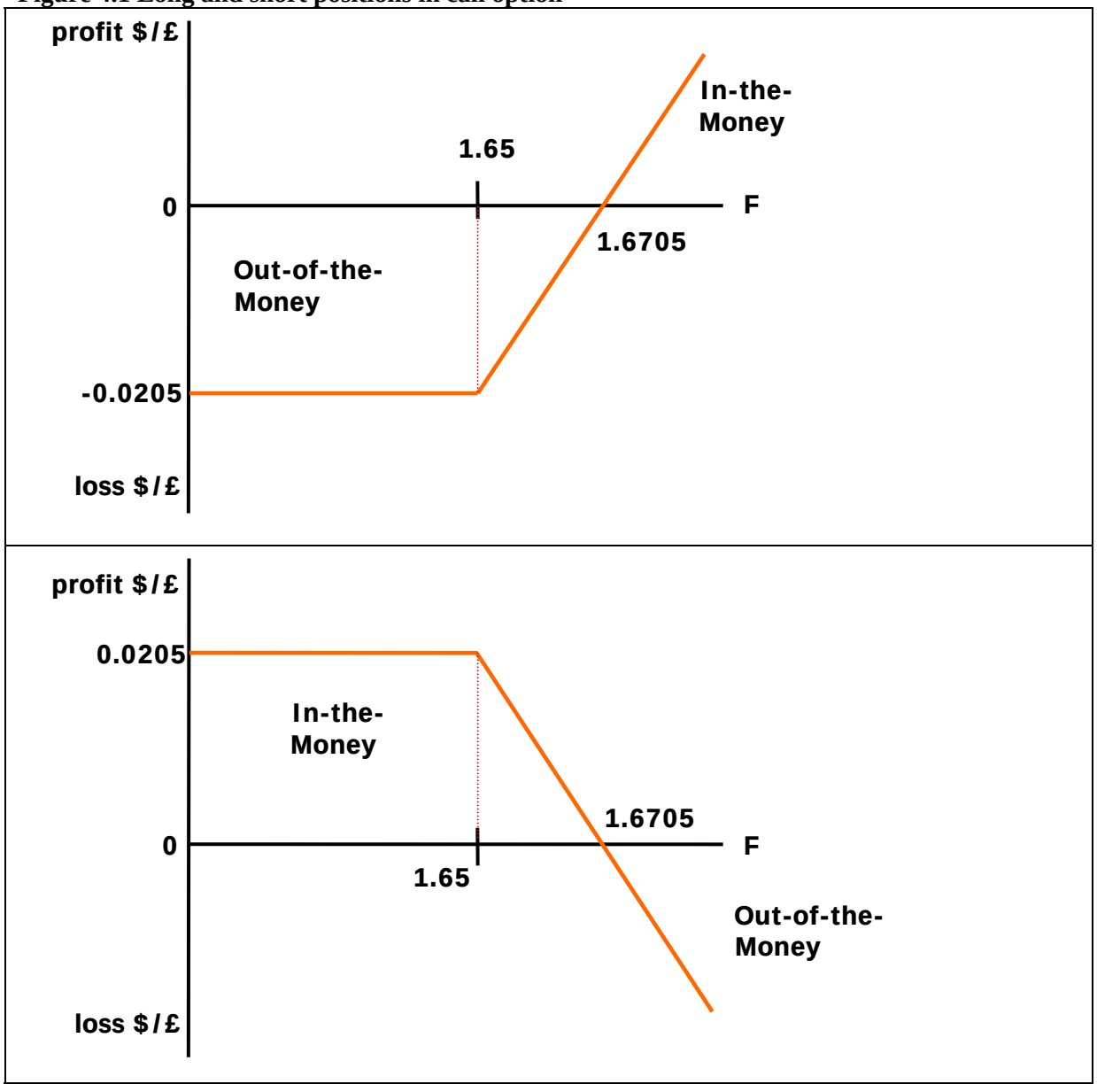
call option	***buyer profit/loss***	***seller profit/loss***
premium	pays	receives
maximum loss	premium and fees paid	unlimited
maximum profit	unlimited	premium received

put option	***buyer profit/loss***	***seller profit/loss***
premium	pays	receives
maximum loss	premium and fees paid	unlimited
maximum profit	strike minus premium and fees paid	premium received

Call Option

All mentioned can be illustrated graphically, too. Consider a call option as the first and assume a GBP option traded at the CME. An "April GBP 165 call" represent option to buy GBP 62.500 in April at the exercise (strike) price 1.65 USD/GBP. The premium is actually 0.02 USD/GBP. We suppose a brokerage fee to be USD 30 per contract. Figure 4.1 shows the long (upper part) as well as short (lower part) position in this option.

Figure 4.1 Long and short positions in call option



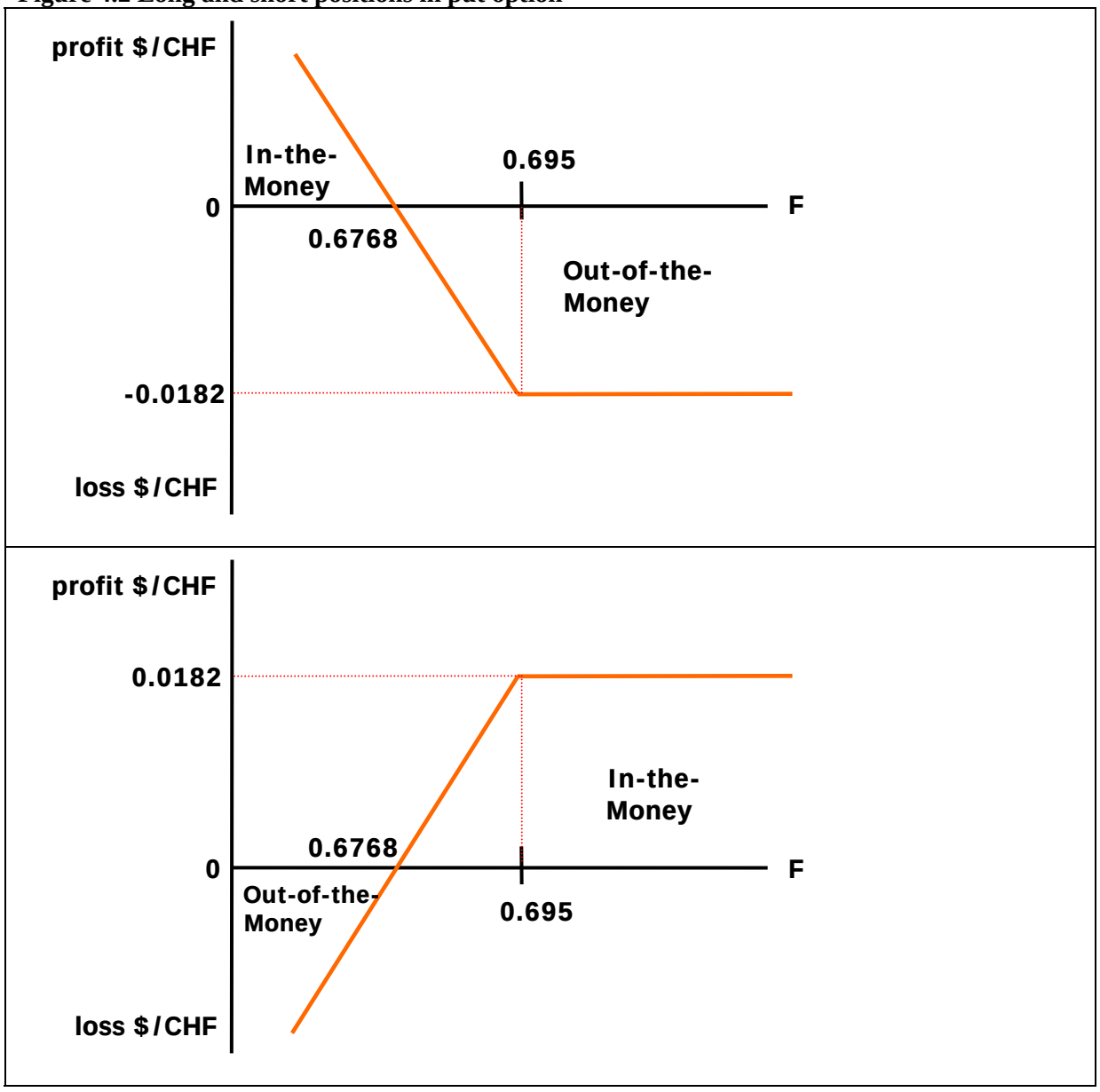
The buyer secures by purchasing this call option the ceiling (upper limit) of USD costs to buy GBP 62.500. The ceiling can be calculated as the sum of strike price, premium and

brokerage fees. In our case it means: ceiling = 1.65 + 0.02 + (30/62.500) = 1.6705 USD/GBP. In other words, whenever the actual exchange rate at the exercise date is lower than 1.65 USD/GBP, the holder lets the option to expire and his loss equals to the premium and fees paid. If the exchange rate at the exercise date exceeds the ceiling of 1.6705 USD/GBP the investor gains an additional profit because buys pounds at the upper limit whereas actual exchange rate is higher.

Put Option

Consider now a put option that is quoted at the CME as "CHF April 695 put". This quotation represents the option to sell CHF 125.000 in April at the strike price 0.695 USD/CHF. Suppose that the premium is 0.018 USD/CHF and brokerage fee is of the common USD 30 per contract. Figure 4.2 depicts both the long (upper part) and short (lower part) positions in such put option.

Figure 4.2 Long and short positions in put option



The buyer secures by purchasing this put option the bottom (lower limit) of USD revenues when selling CHF 125.000. The bottom can be calculated as follows: bottom =

strike price – premium paid – fees paid. For the option described above the lower limit equals to 0.695 – 0.018 – (30/125.000) = 0.6768 CHF/USD. If the actual spot price at the exercise date is lower than the bottom secured the holder of the option obtains an additional profit since he sells francs at the lower limit that is higher than actual price. Conversely, if the exchange rate at the exercise date exceeds the strike price it is more reasonable to let the option expire and to sell Swiss francs in the spot market at higher price. Total holder's loss from the option purchasing is therefore the sum of premium and fees paid which are considered as sunk costs.

Value of Option

It is useful now to consider how to value an option. The value of an option is based on the following six variables: 1. spot price of the underlying; 2. strike price; 3. interest rate of the underlying currency; 4. interest rate of the counter-currency; 5. exchange rate volatility; and 6. time to expiration. By determining the values of the inputs, the price of an option can be determined, but it is outside the scope of this publication to enter here into the details.

Trading in Currency Options

The market for foreign currency options mainly consists of an interbank market centered in London, New York, and Tokyo, and exchange-based markets centered in Philadelphia (PHLX) and Chicago (CME). At the European Options Exchange (EOE) there are exchange-traded options for some currencies; however the only significant volume is for minor currency options. The expiration dates of most foreign exchange options contracts are likewise set to correspond to the March, June, September, and December delivery dates on CME foreign exchange futures. PHLX foreign exchange options are opened with terms to maturity of one, three, six, and twelve months. As a consequence, options contracts expiring in March, June, September, December, and, in addition, the two nearby months not part of this cycle, are always trading.

Exchange traded options have standardized strike price intervals, in addition to standardized expiration dates and currency amounts. PHLX options are on spot amounts of one-half the size of the CME futures contracts. For example, the size of the CME's GBP futures contract is GBP 62,500, while the size of the PHLX's GBP option contract is GBP 32,150. The exercise price of an option at the PHLX or CME is stated as the price in US cents of a unit of foreign currency. As with exchange-traded futures contracts, exchange-traded options are registered with a clearinghouse that guarantees both the long and short sides of puts and calls. For example, PHLX contracts are guaranteed by the Options Clearing Corporation (OCC). OTC options, by contrast, can be tailor-made as to amount, maturity, and exercise price. The currency amount involved in OTC options is usually much larger than exchange-traded options (typically involving a minimum USD 1 million or so of foreign currency) and OTC options have been written on a variety of currencies.

Hedging with Currency Options

In Section 4.1 we noted that hedging with futures contracts was very simple: one takes a position with a foreign exchange contract that is the reverse of the principal being hedged. Hedging with options is also very simple. Suppose Cannigia Co., a US firm, is long CHF for three months (say, Cannigia will receive a payment of CHF 20 million for its export to Switzerland). Cannigia may buy today the right to sell those CHF at a given price in three months. That is, Cannigia would buy a CHF put. On the other hand, Balbo Co., another US firm, who is short CHF for one month (say, Balbo has to pay CHF 10 million for the import of Swiss chocolate), might want to buy today the right to buy those CHF at a given price in one month. That is, in this case, Balbo would buy a CHF call.

4.3 Interest Rate Derivatives and Swaps

There is a myriad of interest rate derivatives. However, it is outside the scope of this booklet to present a comprehensive list or go into much detail on most of these. Consequently, some of the main types of interest rate derivatives will be discussed with a minimum of detail in this section. For most major currencies there exist exchange-traded futures and OTC forwards on various types of interest rate instruments. For domestic markets this is true primarily for Treasury securities, such as government bonds and bills. In the Eurocurrency markets there are OTC forwards such as Forward Rate Agreements and swaps, and exchange-traded Eurocurrency futures. The latter will be described first, but it may be useful to previously define what the term "Euro" means: if a product in a certain currency is traded outside its home country, it will be called a Euro product, such as a Euro future or a Euro option for example.

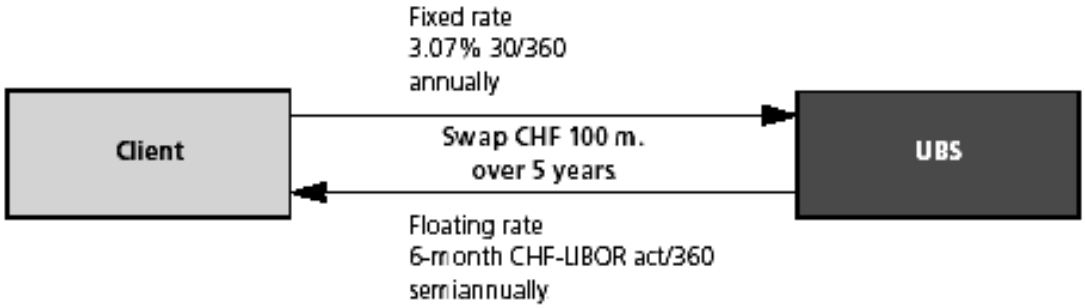
Eurocurrency Futures and FRAs

A Eurocurrency future is technically a future on a three-month deposit of an amount that varies by currency. These futures are traded on the International Monetary Market (IMM), LIFFE and SIMEX. For most currencies there are four quarterly expirations: each 3rd Wednesday in March, June, September and December. The exception is the USD, which has monthly expirations. A Eurocurrency futures strip is a sequence of future contracts with non-overlapping expirations. Strips are usually bought in order to hedge when using Eurocurrency futures. Eurocurrency futures are cash settled daily, which makes them a better instrument to hedge an interest rate exposure than a future on treasury notes or bonds, where the underlying contract has to be delivered at expiration. However, the expiration dates and face amounts are fixed by the exchanges. This makes the futures a less than perfect instrument for hedging a specific interest rate exposure. For this reason a Forward Rate Agreement (FRA) may be concluded with a bank in the OTC market. The terms of a FRA, such as face amount and expiration, can be fixed by the two parties involved in the agreement. This advantage, however, is offset by the fact that FRAs have credit risk, that means, reliability of the counterparty and no margin paid upfront.

Interest Rate Swap

An OTC alternative to a futures strip, or a strip of FRAs, is a swap. An interest rate swap is an agreement between two counterparties to exchange interest rate payments. A typical swap involves one party paying a fixed rate (the swap rate) and the other party making payments based on an interest rate that is reset at the beginning of each period. When entering into a swap, the net value is usually zero since the fixed and the floating side are considered to have the same value. No other payments, such as upfront fees or premiums, are to be made. For example, one party might pay in Swiss francs a fixed rate of 3.07 % annually and receive the six month LIBOR rate every six months for the next five years. This swap between USB, a Swiss bank and a client is depicted in Scheme 4.1

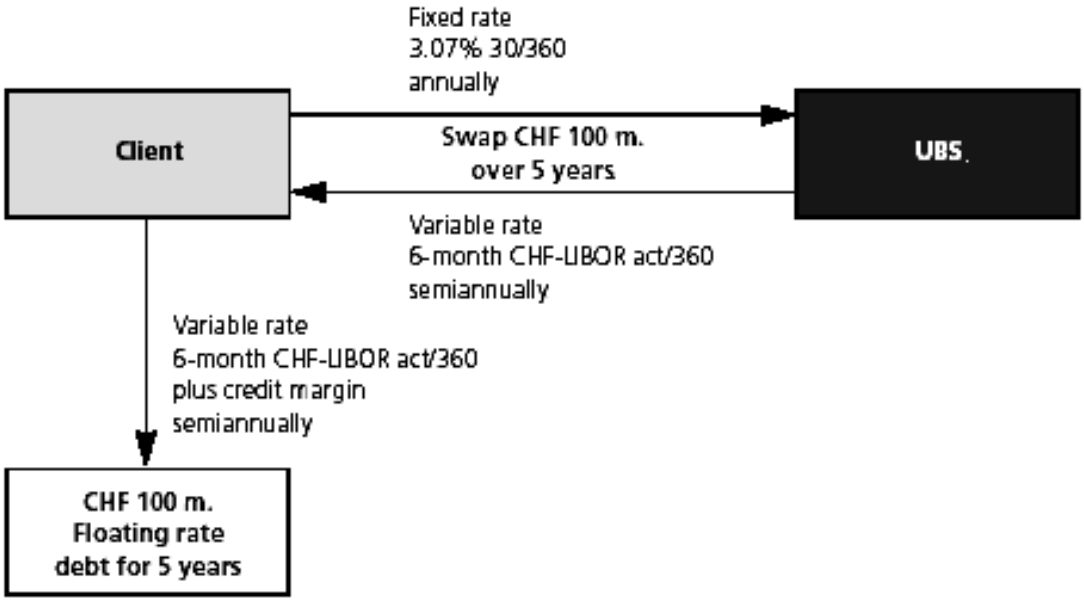
Scheme 4.1 Interest rate swap



Parameters of Swap

In a swap the payments can be netted, and the face amount, referred to as the notional principal, is not exchanged either at the beginning of the swap or at its maturity. When entering into a swap the following parameters need to be specified. 1. Start date: the first day of the period that is covered by the swap, that is, spot or some day in the future; 2. end date: last day covered by swap; 3. notional principal: basis for calculating the interest rate payments; 4. fixed rate: swap rate, depending on maturity and market conditions when entering into swap; 5. floating rate: rate that is reset for every period, usually 3-month or 6-month LIBOR; 6. date of setting for floating rate: usually two working days prior to each period; 7. reference rate: how floating rate is set, for instance a Reuters page where LIBOR fixings are published.

Scheme 4.2 Explanation of interest rate swap



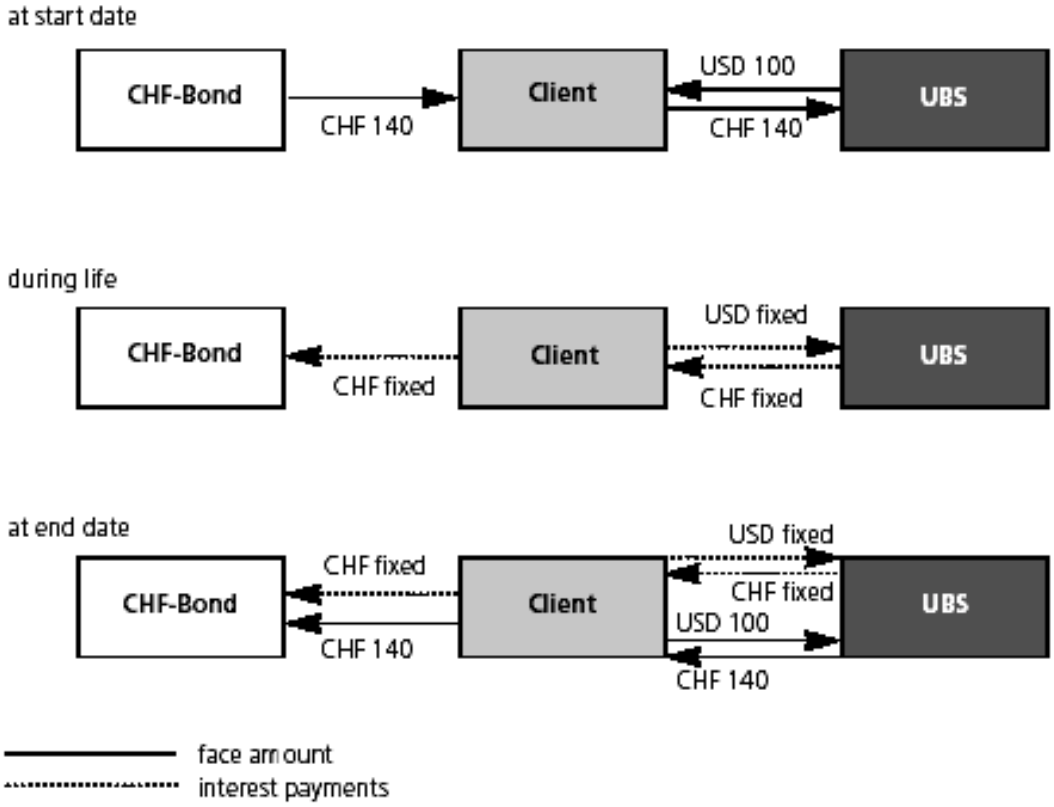
The main application for a swap is that the payout of an asset or a liability can be structured in a way preferred by the holder. For instance, floating rate debt can be converted into fixed rate debt. The payer of floating rate debt enters into a swap where he will receive floating payments, which are passed on to the holders of the liability, and makes fixed payments to the counterparty of the swap. Or, alternatively, a fixed rate debt can be turned into a floating rate debt when entering into a swap by receiving fixed and paying floating. There is no point in describing in detail all the different possibilities of how a swap can be structured since the permutations are endless. Here are simply a few more examples:

- a forward swap: starts at some point in the future
- an amortizing swap: notional principal decreases over time
- quanto swaps: payout of floating rate in another currency than the floating rate index
- an off-market swap: one counterparty receives a premium upfront and pays a higher rate over time
- swap with a fixed final maturity: two floating rates, that is a 2-year rate against a 5-year rate, both rates reset every year.

Cross-Currency Swap

In a cross-currency swap both counterparties exchange at start date the face amounts in two different currencies, at spot exchange rate. During the life of the swap each counterparty makes interest payments in the currency received. At the end date, both counterparties make their last interest payment and exchange the face amounts again at the same conditions as at the start date. To illustrate this, consider the following example: a US-based company issues a bond in CHF but needs the money in USD. So it enters into a cross-currency swap where it initially exchanges the CHF for the preferred USD. During the life of the bond the company pays interest in USD to the bank, which in turn pays the CHF interest due on the bond. At redemption, the bank pays the CHF interest and the CHF face amount to pay back the loan, and receives USD from the company.

Scheme 4.3 Cross-currency swap



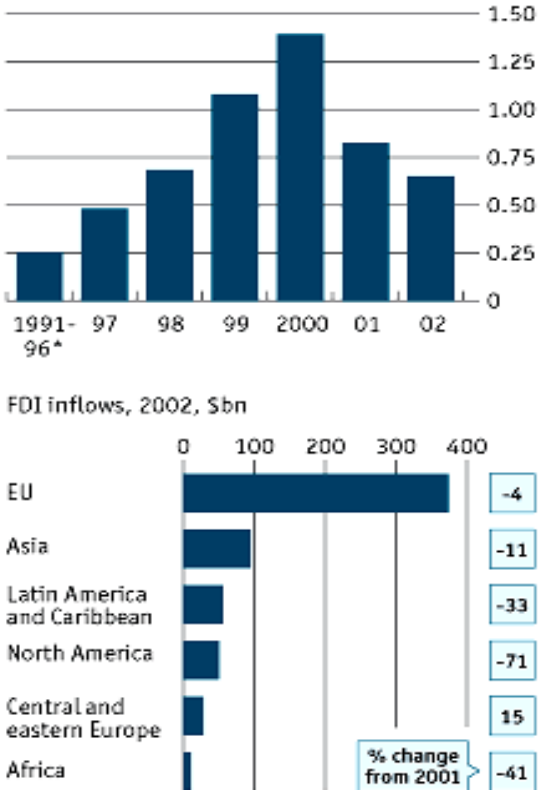
Questions and Exercises

1. *Assume a Czech corporation needs to arrange to have GBP 100,000 in 90 days. Discuss the alternatives available to the corporation in meeting this obligation. What factors are important in determining which strategy is best?*
2. *List at least three ways in which a futures contract differs from a forward contract.*
3. *What is the basic difference between currency futures and currency options?*
4. *What could be the break-even price in currency options?*
5. *Calculate the maximal profit from the long position in the put option illustrated in Figure 4.2.*
6. *A forward market already existed, so why was it necessary to establish currency futures and currency option contracts?*
7. *On April 1, the spot price of the British pound was USD 1.86 and the price of the June futures contract was USD 1.85. During April the pound appreciated, so that by May 1 it was selling USD 1.91. What do you think happened to the price of the June pound futures contract during April? Explain.*
8. *On Monday morning, an investor takes a long position in a pound futures contract that matures on Wednesday afternoon. The agreed-upon price is USD 1.78 for GBP 62.500. At the close of trading on Monday, the futures price has risen to USD 1.79. At Tuesday close, the price rises further to USD 1.80. At Wednesday close, the price falls to USD 1.785, and the contract matures. The investor takes delivery of the pounds at the prevailing price of 1.785. Detail the daily settlement process. What will be the investor's profit (loss)?*
9. *You are long GBP 312,500 and you go short a number of forward contracts to offset your long position. The exchange rate is 1.55 USD/GBP. The futures price is 1.61 USD/GBP. One month later the spot price is 1.59 USD/GBP and the futures price is 1.62 USD/GBP. Was the hedge perfect? If not, calculate the net profit of the hedge portfolio.*
10. *A US investor holds a portfolio of Japanese stocks worth JPY 200 million. The spot exchange rate is 100 JPY/USD and the three-month forward exchange rate is 105 JPY/USD. Our investor fears that the Japanese will depreciate in the next month, but wants to keep the Japanese stocks. What position can the investor take based on three-month forward exchange rate contracts? List all the factors that will make the hedge imperfect.*
11. *A US bank buys a November USD put (JPY call!) with a strike price of 103 JPY/USD and writes a November USD call (JPY put) with a strike price of 102 JPY/USD. What happens if at expiration the spot rate is 104.50 JPY/USD?*
12. *Why are the main reasons for using swaps?*
13. *Describe the principle of cross-currency swap.*

5. FOREIGN DIRECT INVESTMENT

When people think about globalization, they often first think of the increasing volume of trade in goods and services. Trade flows are indeed one of the most visible aspects of globalization. But many analysts argue that international investment is a much more powerful force in propelling the world toward closer economic integration. Investment, often alters entire methods of production through transfers of know-how, technology and management techniques, and thereby initiates much more significant change than the simple trading of goods. Over the past ten years, foreign investment has grown at a significantly more rapid pace than either international trade or world economic production generally. From 1980 to 1998 international capital flows, a key indication of investment across borders, grew by almost 25 % annually, compared to the 5 % growth rate of international trade. This investment has been a powerful catalyst for economic growth.

Figure 5.1 World FDI inflows (USD trn)



Source: UNCTAD

The tremendous growth in levels of foreign direct investment (FDI) is a recent phenomenon and is one of the most powerful effects, and also causes, of globalization. In 1982, the global total of FDI flows was USD 57 billion. By the year 2000, that number had grown to USD 1.271 billion - nearly twenty times the level two decades earlier. But as with many of the other aspects of globalization, foreign investment is raising many new questions about economic, cultural and political relationships around the world. Flows of investment and the rules which govern or fail to govern it can have profound impacts upon such diverse issues as economic development, environmental protection, labor standards and economic stability. The following chapter will explain the fundamental concepts of cross-border investment, define key terms, and explore the major controversies related to international investment.

In fact, the great majority of global FDI takes place among developed countries. In the record year 2000, developed countries were the destination of more than three-quarters of world FDI. Only four countries, the US, Germany, Great Britain and Canada, received more than half of all world FDI inflows. On the other hand of the scale, the poorest countries in the world, those which comprise roughly 85 % of humanity, draw less than 20 % of world FDI. Although FDI flows have been increasing at a great rate over the past decade, developing countries have actually been losing their share of global investment. These same countries received a peak of 41 % of world FDI inflows in 1994. When viewed this way, one might conclude that much of the developing world is actually being left behind by globalization.

5.1 Definition of Foreign Direct Investment

Before we define the concept of FDI it is necessary to point out that FDI is not only type of international investment. Cross-border capital flows usually fall into one of three other principal categories. They are (i) commercial loans, (ii) official flows, and (iii) foreign portfolio investment (FPI).

Basic Types of Foreign Investment

Commercial loans primarily take the form of loans by banks to foreign businesses or governments. Until the 1980s, commercial loans from banks were the largest source of foreign investment in developing countries. However, since that time, the levels of lending through commercial loans have remained relatively constant, while the levels of global FDI and FPI have increased dramatically. Official flows refer generally to the forms of development assistance given by developed countries to developing ones. Foreign portfolio investment is a category of investment instruments that are easily traded and less transparent than the FDI. These include investments via equity instruments (stocks) or debt (bonds) of a foreign enterprise which does not necessarily represent a long-term interest. The FPI comes from more diverse sources, and may originate, for example, from a small company's pension fund or through mutual funds held by individuals. The returns that an investor acquires on FPI usually take the form of interest payments or non-voting dividends. Investments in FPI that are made for less than one year are distinguished as short-term portfolio flows.

Concept of FDI

The concept of FDI has undergone several changes over time, and the available definitions are not uniform. Historically, a certain threshold of equity acquired and the idea that the investor plans to exert a controlling influence are closely connected to the notion of FDI. In order to harmonize the differing concepts of FDI, the Organization for Economic Cooperation and Development (OECD) and the IMF have developed the following definition:
"Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy (direct investor) in an entity resident in an economy other than that of the investor (direct investment enterprise). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise".

The above-mentioned definition itself does not specify what actually constitutes a lasting interest. However, this is spelled out in the OECD's implementation recommendations. They recommend that "*a direct investment enterprise be defined as an incorporated or unincorporated enterprise in which a foreigner owns 10 % or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise. ... An effective voice in the management, as evidenced by an ownership of at least 10 %, implies that the direct investor is able to influence, or participate in the management of an enterprise; it does not require absolute control by the foreign investor*". Accordingly, contractual arrangements not associated with an equity holding of at least 10 % but still allowing the exertion of control (such as sub-contracting, licensing or franchising) are not covered by the definition of the OECD and the IMF.

Principal Forms of FDI

The acquisition of a controlling stake in a company based on foreign soil can take different forms. The basic distinction is between acquiring a substantial interests in an existing firm, the take-over of an enterprise (*merger or acquisition*, M&A) and the build-up of a new production unit (*greenfield investment*). While traditionally greenfield investments have been responsible

for the lion's share of FDI in emerging markets (usually accounting for more than 80 %), the last years have seen a surge in cross-border M&As, reaching more than 50 % in 1998 and standing roughly at 40 % of all FDI in 1999 and 2000. In line with the above-mentioned definition, FDI can be considered either as flows or as stocks. While stocks provide information on the extent to which a firm or a country has established a presence in a foreign economy, the data on flows are used to assess the sustainability of balance of payments developments.

A direct investment enterprise is an incorporated or unincorporated enterprise in which a foreign investor owns 10 % or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise. Direct investment enterprises may be subsidiaries, associates or branches. A *subsidiary* is an incorporated enterprise in which the foreign investor controls directly or indirectly (through another subsidiary) more than 50 % of the shareholders' voting power. An *associate* is an enterprise where the direct investor and its subsidiaries control between 10 % and 50 % of the voting shares. A *branch* is a wholly or jointly owned unincorporated enterprise.[1]

Components of FDI

As for the instruments, direct investment capital comprises the capital provided (ether directly or through other related enterprises) by a direct investor to a direct investment enterprise and the capital received by a direct investor from a direct investment enterprise. Direct investment capital transactions are made up of three basic components: (i) *Equity capital*: comprising equity in branches, all shares in subsidiaries and associates (excerpt non-participating, preferred shares that are treated as debt securities and are included under other direct investment capital) and other capital contributions such as provisions of machinery, etc. (ii) *Reinvested earnings*: consisting of the direct investor's share (in proportion to direct equity participation) of earnings not distributed, as dividends by subsidiaries or associates and earnings of branches not remitted to the direct investor. If such earnings are not identified, all branches' earnings are considered, by convention, to be distributed. (iii) *Other direct investment capital* (or inter company debt transactions): covering the borrowing and lending of funds, including debt securities and trade credits, between direct investors and direct investment enterprises and between two direct investment enterprises that share the same direct investor.

Differences between FDI and FPI

One of the most important distinctions between FDI and FPI to have emerged from this young era of globalization is that portfolio investment can be much more volatile. Changes in the investment conditions in a country or region can lead to dramatic swings in portfolio investment. For a country on the rise, FPI can bring about rapid development, helping an emerging economy move quickly to take advantage of economic opportunity, creating many new jobs and significant wealth. However, when a country's economic situation takes a downturn, sometimes just by failing to meet the expectations of international investors, the large flow of money into a country can turn into a stampede away from it. By contrast, because FDI implies a controlling stake in a business, and often connotes ownership of physical assets such as a equipment, buildings and real estate, FDI is more difficult to pull out or sell off. Consequently, direct investors may be more committed to managing their international investments, and less likely to pull out at the first

[1] It should be noted that the choice between setting up either a subsidiary/associate or a branch in a foreign country is dependent, among other factors, upon the existing regulations in the host country (and sometimes in its own country, too). National regulations are often more restrictive for subsidiaries than for branches but this is not always the case.

sign of trouble. This volatility has effects beyond the specific industries in which foreign investments have been made. Because capital flows can also affect the exchange rate of a nation's currency, a quick withdrawal of investment can lead to rapid decline in the purchasing power of a currency, rapidly rising prices (inflation) and then panic buying to avoid still higher prices. In short, such quick withdrawals can produce widespread economic crisis. This was partly the case in the Asian Economic Crisis that began in 1997. Although the economic turmoil began as a result of some broader shifts in international economic policy and some serious problems within the banking and financial sectors of the affected East Asian nations, the capital flight which ensued, some compared it to the great financial panics which took place in the US during the 19th century, significantly exacerbated the crisis.

5.2 Historical Overview of Capital Flows

FDI prior the World War I

Cross-border capital flows, whether bank lending, portfolio investments or direct investments by international operating enterprises, enjoy a long tradition. While evidence of such flows in Europe dates as far back as the Middle Ages, the modern multinational enterprise came into existence during the Industrial Revolution in the second half of the 19th century. In the fifty years preceding World War I the world economy was by many standards as highly integrated as it is today. Capital flowed unimpeded mostly from the more developed European countries to the emerging economies of the time such as Australia, Canada, Russia and the US. Outflows peaked at close to 10 % of GDP in Britain and were only slightly lower in countries such as France, Germany or the Netherlands. These flows predominantly took the form of portfolio investments through the acquisition of long-term government debt or the purchase of corporate bonds, usually issued to finance railroads and other infrastructure projects. The purchase of controlling interests in manufacturing enterprises abroad seems to have been the exception rather than the rule and probably accounted for less than one-tenth of all cross-border investments.

The latter verdict, however, must be qualified somewhat, as the distinction between controlling and non-controlling equity investments was not clearly defined and certain kinds of purchases were a priori not recorded as FDI. Equity investments in exchange-traded companies, for instance, did not count as FDI, regardless of the quantities purchased by a single investor. Also, there were sizeable differences in the categories of capital outflows among individual countries. While capital outflows from Europe favored financial investments, most US outward investments in the pre-WW I period took the form of FDI.

FDI in the Interwar Period

As a consequence of World War I and the breakdown of the gold standard, countries moved to impose numerous restrictions on trade and capital flows. Still, immediately after World War I and until the late 1920s, capital movements remained sizeable. The bulk of outflows in the interwar years originated in the US, since most of the former lending countries faced large financing needs themselves as a consequence of the war. However, capital flows from the US during this period were increasingly characterized by a rise in the share of bonded debt and a relative decline in FDI. Eventually, after interest rates were raised sharply in the US in 1928, US lending came to a stop. Owing to the ensuing global economic crisis, many debtor countries became unable to service their accumulated debt burdens. As a consequence, the scale of international capital flows continued to decline.

Growing Importance of FDI

This global retrenchment was slowly reversed after World War II, though private capital flows were for quite some time extremely concentrated among the most industrialized countries. With portfolio investments and bank lending very subdued, the massive capital needs in Europe and Japan for reconstruction were initially met by official flows, but relatively soon mainly by a rise in FDI (with the most important investors coming again from the US). The upswing of FDI was facilitated by advances in transport and communication technology, making it easier to exert control over an enterprise that was geographically distant.

The relative importance of FDI in international capital flows started to recede temporarily in the late sixties. From that time onwards, for more than a decade, bank lending became increasingly important for emerging market economies (EMEs), with inflows to Latin America being especially pronounced (see Table 5.1). However, the first oil price shock deeply changed the use of borrowed funds. Instead of sustaining investment and growth, bank lending widely helped to maintain or raise the level of imports and to finance capital flight. This period came to an end in the early eighties, when a protracted debt crisis erupted. While the crisis was triggered by a steep rise in US interest rates and a downturn of the world economy, its underlying cause was the unproductive use of borrowed funds.

Regarding the following years until 1989, bank lending to EMEs remained subdued, whereas official capital flows became the most important source of foreign finance. In the period 1982-1989 total net official inflows amounted to an annual average of USD 27 billion, whereas net private capital flows had dropped to only USD 14 billion per year. It should be noted, however, that FDI recovered substantially at the same time, flowing mainly and almost equally to Asian and Western Hemisphere countries.

Table 5.1 Net private capital flows to emerging market economies (1971-1989, USD bln)

Countries/Position	*Annual average*	
	1971-1981	*1982-1989*
All countries	**11.4**	**16.6**
FDI	5.3	12.0
Portfolio investment	0.6	6.2
Others	6.4	-1.7
Africa	**n.a.**	**4.2**
FDI	0.8	1.3
Portfolio investment	0.0	0.1
Others	n.a.	2.8
Asia	**8.1**	**10.3**
FDI	1.7	5.0
Portfolio investment	0.2	1.1
Others	6.2	4.2
Middle East and Europe	**-14.6**	**1.1**
FDI	-0.6	0.5
Portfolio investment	-0.1	4.9
Others	-13.9	-4.4
Western Hemisphere	**17.9**	**1.0**
FDI	3.4	5.2
Portfolio investment	0.5	0.1
Others	14.1	-4.3

Source: IMF, World Economic Outlook, September 2002

FDI in Transition Countries during the last decade

The period since the beginning of 1990 witnessed an immense upward shift in the level of capital inflows to EMEs. The years from 1990 through 2002 can nevertheless be grouped into two distinguished phases. The first phase lasted until the Asian crisis erupted in 1997 and was characterized by a steep increase in both FDI and FPI. Bank lending and trade credit were rather volatile, but on the whole increased as well (see Table 5.2). The second phase was characterized by a sharp downward correction in total capital inflows, followed by a recovery since 2002. Looking at the development of the individual categories of capital flows to EMEs during this second period, it is striking that FDI actually increased until 2001 and has fallen only slightly since then. The picture is completely different for FPI and bank lending as well as trade credits, all of which have shown significant retrenchments. The most recent recovery in total inflows can thus be attributed to the strength of FDI activities, while the net outflows in other categories of the EMEs' financial account have slowed down.

Table 5.2 Net private capital flows to emerging market economies (1990-2003, USD bln)

Countries/Position	Annual average 1990-1996	1997-2002	1996	1997	1998	1999	2000	2001	2002	2003
All countries	**142.0**	**61.0**	**228.8**	**102.2**	**62.1**	**84.8**	**29.4**	**24.9**	**62.4**	**64.9**
FDI	62.0	156.8	114.4	141.7	153.6	164.0	158.0	172.1	151.3	160.9
Portfolio investment	59.0	5.2	90.2	46.7	-0.1	34.3	-4.3	-42.6	-3.0	-4.0
Others	21.0	-101	24.1	-86.2	-91.5	-113	-124	-105	-85.9	-91.9
Africa	**7.1**	**9.7**	**11.9**	**9.4**	**11.6**	**15.1**	**6.1**	**6.9**	**8.8**	**8.9**
FDI	2.5	10.9	3.6	7.8	6.4	9.3	7.7	22.3	11.8	10.1
Portfolio investment	1.8	1.1	2.8	7.0	3.7	8.2	-2.2	-9.0	-1.0	-1.3
Others	2.9	-2.4	5.5	-5.4	1.5	-2.5	0.6	-6.4	-2.0	0.1
Asia	**60.4**	**0.6**	**122.1**	**7.1**	**-45.9**	**6.8**	**-12.9**	**16.7**	**31.6**	**7.9**
FDI	31.7	56.3	53.4	56.8	59.7	61.2	54.2	47.1	58.7	59.0
Portfolio investment	16.5	-0.8	32.8	7.3	-17.9	14.4	4.3	-13.5	0.7	-9.7
Others	12.2	-54.9	35.9	-56.9	-87.7	-68.8	-71.4	-16.8	-27.8	-41.3
Middle East and Turkey	**22.5**	**-11.0**	**7.2**	**15.0**	**9.1**	**0.2**	**-22.4**	**-48.4**	**-19.6**	**-9.4**
FDI	3.5	7.5	4.8	5.5	6.5	5.5	7.9	10.8	8.8	11.5
Portfolio investment	6.3	-10.5	1.8	-0.9	-13.2	-3.2	-13.7	-22.0	-9.8	-6.6
Others	12.7	-8.1	0.6	10.4	15.8	-2.1	-16.7	-37.1	-18.6	-14.4
Western Hemisphere	**40.0**	**45.6**	**64.9**	**69.3**	**72.7**	**49.7**	**48.6**	**22.8**	**10.3**	**26.5**
FDI	18.2	58.7	40.3	56.1	60.1	64.1	64.7	66.9	40.4	45.6
Portfolio investment	26.8	10.6	39.5	25.9	22.3	11.9	4.7	-2.2	1.0	7.6
Others	-5.0	-23.8	-14.9	-12.7	-9.8	-26.3	-20.8	-41.9	-31.1	-26.7
Countries in transition	**11.8**	**16.2**	**22.6**	**1.3**	**14.6**	**13.0**	**10.0**	**26.8**	**31.2**	**31.1**
FDI	6.1	23.4	12.3	15.5	20.9	23.9	23.4	25.1	31.5	34.7
Portfolio investment	7.5	4.7	13.3	7.5	5.0	2.9	2.6	4.2	6.1	6.0
Others	-1.8	-11.9	-3.0	-21.6	-11.3	-13.8	-16.0	-2.5	-6.4	-9.6

Source: IMF, World Economic Outlook, September 2002

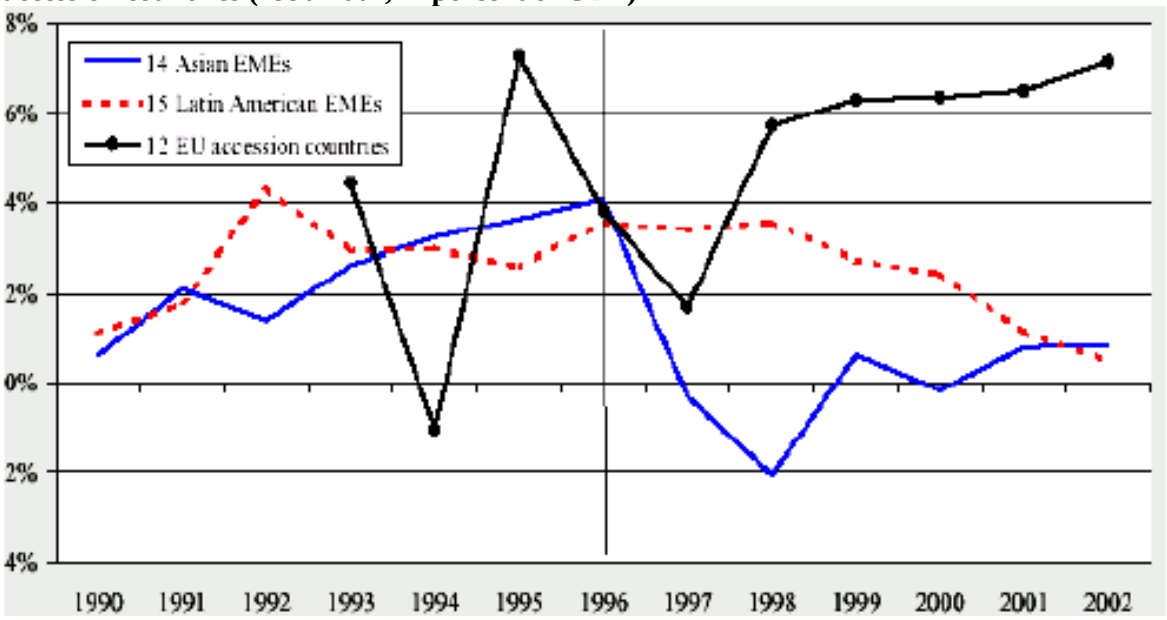
The upward shift in the average level of inflows since the beginning of the 1990s has mainly reflected substantial progress in proceeding with economic reforms in the recipient countries. With the demise of central planning regimes many EMEs increasingly adopted market-oriented and stability-oriented policies associated with the concept of the "Washington consensus". The lowering of international barriers for trade and investments, together with improved macroeconomic policies, heightened the attractiveness of EMEs as capital importers either in the form of FDI or as portfolio investments. These factors also

spurred the development of EME's financial sectors, including stock markets, thus enabling them to improve the outlook for satisfactory economic growth by enhancing financial intermediation. Moreover, the implementation of the Brady Plan for the resolution of the debt crisis of the 1980s, which implied a securitization of the banks' restructured claims, generally stimulated bond issues by emerging market borrowers as a new vehicle of capital inflows after the banks had remained hesitant.

FDI after Asian Crisis

In the aftermath of the Asian crisis, according to the ECB, net private capital flows to 45 EMEs declined to 1 % of GDP in 2002, after having stood at 3.7 % of GDP in 1995. As already mentioned, during this period FDI not only held up but actually increased. Striking is the shift that occurred simultaneously in the relative shares of net private capital flows for the different regions. While in 1996 the capital flows were evenly spread at around 4 % of GDP, by 2002 the Asian share had fallen to 1 % of GDP and that of Latin America to only 0.5 % of GDP, while the European accession countries enjoyed an increase in their share to 7% of GDP as can be seen in Figure 5.2. The behavior of capital flows since the beginning of the 1990s is reminiscent of earlier boom-bust cycles. Some commentators have remarked that the size of the retrenchment exceeds that experienced in earlier periods and should be seen as a source of concern since the ability of many emerging markets to meet their external obligations may be jeopardized. Such risks may be mitigated by both the size and the stability of FDI flows, although FDI can sometimes be less beneficial in terms of balance of payments financing than often assumed.

Figure 5.2 Net private capital flows to 14 Asian and 15 Latin American EMEs and 12 EU accession countries (1990-2002, in percent of GDP)



Source: European Central Bank

5.2.1 Reasons for FDI Increase

We may distinguish several factors that have stimulated so rapid increase of FDI flows in the recent decade. Technology, lure of higher profits, collapse of communist regimes in Central and Eastern Europe, and financial liberalization can be highlighted as the most important.

Technology

Progress in technology has contributed to the development of the whole monetary and financial system very significantly. Telecommunications and transportation advances have simply made it easier to do business across large distances. As former President Clinton once pointed out, in the 1960s, transatlantic telephone lines could only accommodate 80 simultaneous calls between Europe and the US. Today, satellites and other telecommunications infrastructure can handle one million calls at one time. Fax machines, email and the drop in the cost of air travel have also contributed significantly to the growth of FDI. As you can imagine, a business owner might think twice about trying to run an affiliate in a foreign country if communication with that office were not both easy and cheap. Changes in practices tend to be driven by changes in capabilities, and these new methods to communicate have unquestionably helped drive much of the subsequent desire to promote economic integration.

Lure of Higher Profits

In the 1980s and early 1990s, a number of countries in East Asia (Hong Kong, Indonesia, Japan, South Korea, Malaysia, Singapore, Taiwan and Thailand) began to experience enormous economic growth rates, in some cases piling up double-digit expansions in their GDP per capita year after year. These countries had built their phenomenal growth on a foundation based on greater integration into the international economy, particularly emphasizing export-led growth. Investors from around the world realized that access to East Asian markets and their trading partners might help them attain much higher returns on their investments than they could obtain at home.

Change of Political System

The end of the Cold War and collapse of communist regimes had an important impact on international financial liberalization. First, many developing countries that had previously been committed to socialist models of economic planning began to turn toward market economies. The resulting efforts to privatize state-owned enterprises and changes in economic policies that were more favorable to capital investment made these economies much more attractive to potential investors. In addition, the demise of the Soviet Union also gave many investors much more confidence in the political stability of developing countries in general. Fears that a government might be overthrown or voted out in favor of one that might expropriate foreign assets declined.

Financial Liberalization

Financial liberalization has been the most direct, and probably the single biggest, factor accounting for the growth of international investment flows over the past several decades. Prior to the 1970s, many countries, including the US, imposed strict limits on the rights of companies and individuals to invest overseas, to purchase foreign securities, or even to hold foreign currencies. Many of these restrictions were put in place following the Great Depression of the 1930's, which had produced volatile movements of capital, triggering financial panics in some cases. However, in the early 1970s, the US went off the gold standard and the previous system of fixed exchange rates between foreign currencies was abandoned. In addition, many restrictions were lifted on the flows of international capital, making it much easier for investors to purchase foreign securities. Since that time, the United States has been in the forefront of efforts to remove remaining controls on the movement of international capital. The Reagan and Clinton Administrations in particular made deregulation of capital movement a high priority on their international economic policy agendas.

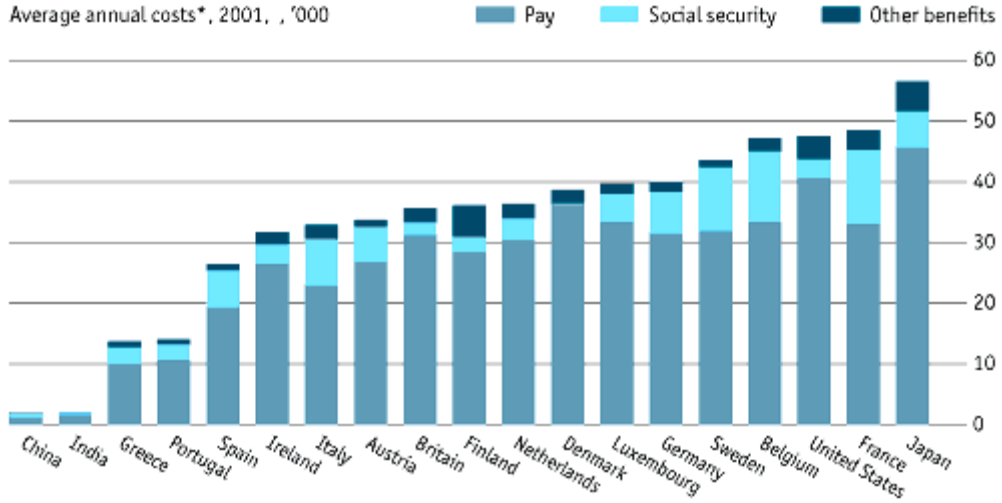
5.3 Motives and Risks of Foreign Direct Investment

5.3.1 Reasons for Investing Abroad

Labor Costs

The economic reasons for cross-border investing are many and varied. The cost of labor is a prime example. Lower labor costs are an important incentive for foreign investment in labor-intensive industries. In more capital-intensive industries labor costs are liable to play a less important role. On the other hand, the quality and skills of the labor force might even make investing in high-wage countries attractive when productivity depends on technology and know-how. This is the main reason why transition countries host primarily foreign investment in industries with high demand for manual workers rather than engineers and researchers. Level of annual labor costs in selected developed as well as transition and developing countries is reported in Figure 5.3.

Figure 5.3 Average annual labor costs in 2001 (USD thousand)



Source: The Economist, Mercer Consulting

Transport Costs

Transport costs are also an important consideration. For products with high transportation costs, the establishment of factories around the world might be justified as a means of reducing costs. For example, processing plants might be set up close to raw material sources. Where scale economies in manufacturing are limited, costs may be lowered by using smaller factories and locating them close to their markets thereby reducing costs on transporting the goods to market. Some countries are even attractive to foreign investors because of their central geographic location or efficient transportation system.

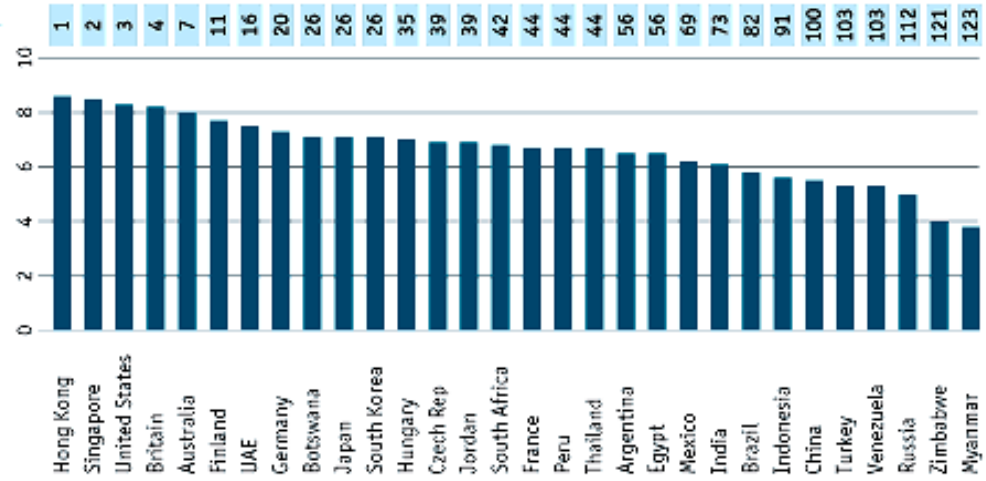
Diversification

Diversification of cash flows is another important economic motive for cross-border investment. It is based on the same principle as financial diversification. Insofar as company cash flows are correlated with the performance of individual national economies, and the performances of these economies are not perfectly correlated among themselves, by spreading investments across countries, cash flows can be stabilized and the return-risk trade-off can be improved.

Operational Constrains

Operational constraints may also induce direct investment. Government policies or fear of government policies that favor local production over imported goods can induce foreign companies to invest in the domestic market. Many developing countries link the availability of certain rare resources to the establishment of local processing plants. Investing abroad can also make it possible for companies to avoid regulations at home. The banking industry is a prime example. Banks often move offshore in order to avoid reserve requirements, deposit insurance, and credit and interest rate controls as well as taxes. Manufacturing firms can be motivated to move offshore by a desire to escape from stifling regulations such as environmental control and safety standards.[2] Figure 5.4 illustrates the level of economic freedom that represent how favorable are the business condition in some countries.

Figure 5.4 Economic freedom in 2001 (index, ranking)



Source: The Economist, Fraser Institute

Investment Incentives

Incentive measures are also often cited as important for attracting foreign investment. Incentive measures can be grouped as follows: (i) tax concessions such as generous investment write-offs, tax concession on sales, exports, license fees, etc.; (ii) tariff concessions such as exemption or reduction of tariffs on imported inputs or the provision of protective tariffs; (iii) financial incentives such as investment grants, local loans at preferential interest rates, employee training and requalification grants, and subsidies; (iv) other incentives such us exchange control concessions, curbing labor unions, or lowering environmental or safety standards.

Factor Advantages

A monopolistic advantage in technology is an obvious incentive to invest abroad. Other types of advantages include capital market access and management know-how. Access to capital markets lowers the firm's cost of capital and allows it to operate more cheaply than the smaller country firms that do not have the same financing opportunities. Management know-how might be one of the single most important factors in motivating a firm to invest abroad since it is probably one of the most important factors in the success or failure of a business venture.

[2] In fact, one of the remain arguments against the North American Free Trade Area (NAFTA) is that US manufacturing jobs are losing to companies moving to Mexico to take advantage of relatively lax environmental standards and labor laws.

Market Seeking

Firms may go overseas to find new buyers for goods and services. The top executives or owners of a company may realize that their product is unique or superior to the competition in foreign markets and seek to take advantage of this opportunity. So market-seeking may happen when producers have saturated sales in their home market, or when they believe investments overseas will bring higher returns than additional investments at home. This is often the case with high technology goods. As one analyst noted, "The minimum size of market needed to support technological development in certain industries is now larger than the largest national market."

If foreign investors are motivated to invest abroad they have to answer some questions and look at number of factors relating to how they will be able to operate in a foreign country:

- the rules and regulations pertaining to the entry and operations of foreign investors
- standards of treatment of foreign affiliates, compared to "nationals" of the host country
- the functioning and efficiency of local markets
- trade policy and privatization policy
- business facilitation measures, such as investment promotion, incentives, improvements in amenities and other measures to reduce the cost of doing business. For example, some countries set up special export processing zones, which may be free of customs or duties, or offer special tax breaks for new investors
- restrictions, if any, on bringing home (repatriating) earnings or profits in the form of dividends, royalties, interest or other payments.

5.3.2 Risks of Investing Abroad

An expansion of business beyond borders of the home country and penetration to new and unknown territory are associated with certain level of risk and concerns. Therefore, policy decisions of potential target countries of investment receive a close scrutiny from international investors. Consequently, a number of international agreements have been written to specifically address those concerns. They include the following issues:

National Treatment

This has been a core element of most agreements on trade in goods and services, and is also a critical issue pertaining to international investment. Typically, these provisions ensure that foreign investors and their subsidiary companies are "treated at least as well as their domestic counterparts," or "no less favorably" than domestic industries. A law which taxed foreign-owned entities at a higher rate than domestically owned entities would therefore violate these provisions. However, if a government wishes to give foreign-owned companies an incentive to invest such as tax-free treatment of manufacturing in an export processing zone, this would not generally constitute a violation of these agreements.

Domestic Content

Another limitation sometimes imposed on foreign investors is "domestic content requirements." These require foreign investors to purchase a certain percentage of intermediate goods from the host country. Domestic content requirements are perhaps the most common form of interventions by governments on foreign investment, and many economists believe they are the most harmful to economic development. Rules on investment developed among all 144 members of the World Trade Organization have limited substantially the opportunity for imposition of such requirements

Expropriation

The seizure of foreign assets by governments has historically been a major concern for international investors. Changes in governments in developing countries, or sometimes just changes in policies, have led to government takeovers of foreign assets. In the past, these expropriations have nationalized key industries (e.g. oil, electric power, mines or telecommunications), often providing little or no compensation to the original owner. This has long been a significant deterrent to foreign investment. Hence, provisions on expropriation both in bilateral and regional agreements, as well as in customary international law seek to ensure that any losses by investors must be fairly compensated without delay. But the "expropriation" issue has come to hold new meaning in legal disputes over property. Although the actual seizure of assets by governments is relatively uncommon today, the use of the term has been broadened to include other kinds of regulatory activities.

For example, imagine an investor purchases property overseas with the intention of building a manufacturing plant there. She may have even begun construction on the facility, spending millions of dollars. However, in the midst of this construction process, the host country government introduces new regulations, declaring the location of the facility unsuitable for industrial use, perhaps re-zoning it for exclusively residential purposes or declaring that it is an environmentally protected area that cannot be developed. As a result of this ruling, the investor has not only lost the money that was spent on building a factory on the site, but the real estate probably cannot even be resold for the purchase price because no other investor would want it given the new limitations on its use. In economic terms, the government regulation has therefore reduced substantially the value of the property to the investor. The investor may seek to claim that this new regulation constitutes an expropriation of property and that she therefore is entitled to compensation by the government for the loss she has suffered.

Free Transfer of Funds

Another practice that has historically been of serious concern to foreign investors is limitations on the transfers of funds - especially out of a country. During periods of economic crisis, foreign investors may wish to withdraw their assets, and have often found that foreign governments have imposed rules blocking their ability to do so. The wisdom of government policies restricting capital outflows, particularly of short-term portfolio investments, is still a matter of widespread debate among economists and public officials.

Dispute Settlement

These provisions typically spell out clear procedures that must be followed in the event of disputes between investors and host governments, to ensure that rules are adhered to and that arbitration may be established by mutual consent. It is extremely useful to set measures that have to be done in the case of dispute in advance and avoid in this manner a prolongation of the settlement.

The case for reducing these kinds of barriers to investment are well-grounded in economic facts. Obstacles to investment prevent countries from making optimal use of their own and other countries' resources. Countless billions of dollars of potential wealth - for investors in the form of profits, for workers in the form of wages, and for consumers in the form of lower prices - are lost every year due to barriers to trade and investment. Countries may impose these kinds of measures with the intention of protecting domestic industries from international competition and promoting their economic development, but this usually leads to misallocation of resources away from the natural economic capabilities of nations

5.4 Effects of FDI on the Economy of Host Country

International investment is important to most economies, and can be particularly vital for developing countries. In many instances, developing countries have both the demand for a good or service, and the labor and natural resources to supply it, but they lack the access to capital necessary to begin producing. In the US, most businesses start when an entrepreneur goes to a bank and takes out a loan. Larger enterprises may go to an investment bank to sell stocks or bonds, to get their businesses going. But in many developing countries, either banks do not exist in adequate numbers or they do not have enough capital to lend to even the majority of worthy borrowers. Thus, foreign investment provides essential capital to help spark the creation of productive enterprises.

Capital Inflows

A positive side effect of helping entrepreneurs get started is the creation of jobs, leading to increased income levels and thereby increased consumer demand. Such demand in turn triggers opportunities for other enterprises and, through this multiplier effect, the capital that comes with foreign investment often helps produce economic growth. This pattern also applies in developed countries. The world's largest recipient of foreign investment is the US. Over the past several decades, the hundreds of billions of dollars of foreign capital that has been invested in the US has been of tremendous benefit to the US economy, strengthening the dollar, and helping to bring down interest rates by increasing the supply of capital for loans to business and individuals. Thanks to foreign investment, the US economy is no longer a "domestic" economy in the traditional sense. In 1998 the total stock of US investment from domestic capital sources was 15.8 % of total annual gross domestic product (GDP) and the balance of existing investment in the US was financed from foreign sources. The total of foreign investments grew from USD 748 billion in 1982 to USD 6.6 trillion in 1998. This shows that even the US economy is heavily reliant on foreign capital inflows, which have led to the establishment of new industries as well as job creation in the US.

Employment

Stated very simply, when a company builds a factory in a foreign country, it generally creates new jobs. For example, foreign investment in the US contributes significantly to domestic employment. In 1991, roughly 5 % of the US labor force was employed by foreign-owned enterprises, and wages in these companies paid on average 23 % more than domestic employers. Opponents of globalization often express concerns about jobs lost in the domestic economy when a factory moves abroad, and about downward pressure on wages at home due to the availability of cheaper labor abroad. Job losses can mean that displaced home country workers, though unlikely to remain unemployed permanently, may be forced to take lower-paying jobs. But any downward pressure on wages in general (for those in trade and non-trade related industries) may be offset by lower prices for domestic consumers as a whole due to the movement of the factory. Consider the following process: a company moves its factory to a less developed country to take advantage of lower labor costs and increase its profits. The poorer country may be said to have a comparative advantage in the production of low-skill, labor-intensive goods, such as textiles and apparel. Other companies follow to gain the benefits of lower costs of labor, and are likely to cut their prices to compete with the company already established in the poor country. As competition increases, consumers in the home market, as well as those in the poor market will benefit from lower prices, while the less developed country has all the benefits of new know-how, jobs and related consumer demand.

Technology and Spillovers

Another avenue in which FDI can bear positively on growth in EMEs is through endowing host firms with more efficient technology as well as management techniques. Otherwise domestic resources would have to be spent by firms on either undertaking their own R&D or on importing the required technology. By supplying new state-of-the-art technology and by training the local employees the foreign investor can also initiate a spillover process where local firms will eventually adapt and implement the superior technology, thus raising productivity and boosting growth additionally. In the longer run, FDI in the financial sector of EMEs can be particularly helpful in this regard, thereby also enhancing the stability of the domestic financial system. M&As typically provide advantages of the latter kind, while greenfield investments are usually even more beneficial because they generally imply the desired transfer of additional venture capital.

Competitiveness in Domestic Industry

Competition from foreign corporations often encourages domestic companies to become more efficient and globally competitive. These improvements can result from the effect known as "backward linkages." Backward linkages are the long-term relationships that develop between a foreign investor and other firms in the host country. For example, when a firm decides to build a plant that assembles electrical appliances in a foreign country, the firm not only provides a certain number of people with new jobs, but the location of the plant is also likely to encourage the development of new local industries that can supply it with electric motors, fans and other parts for its production.

Stock Market

Furthermore, FDI may have a positive influence on the development of the local stock market if foreign firms were to recover part of the investment by selling equities in the host country. Additionally, the liquidity of stock markets is increased if foreign investors choose to purchase existing equities of the local firm as part of the investment.

Balance of Payments

An investment by a foreign company can affect the balance of payments of the host country in several ways. Clearly, the recipient country may experience a one-time inflow of capital and later, should the enterprise function profitably, a continuing outflow of funds due to profit repatriations. Further balance of payments effects result from the operations of the enterprise over time. In this regard, a distinction can be made between direct and indirect effects. Direct effects include inflows of equity capital, export revenues, loans from the home country, imports of goods (from raw materials to capital goods), payments of license fees and interest as well as after-tax profits that accrue outside the host country. Indirect effects include those changes in flows that are due to the substitution of local resources for previously imported goods and services.

The effects of FDI on trade flows depend on whether the investment is targeting the host country's market or the world market including the home country. Horizontal FDI, that is investment in a company that essentially produces the same goods, may aim at jumping trade barriers or reducing transaction costs. It will then tend to dampen previous imports of the host country, as the export base is transferred inside the targeted market. By contrast, if horizontal FDI is motivated by advantages in production costs, the host country's exports would increase. Vertical FDI, where different production stages take place in different locations, will usually be focused on the world market. As a result of these conflicting factors the empirical evidence as to whether in the long run FDI tends to improve or deteriorate the balance of payments of the recipient EMEs does not seem to be conclusive. One general remark may be

in order, however. The import content of output produced in emerging markets is often much higher than in industrialized economies. Therefore, FDI in EMEs will usually be less beneficial in terms of the balance of payments than is the case for industrialized countries. Finally, it must be mentioned that FDI in the form of M&As often does not enhance the export capacity of the host country nor reduce its dependency on imports, while profit repatriations have to be anticipated. Under the circumstances, FDI inflows to finance protracted current account imbalances might contribute to prolonging unsustainable policies.

Questions and Exercises

1. *Should foreign investment be considered as a flow, stock, or both? Provide and explanation of your answer.*
2. *What is the basic difference between direct investment and portfolio investment?*
3. *How can be foreign direct investment realized?*
4. *What factors would you evaluate if you were an investor? Pretend you wanted to open a manufacturing plant to boost production of your wildly popular technological gizmo. What sorts of criteria would you evaluate in determining where to invest? Now pretend that you were looking for a short-term bond purchase for your company's retirement plan. What factors would influence your decision to invest in this case?*
5. *In what ways do the criteria for investing differ between FDI and FPI?*
6. *Give examples of economic and political risks that may threaten foreign investment abroad?*
7. *Are the effect of foreign direct investment on the host country's balance of payments predominantly positive or negative?*
8. *Why are the most developed and industrialized countries with high labor costs the most attractive target countries for direct investment while cheap labor force is one of the most important motives to invest abroad?*
9. *Why can be foreign direct investment beneficial for emerging and developing countries?*
10. *What is horizontal foreign direct investment? Present some example.*
11. *What is vertical foreign direct investment? Present some example.*
12. *What are the differences between branch and subsidiary? Which kind of business are these forms suitable for?*

PART II.

INTERNATIONAL MONETARY SYSTEM

6. HISTORY OF INTERNATIONAL MONETARY SYSTEM

Like most areas of public policy, international monetary relations are subject to frequent proposals for change. Fixed exchange rates, floating exchange rates, and commodity-backed currency all have their advocates. Before considering the merits of alternative international monetary systems, we should understand the background of the international monetary system. Many students will imagine that an international monetary system is a set of rules set by officials and experts at an international conference. The Bretton Woods Agreement to manage exchange rates and balance of payments, which emerged from an international conference in 1944, might be considered a typical example. Monetary rules established by international agreements, however, are the exception, not the rule.

More commonly, international rules have arisen out of the individual choices of countries constrained by the prior decisions of their neighbors and by other historical events. The emergence of the classical gold standard before World War I is an example of this spontaneous process. The gold standard evolved out of the variety of commodity-money standards that emerged before the development of paper money. Its development was one of the accidents of modern times. It owed much to Great Britain's accidental adoption of a de facto gold standard in 1717, when Sir Isaac Newton, as master of the mint, set too low a gold price for silver, causing silver coins to disappear from circulation. With Britain's emergence in the nineteenth century as the world's leading financial and commercial power, British monetary practices became an attractive alternative to silver-based money for countries seeking to trade and borrow from the British Union. Out of these independent decisions of national governments an international system of fixed exchange rates, based on gold, was born.

6.1 The Gold Standard

6.1.1 Gold Standard before World War I

Silver was the dominant money during medieval times and into the modern era. Other metals were too heavy (copper) or too light (gold) when cast into coins of a value convenient for transactions. Gold coins were used to settle large transactions. This mixture of silver and gold (and copper in Sweden in 1625) was the basis for international settlements. When the residents of a country purchased abroad more than they sold, or lent more than they borrowed, they settled the difference with money acceptable to their creditors. In the early nineteenth century, the monetary system of many countries permitted the simultaneous minting and circulation of both gold and silver coins. The US, The Netherlands and France had a bimetallic standard. These countries were on a bimetallic standard. Only Britain was fully on the gold standard from the start of the century. The German states, the Austro-Hungarian Empire, Scandinavia, Russia, and the Far East operated silver standards. Countries with bimetallic standards provided the link between the gold and silver blocs.

Bimetallic Standards as Predecessors of Gold Standard

The French law of 1803 was representative of their bimetallic statutes: it required the mint to supply coins with legal-tender status to individuals presenting specified quantities of silver or gold. The mint ratio of the two metals was 15½ to 1 (one could obtain from the government's mint coins of equal value containing a certain amount of gold or 15½ times as much silver). Maintaining the circulation of both metals was difficult. If the market price was higher than the mint ratio, say 17 to 1, then there was an incentive for arbitrage. The

arbitrageur could import 15½ ounces of silver and have it coined at the mint. He could exchange at the mint that silver coin for one containing an ounce of gold. He could export the gold and trade it for 17 ounces of silver on foreign markets, leaving the arbitrageur a profit of 1½ ounces of silver.

Gold discoveries in California in 1848 and Australia in 1851 increased the production of gold by 1,000 %. The price of gold dropped substantially and gold was shipped to bimetallic countries, where the mint stood ready to purchase it at a fixed price. For example, French silver, which was undervalued, left France for the Far East and other silver standard countries. When silver deposits were discovered in Nevada, the opposite happened. Silver invaded bimetallic countries and French gold left for Britain. At the beginning of the second half of the 1800s, countries with commercial and financial ties with Britain started to adopt the gold standard. Portugal adopted the gold standard in 1854. Germany followed in 1871. Soon, the majority of the entire European continent was in the gold standard. By the end of the nineteenth century, Spain was the only European country still on inconvertible paper. The US omitted reference to silver in the Coinage Act of 1873; when the greenback rose to par and convertibility was restored in 1879, the US was effectively on gold. The system was adopted in Asia and in Latin America. Silver remained the monetary standard only in China and a few Central American countries.

Principles and Maintaining of Gold Standard

Under a *gold standard*, currencies are valued in terms of their gold equivalent (an ounce of gold was worth USD 20.67 in terms of the US dollar over the gold standard period). The gold standard is an important beginning for a discussion of international monetary systems because when each currency is defined in terms of gold value, all currencies are linked together in a system of fixed exchange rates. For instance, if currency A is worth 0.10 ounce of gold, whereas currency C is worth 0.20 ounce of gold, then 1 unit of currency B is worth twice as much as 1 unit of A, and thus the exchange rate of 1 currency B = 2 currency A is established.

Maintaining a gold standard requires a commitment from participating countries to be willing to buy and sell gold to anyone at the fixed price. To maintain a price of USD 20.67 per ounce, the US had to buy and sell gold at that price. Gold was used as the monetary standard because it is a homogenous commodity (could you have a fish standard?) worldwide that is easily storable, portable, and divisible into standardized units like ounces. Since gold is costly to produce, it possesses another important attribute – governments cannot easily increase its supply. A gold standard is a *commodity money standard.* Money has a value that is fixed in term of commodity gold.

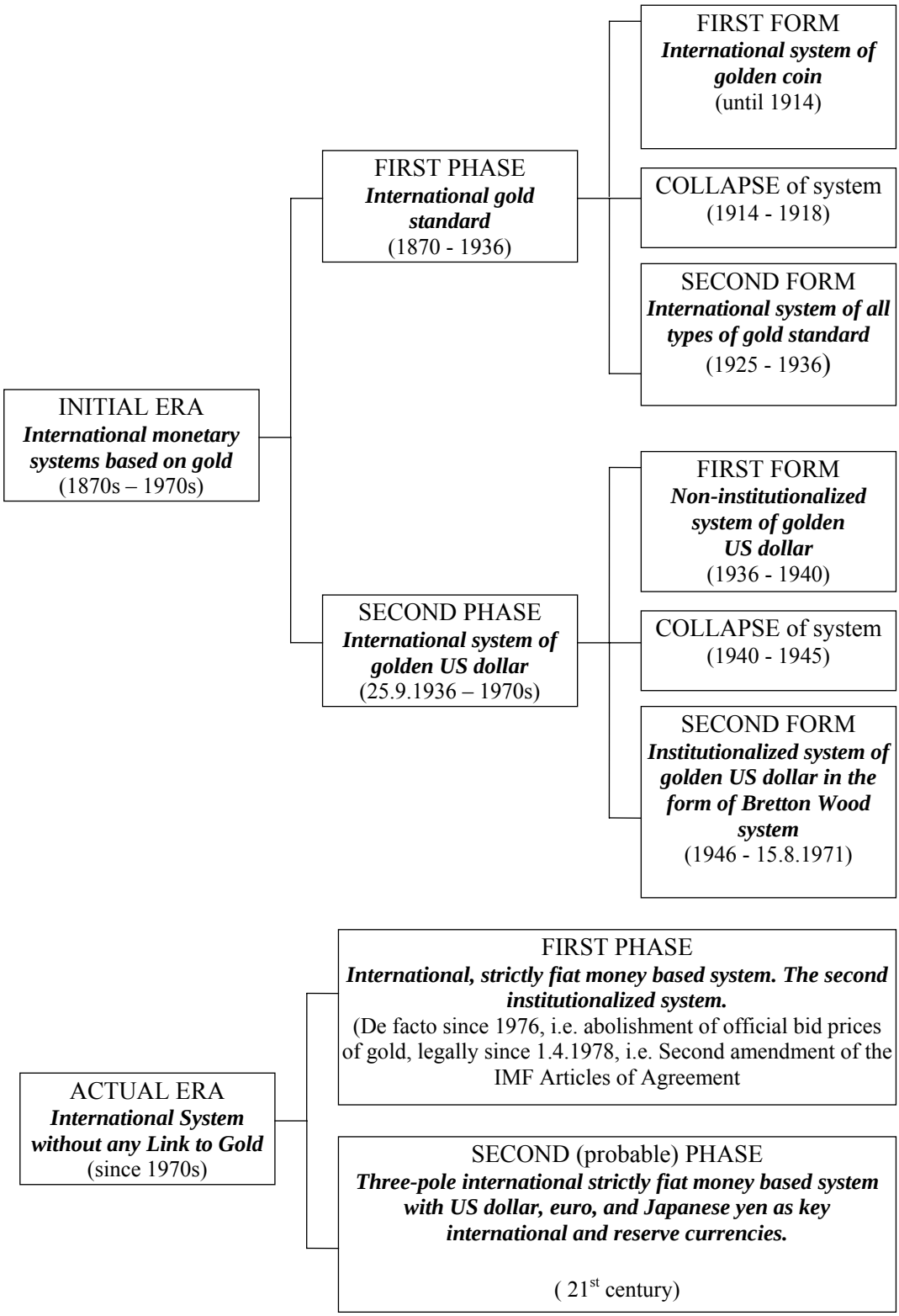
Effects of Gold Standard on National Economy

One aspect of a money standard that is based on a commodity with relatively fixed supply is long-term price stability. Since governments must maintain a fixed value of their money relative to gold, the supply of money is restricted by the supply of gold. Prices may still rise and fall with savings in gold output and economic growth, but the tendency is to return to a long-run stable level. Since currencies were convertible into gold, national money supplies were constrained by the growth of the stock of gold. As long as the gold stock grew at steady rate, prices would also follow a steady path. New discoveries of gold would generate discontinuous jumps in the price level, but the period of the gold standard was market by a fairly stable stock of gold.

People today often look back on the gold standard as a “golden era” of economic progress. It is common to hear arguments supporting a return to the gold standard. Such arguments usually cite the stable prices, economic growth, and development of world trade

during this period as evidence of the benefits provided by such an orderly international monetary system. Others have suggested that the economic development and stability of the world economy in those years did not necessarily reflect the existence of gold standard but, instead, the absence of any significant real shocks such as war. Although we may disagree on the merits of returning to a gold standard, it seems fair to say that the development of world trade was encouraged by the systematic linking of national currencies and the price stability.

Scheme 6.1 Development of international monetary system



Since gold is like a world money during a gold standard, we can easily understand how a balance of payments disequilibrium may be remedied. A country running a balance of payments (official settlements) deficit would find itself with net outflows of gold, which would reduce its money supply and, in turn, its prices. A surplus country would find gold flowing in and expanding its money supply, so that prices rose. The fall in price in the deficit country would lead to greater net exports (export minus imports), and the rise in price in the surplus country would reduce its net exports, so that balance of payments equilibrium would be restored.In practice, actual flow of gold were not the only, or even necessarily the most important, means of settling international debts during this period. Since London was the financial center of the world, and England the world's leading trader and source of financial capital, the pound also served as a world money. International trade was commonly priced in pounds, and trade that never passed through England was often paid for with pounds.

Box 6.1 Gold standard in work

In its simplest form, as described by English economist David Hume more than two centuries ago, flows of gold would automatically keep economies and trade in balance. A surplus in trade would attract gold, producing an expansion of money supply. Spending would rise, along with prices, which in turn would attract imports. On the other hand, a trade deficit would then lead to an outflow of gold, contracting money stock, deflating prices, which would make the nation's exports more competitive, until a trade surplus emerged and the cycle started anew. David Hume's version of the gold standard involved no central bank or government involvement. During the classic gold period, from 1880 until 1914, the Bank of England assisted the process. It would react to outflows of gold by raising the bank rate, which would deflate prices, making British goods more competitive and reducing demand for imports. Higher interest rates would also attract gold (capital) to the London money market. The price adjustment mechanism is given by the Quantitative Theory of Money (QTM). Formally,

$M_S V = P Y,$

where M_S represents the quantity of gold (money) supplied in a given economy, V represents money's velocity, Y represents real output, and P represents nominal prices. In the short run, the velocity of money, and real output are considered stable. Therefore, in the short-run, any changes in will be reflected in P. For example, a 10 % increase in the quantity of gold in England will cause a 10 % increase in English prices. War disrupted financial affairs. To raise armies and pay for weapons and munitions kings and governments are forced to spend more than they have. A gold standard was usually abandoned in favor of printed money. By printing money, kings and governments were raising revenue through inflationary taxation. Such was the case in Britain during the Napoleonic Wars and in the US with the Civil War. Inflation would be the by-product of war, and deflation and depression its aftermath. Prices in England and the US, however, were roughly the same at the beginning of the 20^{th} century as they were early in the 19^{th} century.

6.1.2 Gold Standard in the Interwar Period

World War I ended the gold standard. International financial relations are greatly strained by war, because merchants and bankers must be concerned about the probability of countries suspending international capital flows. At the beginning of the war both the patriotic response of each nation's citizen and legal restrictions stopped private flows of gold. Since

wartime financing required the hostile nations to manage international reserves very carefully, private gold exports were considered unpatriotic. Central governments encouraged (and sometimes mandated) the private holders of gold and foreign exchange sell these holdings to the government.

Attempts to Reestablish Gold Standard

Because much of Europe experienced rapid inflation during the war and in the period immediately following it, it was not possible to restore the gold standard at the old exchange values. However, the US had experienced little inflation and thus returned to a gold standard by June 1919. The war ended Britain's financial preeminence, since the US has risen to the status of the world's dominant banker country. In the immediate postwar years the pound fluctuated freely against the dollar in line with changes in the price level of each country. In 1925, England returned to a gold standard at the old prewar pound per gold exchange rate, even though prices had risen since the prewar period. As John Maynard Keynes had correctly warned, the overvalued pound hurt UK export and led to a deflation of British wages and prices. By 1931, the pound was declared inconvertible because of a run on British gold reserves (a large demand to convert pounds into gold), and so ended the brief UK return to a gold standard. One the pound was no longer convertible into gold, attention centered on the US dollar. A run on US gold at the end of 1931 led to a 15 % drop in US gold holdings. Although this did not lead to an immediate change in US policy, by 1933 the US abandoned the gold standard.

Competitive Devaluations

The Depression years were characterized by international monetary warfare. In trying to stimulate domestic economies by increasing exports, country after country devalued, so that the early to mid-1930s may be characterized as a period of competitive devaluations. Governments also resorted to foreign exchange controls in an attempts to manipulate net exports in a manner that would increase GDP (gross domestic product). Of course, with the onslaught of World War II, the hostile countries utilized foreign exchange controls to aid the war-financing effort.

6.2 Bretton Woods System

Memories of the economic warfare of the interwar years led to an international conference at Bretton Woods, New Hampshire, in 1944. At the close of World War II there was a desire to reform the international monetary system to one based on mutual cooperation and freely convertible currencies. The Bretton Woods agreement required that each country fix the value of its currency in terms of gold (this established the "par" value of each currency and was to ensure parity across currencies). The US dollar was the key currency in the system, and USD 1 was defined as being equal in value to 1/35 ounce of gold. Since every currency had a defined gold value, all currencies were linked in a system of fixed exchange rates. The Bretton Woods Agreements needed a player with a large stock of gold to supply to the market whenever there was a tendency for the market price of gold to increase, and a large stock USD with which to purchase gold whenever there is a tendency for the market price of gold to go down. The US had plenty of gold (nearly 60 % of the world's stock) and, obviously, plenty of USD. Thus, the Bretton Woods system would have the US remain the ultimate bulwark, maintaining the value of the dollar stable versus gold. The USD became the main reserve currency held by

Basic Principles of Bretton Woods Monetary Arrangement

central banks and was the currency used for international transactions. Other nations would keep a stable, but flexible exchange rate mechanism.

Maintaining Stability of Bretton Woods System

Nations were committed to maintaining the parity value of their currencies within ± 1 % of parity. The various central banks were to achieve this goal by buying and selling their currencies (usually against the dollar) in the foreign exchange market. When a country was experiencing difficulty maintaining its parity value because of balance of payments disequilibrium, it could turn to a new institution created at the Bretton Woods conference: *the International Monetary Fund* (IMF). The IMF was created to monitor the operation of the system and provide short-term loans to countries experiencing temporary balance of payments difficulties. Such loans are subject to IMF conditions regarding changes in domestic economic policy aimed at restoring balance of payments equilibrium.[1] In the case of fundamental disequilibrium, when the balance of payments problems are not of a temporary nature, a country was allowed to devalue its currency, making a permanent change in the parity rate of exchange. Table 6.1 summarizes the history of exchange rate adjustments over the Bretton Woods period for the major industrial countries.

Table 6.1 Exchange rates of major industrial countries over the period of Bretton Wood System

country	*exchange rate adjustments (relative to USD)*
Canada	floated until May 2, 1962, then pegged at 1.081 CAD/USD floated again on June 1, 1970
France	no official IMF parity value after 1948 (although the actual rate hovered around 350 FRF/USD) December 29, 1958 exchange rate fixed at 493.7 FRF/USD after revaluation of franc in beginning of 1960, exchange rate set to 4.937 FRF/USD devaluation to 5.554 FRF/USD on August 10, 1969
Germany	revaluation on March 6, 1961, from 4.20 DEM/USD to 4.00 DEM/USD revaluation on October 26, 1969, from 4.00 DEM/USD to 3.66 DEM/USD
Italy	pegged at 625 ITL/USD from March 30, 1960 until August 1971
Japan	pegged at 360 JPY/USD until 1971
Netherlands	pegged at 13.80 NLG/USD until March 7, 1962 when revaluation at 13.62 NLG/USD
United Kingdom	devaluation from 2.80 USD/GBP to 2.40 USD/GBP on November 11, 1967

We notice, then, that the Bretton Woods system, although essentially a fixed, or pegged, exchange rate system, allowed for changes in exchange rates when economic circumstances warranted such changes. In actuality, the system is best described as an *adjustable peg.* The system may also be described as a gold exchange standard because the key currency, the dollar, was convertible into gold for official holders of dollars such as central banks and treasuries.

The Bretton Woods system worked well through the 1950s and part of the 1960s. By the late 1960s, the cost of the Vietnam War, plus the cost of the new domestic programs of the Great Society, began to put pressure on the USD. The US was spending more than it produced. As a consequence, in 1958 the US began to have large balance of payment deficits,

[1] Comprehensive information about the IMF are provided in the Chapter 7.

Functioning of Bretton Woods System

which were partially financed with the creation of USD. Concern over the large foreign holdings of dollars along with high US inflation led to an increased demand for gold and caused the (private) market price of gold to rise above the Bretton Woods Agreements price of USD 35 per ounce. That is, the market value of the USD was below the official rate, relative to foreign currencies. A run on the USD followed as speculators (including investors, banks, and governments) rushed to buy gold from the US at the official rate of USD 35 per ounce. Central bank cooperation in an international gold pool managed to stabilize temporarily gold prices at the official price, but still the pressures mounted. Although the problem of chronic US deficits and Japanese and European surpluses could have been remedied by revaluating the undervalued yen, mark, and franc, the surplus countries argued that it was the responsibility of the US to restore balance of payments equilibrium. Table 6.2 shows development of the US balance of payments deficit during the respective period.

Table 6.2 Deficits of the US balance of payments (USD bln)

year	1956	1958	1959	1960	1961	1962	1963	1964	1965	1967	1970	1971
defic	-0,11	-2,82	-2,28	-3,42	-1,35	-2,65	-2,04	-1,55	-1,30	-3,40	-9,84	-29,8

Source: International Financial Statistics

Collapse of Bretton Woods System

In March 1968, the effort to control the private market of gold was abandoned. A dual system was established. Official transactions (transactions among Central Banks) in gold would be carried out at the official rate of USD 35 per ounce. The private market could trade at the equilibrium market price. The private price of gold immediately increased to USD 43 per ounce. By the end of 1969, the price of gold went back to USD 35 per ounce. The "dollar crisis of 1971" led President Nixon to suspend, in August 15, 1971, the dollar's convertibility into gold (due to expansive monetary policies). In the meantime, exchange rates of most of the leading countries were allowed to float in relation to the USD. By the end of 1971, most of the major trading currencies had appreciated vis-a-vis the USD.

Box 6.2 Collapse of Bretton Wood: An application of Hume's QTP

The collapse of the Bretton Woods Agreements can be explained by Hume's QTM. Annual US money supply (M1) growth averaged 2.2 % during the 1950s. During the Kennedy administration, the annual M1 growth rate increased to 2.9 %. During the Johnson administration, the annual M1 growth rate increased substantially: 4.6 % over 1964-1967 and 7.7 % in 1968. During the Nixon administration, the annual M1 growth rate initially decreased to 3.2 % in 1969, increased to 5.2 % in 1970, and then jumped to 7.1 % over 1971-1973. An inconsistent monetary policy caused the fixed exchange rate system to collapse.

Smithsonian Agreement

In December 1971, a major modification to Bretton Woods was declared (The Smithsonian Agreement). The price of gold was raised to USD 38.02 and the band of fluctuation was widened to plus or minus 2.25 percent. At the same time that the dollar was being devalued by about 8 %, the surplus countries saw their currencies revalued upward. Although the realignment of currency values provided by the Smithsonian agreement allowed a temporary respite from foreign exchange crises, the calm was short-lived. Speculative flows of capital began to put downward pressure on the pound and lira. In June 1972, the pound began to float according to supply and demand conditions. The countries experiencing large

inflows of speculative capital, such as Germany and Switzerland, applied legal controls to slow further movements of money into their economies.

Although the gold value of the dollar had been officially changed, the dollar was still inconvertible into gold, and thus the major significance of the dollar devaluation was with respect to the foreign exchange value of the dollar, not to official gold movements. In early 1973 the US dollar came under attack once again, forcing a second devaluation on February 12, 1973, this time the prices of gold was raised to USD 42.22. By late February 1973 the system totally collapsed. The major exchange markets were actually closed for several weeks in March 1973, and when they reopened, most currencies were allowed to float. The dual system that started in March 1968 was abandoned in November 1973. By then, the price of gold had reached USD 100 per ounce. Since that time (dirty) floating exchange rates have prevailed for the major countries.

6.3 Post Bretton Woods System

After the collapse of the Bretton Woods system, the world observed a period of high risk in financial markets. Whether floating rates was the cause or the effect of monetary instability is the subject of continuing debate. Exchange rate volatility has been considered too high many times during the past 30 years. Overall, the world has had a managed (by central banks) floating exchange rate system.

Oil Crisis of 1973-1974

October 1973 marked the beginning of successful efforts by the Organization of Petroleum Exporting Countries (OPEC) to raise the price of oil. By 1974, oil prices had quadrupled. Nations responded in various ways to the vast shift of resources to the oil-exporting countries. Some nations, such as the US, tried to offset the effect of higher energy bills by boosting spending, pursuing expansionary monetary policies, and controlling the price of oil. The result was high inflation, economic dislocation, and a misallocation of resources without bringing about the real economic growth that was desired. Other nations, such as Japan, allowed the price of oil to raise to its market level and followed more prudent monetary policies. The first group of nations experienced balance of payments deficits because their governments kept intervening in the foreign exchange market to maintain overvalued currencies. The second group of nations, along with the OPEC nations, wound up with balance of payments surpluses. These surpluses were recycled to debtor nations, setting the stage for the international debt crisis of the 1980s.

Jamaica Accords

In January 1976, the IMF convened a monetary summit in Jamaica to reach some agreement on a new monetary system. The Jamaica Accords formally recognized the managed floating system and allowed nations the choice of a foreign exchange regime as long as their actions did not prove disruptive to trade partners and the world economy. Gold was demonetized as a reserve asset. The Jamaica Accords were ratified in April 1978.

US Dollar Crisis of 1977-1978

During 1977-1978, the value of the dollar plummeted an US balance of payments difficulties were exacerbated as the Carter Administration pursued an expansionary monetary policy that was significantly out of line with other strong currencies. The turnaround in the dollar's fortune can be dated to October 6, 1979, when the Federal Reserve System (Fed) under its new chairman, Paul Volcker, announced a major change in its conduct of monetary policy. From here on, in order to curb inflation, it would focus on its efforts on stabilizing the money

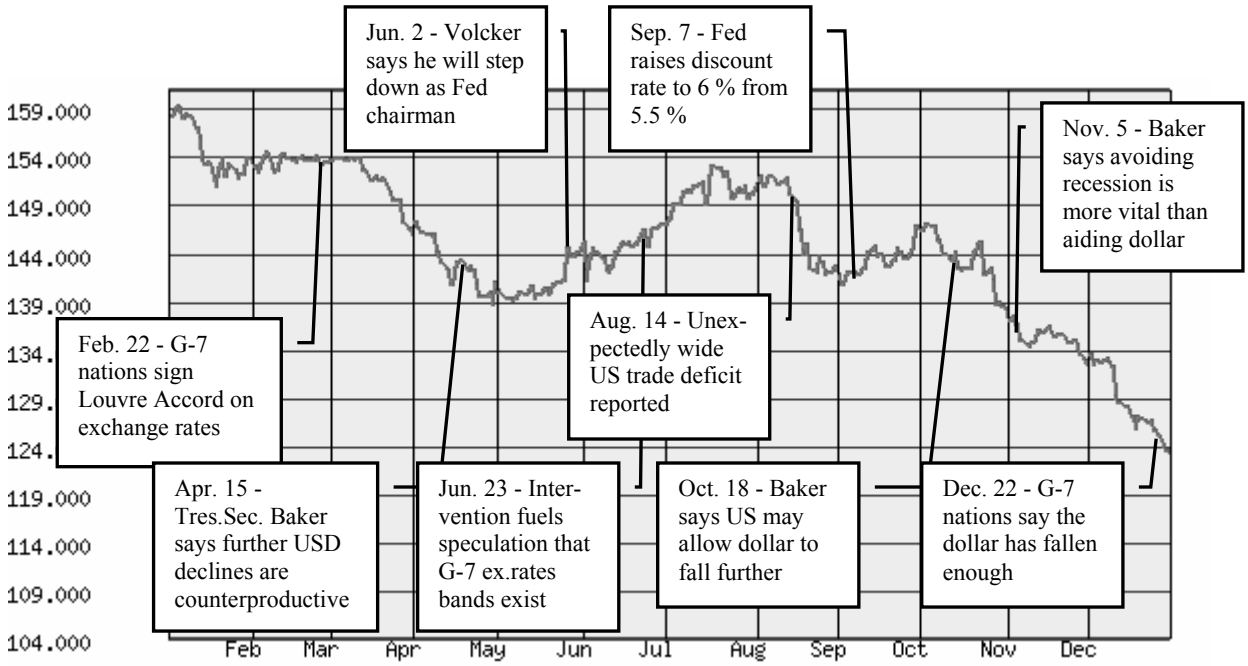
supply, even if that meant more volatile interest rates. Before this date, the Fed had attempted to stabilize interest rates, indirectly causing the money supply to be highly variable.

Attempts to Manage Floating Exchange Rates in 1980s

This shift had its desired effect on both the inflation rate and the value of the US dollar. During President Reagan's first term in office (1981-1984), inflation plummeted and the dollar rebounded extraordinarily. This rebound has been attributed to vigorous economic expansion in the US and to high real interest rates (owing largely to strong US economic growth) that combined to attract capital from around the world. The dollar peaked in March 1985 and then began a long downhill slide. This slide is largely attributable to changes in government policy and the slowdown in US economic growth relative to growth in the rest of the world.

By September 1985, the dollar had fallen about 15 % from its March high, but this decline was considered inadequate to dent the growing US trade deficit. In late September of 1985, the Group of Five, or G-5 nations (the US, France, Japan, Great Britain, and West Germany), met at the Plaza Hotel in New York City. The outcome was the *Plaza Agreement*, a coordinated program designed to force down the dollar against other major currencies and thereby improve American competitiveness. The policy to bring down the value of the dollar worked too well. The dollar slid so far during 1986 that the central banks of Japan, West Germany and the UK reversed their policies and began buying dollars to stem the dollar's decline. Believing that the dollar had declined enough and in fact showed signs of "overshooting" its equilibrium level, the US, Japan, West Germany, France, Great Britain, Canada any Italy – also known as the Group of Seven, or G-7 nations – met again in February 1987 and agreed to an ambitious plan to slow the dollar's fall. The *Louvre Accord*, named for the Paris landmark where it was negotiated, called for the G-7 nations to support the falling dollar by pegging exchange rates within a narrow, undisclosed range, while they also moved to bring their economic policies into line. As always, however, it proved much easier to talk about coordinating policy than to change it. The hoped-for economic cooperation faded, and the dollar continued to fall.

Figure 6.1 Effects of government actions and statements on the value of 1987 dollar



Assessment of the Floating-Rate System

At the time floating rates were adopted in 1973, proponents said that the new system would reduce economic volatility and facilitate free trade. In particular, floating exchange rates would offset international differences in inflation rates do that trade, wages, employment, and output would not have to adjust. High inflation countries would see their currencies depreciate, allowing their firms to stay competitive without having to cut wages or employment. At the same time, currency appreciation would not place firms in low inflation countries as a competitive disadvantage. Real exchange rates would stabilize, even if permitted to float in principle, because the underlying conditions affecting trade and the relative productivity of capital would change only gradually; and if countries would coordinate their monetary policies to achieve a convergence of inflation rates, then nominal exchange rates would also stabilize.

Increased Currency Volatility

The experience to date, however, is disappointing. The dollar's ups and downs have had little to do with actual inflation and a lot to do with expectations of future government policies and economic conditions. Put another way, real exchange rate volatility has increased, not decreased since floating began. This instability reflects, in part, non-monetary (or real) shocks to the world economy, such as changing oil prices and shifting competitiveness among countries, but these real shocks were not obviously greater during 1980s or 1990s than they were in earlier periods. Instead, uncertainty over future government policies has increased. Given this evidence, a number of economists and others have called for a return to fixed exchange rates. To the extent that fixed exchange rates more tightly constrain the types of monetary and other policies governments can pursue, this approach should make expectations less volatile and, hence, promote exchange rate stability.

Requirements for Currency Stability

Although history offers no convincing model for a system that will lead to long-term exchange rate stability among major currencies, it does point to two basic requirements. First, the system must be credible. If the market expects an exchange rate to be changed, the battle to keep it fixed is already lost. Second, the system must have price stability built into its very core. Without price stability, the system will not be credible. Recall that under fixed-rate system, each member must accept the group's inflation rate as it own. Only a zero rate of inflation will be mutually acceptable. If the inflation rate is much above zero, prudent governments will defect from the system.

Even with tightly coordinated monetary policies, freely floating exchange rates would still exhibit some volatility because of real economic shocks. However, this volatility is not necessarily a bad thing because it could make adjustment to these shocks easier. For example, it has been argued that flexible exchange rates permitted the US to cope with the buildup in defense spending in the early 1980s and the later slowdown in defense spending. Increase US defense spending expanded aggregate US demand and shifted output toward defense. The stronger dollar attracted imports and thereby helped satisfy the civilian demand. As the US cut back on defense spending, the weakening dollar helped boost US exports, making up for some of the decline in defense spending. To the extent that this argument is correct, the dollar's movements helped buffer the effects of defense spending shifts on American living standard.

Hard-Fixed Arrangements

Individual countries can peg their currencies to the dollar or other benchmark currency. However, the Asian and other crises demonstrate that the only credible system of such pegging is a *currency board* or *dollarization*. Every other system is too subject to political manipulation and can be too easily abandoned. An alternative system for a fixed-rate regime is *monetary union*. Under monetary union, individual countries replace their currencies with a common currency. An example of monetary union could be the US, with all 50 states sharing the same dollar. However, the US are also the political union with one defense and foreign affairs policy, thus a better example of monetary union is the European Monetary Union – a far-reaching experiment launched by European countries, members of the EU, following their experiences with the European Monetary System. European monetary integration is a subject of Chapter 9 where more details are provided.

Table 6.3 World currency events 1973-2003

date	*event*	*impact*
August 1971	dollar floated	Nixon closes US gold window, suspending purchases or sales of gold by US Treasury; temporary imposition of 10 % import surcharge.
December 1971	Smithsonian Agreement	Group of Ten reaches compromise whereby the USD is devalued to USD 38 for an ounce of gold; most other major currencies are appreciated versus USD.
February 1973	USD devalued	Devaluation pressure increases on USD forcing further devaluation to USD 42.22 for one ounce of gold
Feb-March 1973	currency markets in crisis	Fixed exchange rates no longer considered defensible; speculative pressures force closure of international foreign exchange markets for nearly two weeks; markets reopen on floating rates for major industrial currencies.
June 1973	USD depreciation	Floating rates continue to drive the now freely floating USD down by about 10 % by June.
Fall 1973-1974	OPEC oil embargo	OPEC impose oil-embargo, eventually quadrupling the world price of oil; because world oil prices are stated in USD, value of USD recovers some former strength.
January 1976	Jamaica Agreement	IMF meeting in Jamaica results in the "legalization" of the floating exchange rate system already in effect; gold is demonetized as a reserve asset.
1977-1978	US inflation rate rises	Carter administration reduces unemployment at the expense of inflation increases; rising US inflation causes continued depreciation of the dollar
March 1979	EMS created	European Monetary System (EMS) is created, establishing a cooperative exchange rate system for participating members of the EEC.
Summer 1979	OPEC raises prices	OPEC nations raise price of oil once again.
Spring 1980	USD begins rise	Worldwide inflation and early signs of recession coupled with real interest differential advantages for dollar-denominated assets contribute to increased demand for dollars.

August 1982	Latin American debt crisis	Mexico informs US Treasury on Friday August 13, 1882, that it will be unable to make debt service payments; Brazil and Argentina follow in months.
February 1985	USD peaks	The dollar peaks against most major industrial currencies, hitting record highs against the mark and other European currencies.
September 1985	Plaza Agreement	The Group of Five agreed on cooperation in depreciation of the dollar against other major currencies.
February 1987	Louvre Accord	Group of Seven members state they will intensify economic policy coordination to promote growth and reduce external imbalances.
September 1992	EMS crisis	High German interest rates induce massive capital flows into mark-denominated assets causing the withdrawal of the Italian lira and British pound from the EMS's common float.
July 31, 1993	EMS realignment	EMS adjusts allowable deviation band to ± 15 percent for all member currencies (except the Dutch guilder); USD continues to weaken; Japanese yen reaches 100.25 JPY/USD.
1994	EMI founded	European Monetary Institute (EMI), the predecessor of the European Central Bank, is founded in Frankfurt am Main, Germany.
December 1994	Peso collapse	Mexican peso suffers major devaluation as a result of increasing pressure on the managed devaluation policy; peso falls from 3.46 MXP/USD to 5.50 MXP/USD within days. The peso's collapse results in a fall in most major Latin American exchanges in a contagion process (the tequila effect)
August 1995	Yen peaks	Japanese yen reaches an all-time high versus the USD of 79 JPY/USD; yen slowly depreciates over the following two-year period, rising the exchange rate to over 130 JPY/USD.
June 1997	Asian crises	The Thai baht is devalued in July, followed soon after by the Indonesian rupiah, Korean won, Malaysian ringgit, and Philippine peso. Following the initial exchange rate devaluations, the Asian economy plummets into recession.
June 1, 1998	ECB founded	A half year before launching the euro, the European Central Bank as the principal monetary authority in the European Monetary Union is established in Frankfurt am Main, Germany.
August 1998	Russian crisis	On Monday, August 17, 1998 the Russian Central Bank devalued the ruble by 34 %. The ruble continued to deteriorate in the following days sending the already weak Russian economy into recession
January 1, 1999	Euro launched	Official launch date for the single European currency, the euro. Eleven EU member states elect to participate in the system, which irrevocably locks their individual currencies rates to each other.

January 1999	Brazilian real	The real, initially devalued 8.3 % by the Brazilian government on January 12th, was subsequently allowed to float against the world's currencies.
November 2001	Euro at the bottom	After almost two years of existence and almost one year after crossing the parity, the Euro declines to its lowest value against dollar - 0.827 USD/EUR
January 1, 2001	Greece joins EMU	After fulfillment of all convergence criteria Greece joins the EMU as the 12th member and accepts euro as a legal tender.
September 11, 2001	Terrorist attacks	Shutdown of financial trading in New York City and immediate depreciation of the dollar.
2001-2002	Argentina crisis	Argentina declares a state bankruptcy and stops to pay debt service payments. The currency board is abolished along with the convertibility of Argentine peso into USD. The dual exchange rate that differs for official and other transactions is implemented.
January 1, 2002	Euro coinage	Euro coins and notes is introduced in parallel with home currencies. National currencies are phased-out during the period beginning January 1 and ending at date that varies from country to country.
November 2004	Euro peaks	Euro reaches the highest value against dollar in its history - 1.304 USD/EUR

Questions and Exercises

1. *Find a recent example of a nation's foreign exchange market intervention and note what the government's justification was. Does this justification make economic sense?*
2. *Gold has been called "the ultimate burglar alarm". Explain what this expression means.*
3. *Suppose nations attempt to pursue independent monetary and fiscal policies. How will exchange rates behave?*
4. *With a gold standard, it is feasible for a country to continuously change the value of its currency in terms of gold to achieve faster and faster money supply growth?*

5. *Evaluate the central bank of your country and the exchange rate regime according to their credibility.*
6. *The experiences of fixed exchange rate systems and target zone arrangements have not been entirely satisfactory. What lessons can economists draw from the breakdown of the Bretton Woods system?*
7. *How were economic shocks transmitted across countries during the gold standard?*
8. *How does a gold standard eliminate the possibility of continuous balance of payments disequilibria?*
9. *Discuss the common economic arguments germane to whether, in general, exchange rates should float or be fixed?*
10. *What were the two basic principles of the Bretton Wood system?*
11. *How did the Bretton Woods international monetary system differ from the gold standard?*
12. *What was the primary purpose of the IMF under Bretton Woods?*
13. *Why did the Bretton Woods agreement finally break down?*
14. *What are the actual major trends and efforts in reshaping the international monetary system?*

7. INTERNATIONAL MONETARY FUND

The International Monetary Fund (IMF) is a specialized agency of the United Nations system set up by treaty in 1945 to help promote the health of the world economy. Headquartered in Washington, D.C., it is governed by its almost global membership of 184 countries. The IMF is the central institution of the international monetary system and it aims to prevent crises in the system by encouraging countries to adopt sound economic policies. It is also, as its name suggests, a fund that can be tapped by members needing temporary financing to address balance of payments problems.

7.1 Establishment and Main Purposes of the IMF

Reasons for IMF Establishment

The IMF was conceived in July 1944 at a United Nations conference held at Bretton Woods, New Hampshire, U.S.A. when representatives of 45 governments agreed on a framework for economic cooperation designed to avoid a repetition of the disastrous economic policies that had contributed to the Great Depression of the 1930s. During that decade, as economic activity in the major industrial countries weakened, countries attempted to defend their economies by increasing restrictions on imports; but this just worsened the downward spiral in world trade, output, and employment. To conserve dwindling reserves of gold and foreign exchange, some countries curtailed their citizens' freedom to buy abroad, some devalued their currencies, and some introduced complicated restrictions on their citizens' freedom to hold foreign exchange. These fixes, however, also proved self-defeating, and no country was able to maintain its competitive edge for long. Such "beggar-thy-neighbor" policies devastated the international economy; world trade declined sharply, as did employment and living standards in many countries.

As World War II came to a close, the leading allied countries considered various plans to restore order to international monetary relations, and at the Bretton Woods conference the IMF emerged. The country representatives drew up the charter (or *Articles of Agreement*) of an international institution to oversee the international monetary system and to promote both the elimination of exchange restrictions relating to trade in goods and services, and the stability of exchange rates. The IMF came into existence in December 1945, when the first 29 countries signed its Articles of Agreement.

IMF Statutory Purposes

The statutory purposes of the IMF today are the same as when they were formulated in 1944 (see Box 7.1). Since then, the world has experienced unprecedented growth in real incomes. And although the benefits of growth have not flowed equally to all, either within or among nations, most countries have seen increases in prosperity that contrast starkly with the interwar period, in particular. Part of the explanation lies in improvements in the conduct of economic policy, including policies that have encouraged the growth of international trade and helped smooth the economic cycle of boom and bust. The IMF is proud to have contributed to these developments.

IMF Elementary Activities

In serving the statutory purposes, the IMF's activities are evident in three basic spheres. First, the IMF monitors economic and financial developments and policies, in member countries and at the global level, and gives policy advice to its members based on its more than fifty years of experience. Second, the IMF lends to member countries with balance of payments problems, not just to provide temporary financing but to support

adjustment and reform policies aimed at correcting the underlying problems. Third, the IMF provides the governments and central banks of its member countries with technical assistance and training in its areas of expertise.

Evolution of IMF Purposes

In the decades since World War II, apart from rising prosperity, the world economy and monetary system have undergone other major changes. This changes have increased the importance and relevance of the purposes served by the IMF, but that have also required the IMF to adapt and reform. Rapid advances in technology and communications have contributed to the increasing international integration of markets and to closer linkages among national economies. As a result financial crises, when they erupt, now tend to spread more rapidly among countries. In such an increasingly integrated and interdependent world, any country's prosperity depends more than ever both on the economic performance of other countries and on the existence of an open and stable global economic environment. Equally, economic and financial policies that individual countries follow affect how well or how poorly the world trade and payments system operates. Globalization thus calls for greater international cooperation, which in turn has increased the responsibilities of international institutions that organize such cooperation, including the IMF.

Box 7.1 The IMF's purposes

The purposes of the International Monetary Fund are:

1. *To promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems.*
2. *To facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy.*
3. *To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation.*
4. *To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade.*
5. *To give confidence to members by making the general resources of the Fund temporarily available to them under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.*
6. *In accordance with the above, to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members.*

The Fund shall be guided in all its policies and decisions by the purposes set forth in this Article.

Source: Article I of the IMF's Articles of Agreement

Adapting to Meet New Challenges

Especially since the early 1990s, enormous economic challenges have been associated with globalization or the increasing international integration of markets and economies. These have included the need to deal with turbulence in emerging financial markets, notably in Asia and Latin America; to help a number of countries make the transition

from central planning to market-oriented systems and enter the global market economy; and to promote economic growth and poverty reduction in the poorest countries at risk of being left behind by globalization. The IMF has responded partly by introducing reforms aimed at strengthening the architecture, that is a framework of rules and institutions, of the international monetary and financial system and by enhancing its own contribution to the prevention and resolution of financial crises. It has also given new emphasis to the goals of enhancing economic growth and reducing poverty in the world's poorest countries. And reform is continuing.

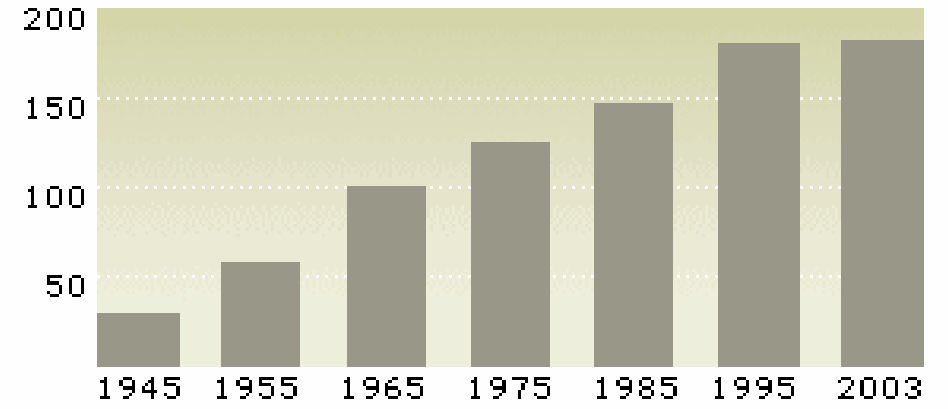
In September 2000, at the annual meetings of the IMF and World Bank, the IMF's new Managing Director set out his vision for the future of the IMF, in which the institution would:

- strive to promote sustained non-inflationary economic growth that benefits all people of the world;
- be the center of competence for the stability of the international financial system;
- focus on its core macroeconomic and financial areas of responsibility, working in a complementary fashion with other institutions established to safeguard global public goods; and
- be an open institution, learning from experience and dialogue, and adapting continuously to changing circumstances.

7.2 Membership and Organization Structure of the IMF

The IMF's purposes have also become more important simply because of the expansion of its membership. The number of IMF member countries has more than quadrupled from the 45 states involved in its establishment, reflecting in particular the attainment of political independence by many developing countries and more recently the collapse of the Soviet bloc. The development of the IMF's membership is illustrated in Figure 7.1

Figure 7.1 Growth in IMF membership, 1945-2003 (number of countries)



Source: International Monetary Fund

General Obligations of Members

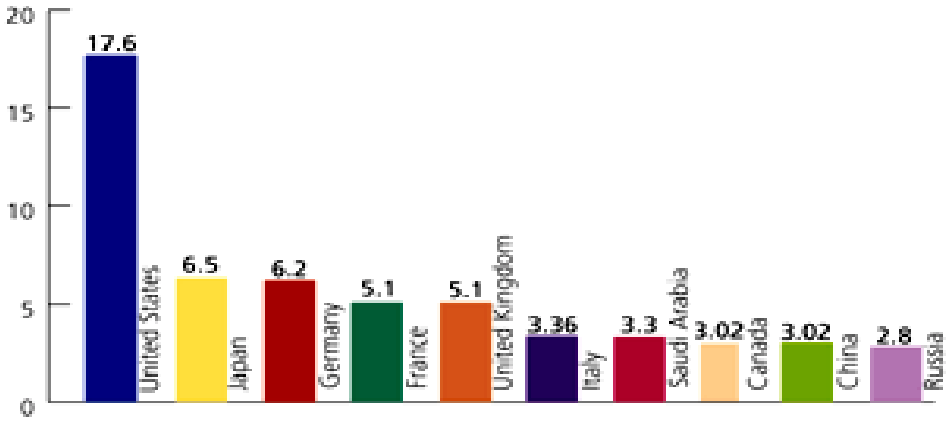
Recognizing that the essential purpose of the international monetary system is to provide a framework that facilitates the exchange of goods, services, and capital among countries, and that sustains sound economic growth, and that a principal objective is the continuing development of the orderly underlying conditions that are necessary for financial and economic stability, each member undertakes to collaborate with the Fund and other members to assure orderly exchange arrangements and to promote a stable system of exchange rates. In particular, each member shall:

- endeavor to direct its economic and financial policies toward the objective of fostering orderly economic growth with reasonable price stability, with due regard to its circumstances;
- seek to promote stability by fostering orderly underlying economic and financial conditions and a monetary system that does not tend to produce erratic disruptions;
- avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members; and
- follow exchange policies compatible with the approved principles.

Member's Quota

Each member country of the IMF is assigned a quota, based broadly on its relative size in the world economy. A member's quota determines its maximum financial commitment to the IMF and its voting power, and has a bearing on its access to IMF financing. Total quotas at end-August 2004 were SDR 213 billion (about USD 311 billion). A member's quota is broadly determined by its economic position relative to other members. Various economic factors are considered in determining changes in quotas, including GDP, current account transactions, and official reserves. When a country joins the IMF, it is assigned an initial quota in the same range as the quotas of existing members considered by the IMF to be broadly comparable in economic size and characteristics. Quotas are denominated in Special Drawing Rights (SDRs), the IMF's unit of account. See Box 7.2 for more details about SDR. The largest member of the IMF is the US, with a quota of SDR 37.1 billion (about USD 54.2 billion), and the smallest member is Palau, with a quota of SDR 3.1 million (about USD 4.5 million). Members with ten largest quotas are shown in Figure 7.2.

Figure 7.2 Members with ten largest quotas (June 2004, in percent of total quotas)



Source: International Monetary Fund

The IMF is accountable to its member countries, and this accountability is essential to its effectiveness. The day-to-day work of the IMF is carried out by an *Executive Board*, representing the IMF's 184 members, and an internationally recruited staff under the leadership of a *Managing Director* and three *Deputy Managing* Directors, each member of this management team being drawn from a different region of the world. The powers of the Executive Board to conduct the business of the IMF are delegated to it by the *Board of Governors*, which is where ultimate oversight rests.

Board of Governors and Committees

The Board of Governors, on which all member countries are represented, is the highest authority governing the IMF. It usually meets once a year, at the Annual Meetings of the IMF and the World Bank. Each member country appoints a Governor, usually the country's minister of finance or the governor of its central bank, and an Alternate Governor. The Board of Governors decides on major policy issues but has delegated day-to-day decision-making to the Executive Board. Key policy issues relating to the international monetary system are considered twice-yearly in a committee of Governors called the *International Monetary and Financial Committee*, or IMFC (until September 1999 known as the *Interim Committee*). A joint committee of the Boards of Governors of the IMF and World Bank called the *Development Committee* advises and reports to the Governors on development policy and other matters of concern to developing countries.

Executive Board

The Executive Board consists of 24 Executive Directors, with the Managing Director as chairman. The Executive Board usually meets three times a week, in full-day sessions, and more often if needed, at the organization's headquarters in Washington, D.C. The IMF's five largest shareholders - the US, Japan, Germany, France, and the UK - along with China, Russia, and Saudi Arabia, have their own seats on the Board. The other 16 Executive Directors are elected for two-year terms by groups of countries, known as *constituencies*. The documents that provide the basis for the Board's deliberations are prepared mainly by IMF staff, sometimes in collaboration with the World Bank, and presented to the Board with management approval; but some documents are presented by Executive Directors themselves. In recent years, an increasing proportion of IMF Board documents have been released to the public through the IMF's website (www.imf.org).

Unlike some international organizations that operate under a one-country-one-vote principle (such as the United Nations General Assembly), the IMF has a weighted voting system: the larger a country's quota in the IMF the more votes it has. But the Board rarely makes decisions based on formal voting; rather, most decisions are based on consensus among its members and are supported unanimously.

Managing Director and Employees

The Executive Board selects the Managing Director, who besides serving as the chairman of the Board, is the chief of the IMF staff and conducts the business of the IMF under the direction of the Executive Board. Appointed for a renewable five-year term, the Managing Director is assisted by a First Deputy Managing Director and two other Deputy Managing Directors. According to tradition, the Managing Director should be of non-American nationality. IMF employees are international civil servants whose responsibility is to the IMF, not to national authorities. The organization has about 2,800 employees recruited from 133 countries. About two-thirds of its professional staff are economists. The IMF's 23 departments and offices are headed by directors, who report to the Managing Director. Most staff work in Washington, although about 80 resident representatives are posted in member countries to help advise on economic policy. The IMF maintains offices in Paris and Tokyo for liaison with other international and regional institutions, and with organizations of civil society; it also has offices in New York and Geneva, mainly for liaison with other institutions in the UN system.

Box 7.2 What is an SDR?

The SDR, or special drawing right, is an international reserve asset introduced by the IMF in 1969 (under the First Amendment to its Articles of Agreement) out of concern among IMF members that the current stock, and prospective growth, of international reserves might not be sufficient to support the expansion of world trade. The main reserve assets were gold and US dollars, and members did not want global reserves to depend on gold production, with its inherent uncertainties, and continuing US balance of payments deficits, which would be needed to provide continuing growth in US dollar reserves. The SDR was introduced as a supplementary reserve asset, which the IMF could "allocate" periodically to members when the need arose, and cancel, as necessary.

SDRs, sometimes known as "paper gold" although they have no physical form, have been allocated to member countries (as book-keeping entries) as a percentage of their quotas. So far, the IMF has allocated SDR 21.4 billion (about USD 29 billion) to member countries. The last allocation took place in 1981, when SDR 4.1 billion was allocated to the 141 countries that were then members of the IMF. Since 1981, the membership has not seen a need for another general allocation of SDRs, partly because of the growth of international capital markets. In September 1997, however, in light of the IMF's expanded membership, which included countries that had not received an allocation, the Board of Governors proposed a Fourth Amendment to the Articles of Agreement. When approved by the required majority of member governments, this will authorize a special one-time "equity" allocation of SDR 21.4 billion, to be distributed so as to raise all members' ratios of cumulative SDR allocations to quotas to a common benchmark.

IMF member countries may use SDRs in transactions among themselves, with 16 "institutional" holders of SDRs, and with the IMF. The SDR is also the IMF's unit of account. A number of other international and regional organizations and international conventions use it as a unit of account, or as a basis for a unit of account.

The SDR's value is set daily using a basket of four major currencies: the euro, Japanese yen, pound sterling, and US dollar. On October 6, 2004, SDR 1 = USD 1.46. The composition of the basket is reviewed every five years to ensure that it is representative of the currencies used in international transactions, and that the weights assigned to the currencies reflect their relative importance in the world's trading and financial systems.

Source: www.imf.org

7.3 IMF Lending Activities

IMF Resources

The IMF's resources come mainly from the quota (or capital) subscriptions that countries pay when they join the IMF, or following periodic reviews in which quotas are increased. Countries pay 25 % of their quota subscriptions in SDR or major currencies, such as US dollars or Japanese yen; the IMF can call on the remainder, payable in the member's own currency, to be made available for lending as needed. If necessary, the IMF may borrow to supplement the resources available from its quotas. The IMF has two sets of standing arrangements to borrow if needed to cope with any threat to the international monetary system:

- the *General Arrangements to Borrow* (GAB), set up in 1962, which has 11 participants (the governments or central banks of the Group of Ten industrialized countries and Switzerland), and
- the *New Arrangements to Borrow* (NAB), introduced in 1997, with 25 participating countries and institutions.

Under the two arrangements combined, the IMF has up to SDR 34 billion available to borrow.

Lending to Countries in Difficulty

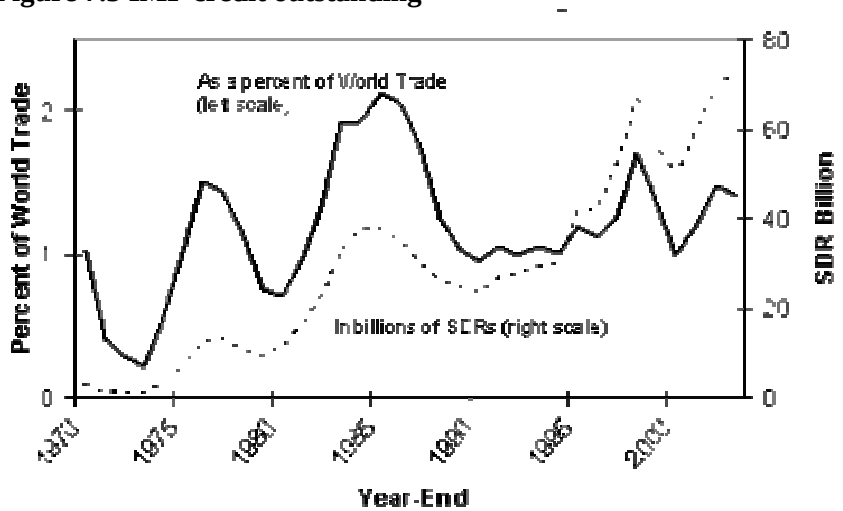
The IMF lends foreign exchange to countries with balance of payments problems. An IMF loan eases the adjustment that a country has to make to bring its spending in line with its income so as to correct its balance of payments problem. But IMF lending is also intended to support policies, including structural reforms, that will improve a country's balance of payments position and growth prospects in a lasting way. Any member country can turn to the IMF for financing if it has a balance of payments need - that is, if it needs official borrowing to be able to make external payments and maintain an appropriate level of reserves without taking "measures destructive of national or international prosperity". Such measures might include restrictions on trade and payments, a sharp compression of demand in the domestic economy, or a sharp depreciation of the domestic currency. Without IMF lending, countries with balance of payments difficulties would have to adjust more abruptly or take such other measures damaging to national and international prosperity.

IMF-Supported Program

When a country approaches the IMF for financing, it may be in a state of economic crisis or near-crisis, with its currency under attack in foreign exchange markets and its international reserves depleted, economic activity stagnant or falling, and bankruptcies increasing. To return the country's external payments position to health and to restore the conditions for sustainable economic growth, some combination of economic adjustment and official and/or private financing will be needed. The IMF provides the country's authorities with advice on the economic policies that may be expected to address the problems most effectively. For the IMF also to provide financing, it must agree with the authorities on a program of policies aimed at meeting specific, quantified goals regarding external viability, monetary and financial stability, and sustainable growth. Details of the program are spelled out in a *letter of intent* from the government to the Managing Director of the IMF.

A program supported by IMF financing is designed by the national authorities in close cooperation with IMF staff, and is tailored to the special needs and circumstances of the country. This is essential for the program's effectiveness and for the government to win national support for the program. Such support, or "local ownership", of the program is critical to its success. Each program is also designed flexibly, so that, during its implementation, it may be reassessed and revised if circumstances change. Many programs are, in fact, revised during implementation.

Figure 7.3 IMF credit outstanding



Source: International Monetary Fund

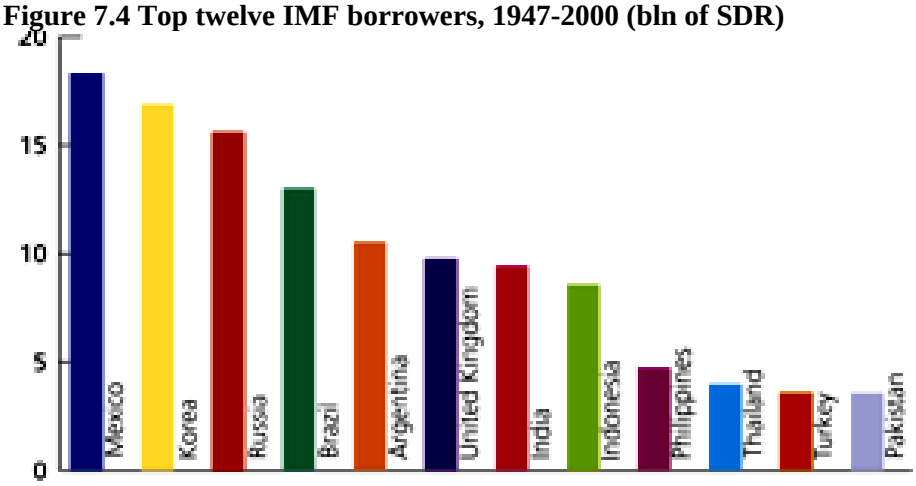
7.3.1 Instruments of IMF Lending

The IMF provides loans under a variety of policies or "facilities" that have evolved over the years to meet the needs of the membership. The duration, repayment terms, and lending conditions attached to these facilities vary, reflecting the types of balance of payments problem and circumstances they address. Low-income countries may borrow at a concessional interest rate through the Poverty Reduction and Growth Facility (PRGF). Non-concessional loans are provided through four main facilities: Stand-By Arrangements (SBA), the Extended Fund Facility (EFF), the Supplemental Reserve Facility (SRF), and the Compensatory Financing Facility (CFF). The IMF also provides emergency assistance to support recovery from natural disasters and armed conflicts, in some cases at concessional interest rates.

Common Terms of Facilities

Except for the PRGF, all facilities are subject to the IMF's market-related interest rate, known as the *rate of charge*, and some carry an interest rate premium or *surcharge*. The pate of charge is based on the SDR interest rate, which is revised weekly to take account of changes in short-term interest rates in the major international money markets. The rate of charge was 3.15 % as of September 10, 2004. Large loans carry a surcharge and must be repaid early if a country's external position permits. The amount that a country can borrow from the Fund, in other words its "access limit", varies depending on the type of loan, but is typically a multiple of the country's IMF quota.

Figure 7.4 Top twelve IMF borrowers, 1947-2000 (bln of SDR)



Source: International Monetary Fund

Poverty Reduction and Growth Facility

The IMF has been providing concessional lending to help its poorest member countries achieve external viability, sustainable economic growth, and improved living standards since the late 1970s. The current concessional facility, the Poverty Reduction and Growth Facility (PRGF), replaced the Enhanced Structural Adjustment Facility (ESAF) in November 1999, with the aim of making poverty reduction and economic growth the central objectives of policy programs in the countries concerned. This low-interest facility helps the poorest member countries facing protracted balance of payments problems. The cost to borrowers is subsidized with resources raised through past sales of IMF-owned gold, together with loans and grants provided to the IMF for the purpose by its members. In practice, the largest number of IMF loans have been made through the PRGF in recent years.

The interest rate levied on PRGF loans is only 0.5 %, and loans are to be repaid over a period of 5½–10 years.

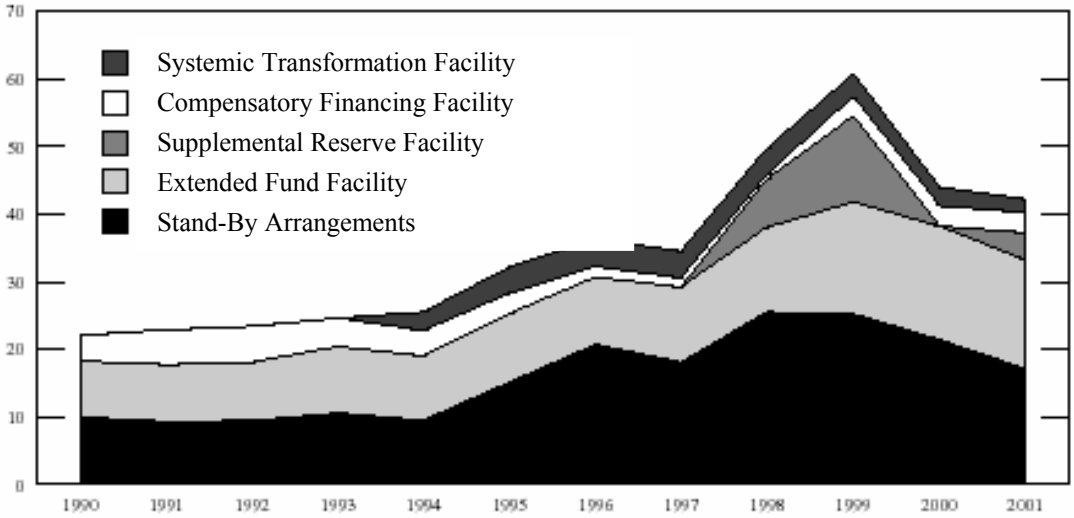
Stand-By Arrangements

Stand-By Arrangements (SBA) form the core of the IMF's lending policies and was used for the first time in 1952. A Stand-By Arrangement provides assurance to a member country that it can draw up to a specified amount, usually over 12–18 months, to deal with a short-term balance of payments problem. repayment is normally expected within 2¼–4 years. Surcharges apply to high access levels. Belgium was the first user when it sought USD 50 million from the IMF to bolster its international reserves. The term "stand-by" means that, subject to conditionality, a member has a right to draw the money made available if needed. In most cases, the member does in fact draw.

Extended Fund Facility

IMF support for members under the Extended Fund Facility (EFF) provides assurance that a member country can draw up to a specified amount, usually over three to four years, to help it tackle structural economic problems that are causing serious weaknesses in its balance of payments. Repayment is normally expected within 4½–7 years. The first EFF arrangement was with Kenya in 1975. Surcharges apply to high levels of access. Executive Board considers of adaptation the terms of SBA and EFF loans to encourage countries to avoid reliance on IMF resources for unduly long periods or in unduly large amounts.

Figure 7.5 Outstanding credits by facilities (bln SDR)



Source: Financial Organization and Operations of the IMF (2001), p.48.

Supplemental Reserve Facility

Supplemental Reserve Facility (SRF) was introduced in 1997 to meet a need for very short-term financing on a large scale. The motivation for the SRF was the sudden loss of market confidence experienced by emerging market economies in the 1990s, which led to massive outflows of capital and required financing on a much larger scale than anything the IMF had previously been asked to provide. Countries are expected to repay loans within 2–2½ years, but may request an extension of up to six months. All SRF loans carry a substantial surcharge of 3–5 percentage points.

Compensatory Financing Facility

In 1963, the IMF set up a Compensatory Financing Facility (CFF) to help member countries that produce primary commodities cope with temporary shortfalls in export earnings, including as a result of price declines. An additional component to help countries deal with temporary rises in cereal import costs was added in 1981. The financial terms are the same as those applying to the SBA, except that CFF loans carry no surcharge.

Contingent Credit Lines

Contingent Credit Lines are precautionary lines of defense enabling members pursuing strong economic policies to obtain IMF financing on a short-term basis when faced by a sudden and disruptive loss of market confidence because of contagion from difficulties in other countries. One of the actual IMF's aims is to modify the CCL, within their existing eligibility criteria, to make the CCL a more effective instrument for preventing crises and resisting contagion for countries pursuing sound policies.

Table 7.1 General terms of IMF financial assistance

Facility or Policy	Charges	Repurchase Terms Expectation[1] Obligation Schedule (Years)	Repurchase Terms Expectation[1] Schedule (Years)	Installments
Stand-by Arrangement	Basic rate[2] plus surcharge[3]	3¼–5	2¼–4	Quarterly
Extended Fund Facility	Basic rate[2] plus surcharge[3]	4½–10	4½–7	Semiannual
Compensatory Financing Facility	Basic rate[2]	3¼–5	2¼–4	Quarterly
Emergency Assistance	Basic rate[2]	3¼–5	N/A	Quarterly
Supplemental Reserve Facility	Basic rate[2] plus surcharge[4]	2½–3	2–2½	Semiannual
Poverty Reduction and Growth Facility	0.5 percent per annum	5½–10	N/A	Semiannual
Memorandum Items:[5]				
Service Charge	50 basis points			
Commitment Charge[6]	25 basis points on committed amounts of up to 100 percent of quota, 10 basis points thereafter			

[1]Disbursements made after November 28, 2000—with the exception of disbursements of Emergency Assistance and loans from the Poverty Reduction and Growth Facility—are expected to be repaid on the expectation schedule. A member not in a position to meet an expected payment can request the Executive Board to approve an extension corresponding to the obligations schedule.
[2]The basic rate of charge is linked directly to the SDR interest rate by a coefficient that is fixed each financial year. The basic rate of charge therefore fluctuates with the market rate of the SDR, which is calculated on a weekly basis. The basic rate of charge is adjusted upward for burden sharing to compensate for the overdue charges of other members (see Box II.9 in Pamphlet 45).
[3]The surcharge on high levels of credit outstanding under Stand-by Arrangements (SBA) and the Extended Fund Facility (EFF) is 100 basis points for credit over 200 percent of quota, and 200 basis points for credit over 300 percent of quota. This surcharge is designed to discourage large use of IMF resources.
[4]The surcharge on the Supplemental Reserve Facility (SRF) is 300-500 basis points, with the initial surcharge rising by 50 basis points after one year and each subsequent six months. The surcharge increases with the time elapsed since the first SRF in order to sharpen the incentive for repurchases ahead of the obligation schedule.
[5]These charges do not apply to the Poverty Reduction and Growth Facility.
[6]Commitment charge does not apply to Compensatory Financing Facility and Emergency Assistance.

Source: http://www.imf.org/external/np/exr/facts/howlend.htm

Emergency Assistance

Emergency Assistance was introduced in 1962 to help members cope with balance of payments problems arising from sudden and unforeseeable natural disasters, this form of assistance was extended in 1995 to cover certain situations in which members have emerged from military conflicts that have disrupted institutional and administrative capacity.

7.3.2 Key Features of IMF Lending

At present, IMF borrowers are all either developing countries, countries in transition from central planning to market-based systems, or emerging market countries recovering from financial crises. Many of these countries have only limited access to international capital markets, partly because of their economic difficulties. Since the late 1970s, all industrial countries have been able to meet their financing needs from capital markets, but in the first two decades of the IMF's existence over half of the IMF's financing went to these countries. The IMF is not an aid agency or a development bank. It lends to help its members tackle balance of payments problems and restore sustainable economic growth. The foreign exchange provided, the limits on which are set in relation to a member's quota in the IMF, is deposited with the country's central bank to supplement its international reserves and thus to give general balance of payments support. Unlike the loans of development agencies, IMF funds are not provided to finance particular projects or activities.

Conditionality

IMF lending is conditional on policies: the borrowing country must adopt policies that promise to correct its balance of payments problem. The conditionality associated with IMF lending helps to ensure that by borrowing from the IMF, a country does not just postpone hard choices and accumulate more debt, but is able to strengthen its economy and repay the loan. The country and the IMF must agree on the economic policy actions that are needed. Also the IMF disburses funds in phases, linked to the borrowing country's meeting its scheduled policy commitments. During 2000–01 the IMF worked to streamline its conditionality making it more sharply focused on macroeconomic and financial sector policies, less intrusive into countries' policy choices, more conducive to country ownership of policy programs, and thus more effective.

Repayment

The IMF expects borrowers to give priority to repaying its loans. The borrowing country must pay back the IMF on schedule, so that the funds are available for lending to other countries that need balance of payments financing. The IMF has in place procedures to deter the build-up of any arrears, or overdue repayments and interest charges. Most important, however, is the weight that the international community places on the IMF's status as a preferred creditor. This ensures that the IMF is among the first to be repaid even though it is often the last lender willing to provide a country with funds, after the country's ability to fulfill its obligation has clearly come into question.

Safeguarding

To strengthen safeguards on members' use of IMF resources, in March 2000 the IMF began requiring assessments of central banks' compliance with desirable practices for internal control procedures, financial reporting, and audit mechanisms. At the same time, the Executive Board decided to broaden the application, and make more systematic use, of the available tools to deal with countries that borrow from the IMF on the basis of erroneous information.

Catalytic Role

In most cases, the IMF, when it lends, provides only a small portion of a country's external financing requirements. But because the approval of IMF lending signals that a country's economic policies are on the right track, it reassures investors and the official community and helps generate additional financing from these sources. Thus, IMF financing can act as an important lever, or catalyst, for attracting other funds. The IMF's ability to perform this catalytic role is based on the confidence that other lenders have in its operations and especially in the credibility of the policy conditionality attached to its lending.

7.4 IMF Technical Assistance and Training

The IMF is probably best known for its policy advice and its policy-based lending to countries in times of economic crisis. But the IMF also shares its expertise with member countries on a regular basis by providing technical assistance and training in a wide range of areas, such as central banking, monetary and exchange rate policy, tax policy and administration, and official statistics. The objective is to help strengthen the design and implementation of members' economic policies, including by strengthening skills in the institutions responsible, such as finance ministries and central banks. Technical assistance complements the IMF's policy advice and financial assistance to member countries and accounts for some 20 percent of the IMF's administrative costs.

Main Areas of Technical Assistance and Training

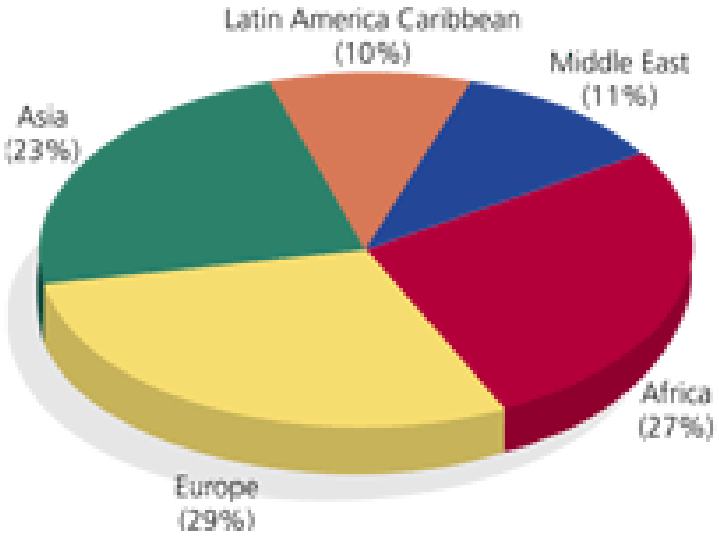
The IMF began providing technical assistance in the mid-1960s when many newly independent countries sought help in setting up their central banks and finance ministries. Another surge in technical assistance occurred in the early 1990s, when countries in central and eastern Europe and the former Soviet Union began their shift from centrally planned to market-based economic systems. More recently, the IMF has stepped up its provision of technical assistance as part of the effort to strengthen the architecture of the international financial system. Specifically, it has been helping countries bolster their financial systems, improve the collection and dissemination of economic and financial data, strengthen their tax and legal systems, and improve banking regulation and supervision. It has also given considerable operational advice to countries that have had to reestablish government institutions following severe civil unrest or war. The IMF provides technical assistance and training mainly in four areas:

- strengthening monetary and financial sectors through advice on banking system regulation, supervision, and restructuring, foreign exchange management and operations, clearing and settlement systems for payments, and the structure and development of central banks;
- supporting strong fiscal policies and management through advice on tax and customs policies and administration, budget formulation, expenditure management, design of social safety nets, and the management of internal and external debt;
- compiling, managing, and disseminating statistical data and improving data quality; and
- drafting and reviewing economic and financial legislation.

The IMF offers training courses for government and central bank officials of member countries at its headquarters in Washington and at regional training centers in Abidjan, Brasília, Singapore, and Vienna. In the field, it provides technical assistance through visits by IMF staff, supplemented by hired consultants and experts. Supplementary financing for IMF technical assistance and training is provided by the national governments of such countries as

Japan and Switzerland, and international agencies such as the European Union, the Organization for Economic Cooperation and Development, the United Nations Development Program, and the World Bank.

Figure 7.6 IMF technical assistance by region (fiscal year 2001)



Source: International Monetary Fund

7.4.1 Strengthening the International Monetary and Financial System

Globalization has created new challenges for the IMF. Two of the most important, and most difficult, are how to strengthen the global financial system, so that it becomes less prone to financial crises and more able to cope with crises when they occur, and how to advance the fight against poverty in low-income countries. Globalization has yielded great benefits for many countries and people around the world. Integration into the world economy is an essential part of any strategy to enable countries to achieve higher living standards. But globalization, by increasing the volume and speed of international capital flows, has also increased the risk of financial crises. And at the same time, the risk has arisen that low-income countries, which have not yet benefited substantially from globalization, will fall further behind as living standards rise elsewhere.

Stronger Global Financial System

The financial crises in emerging markets in the mid- and late 1990s were a reminder of the risks associated with globalization - even for economies that have benefited immensely from the process and that, in many respects, are well managed. The economies hit in the 1997–98 Asian crisis, in particular, had gained enormously over several decades from international trade, foreign direct investment, and access to increasingly integrated international financial markets. The crises exposed not only policy weaknesses in the crisis countries themselves, but also flaws in the international financial system, driving home two facts of life:

- Investors may retreat quickly and massively if they sense shortcomings in domestic economic policies. Once investors, domestic or foreign, lose confidence, capital inflows can dry up, and large net outflows can precipitate a financial crisis.
- A crisis in one country or region can rapidly spill over into other economies.

To reduce the risk of future financial crises and to promote the speedy resolution of those that do occur, the IMF has been working with its member governments, and with other international organizations, regulatory bodies, and the private sector, to strengthen the international monetary and financial system. Reforms under way span the following areas:

- strengthening financial sectors,
- internationally accepted standards and codes of good practice,
- encouraging openness and publication of data,
- IMF transparency and accountability,
- involving the private sector in crisis prevention and resolution.

Strengthening Financial Sector

The IMF and the World Bank in 1999 began joint assessments of member countries' financial sectors to help identify actual and potential weaknesses. IMF and World Bank teams, generally with the assistance of experts from central banks and financial regulatory agencies, have been assessing the strength of financial systems in a number of member countries. These assessments are presented to the country as a guide to the measures needed. IMF staff are also working with national governments and other international institutions to:

- strengthen the legal, regulatory, and supervisory frameworks for banks,
- review minimum capital requirements for banks and financial institutions,
- develop a core set of international accounting standards,
- finalize a set of core principles for good corporate governance,
- avoid exchange rate regimes that are vulnerable to attack, and
- ensure a freer flow of timely financial data to markets.

International Standards and Codes

Countries can reassure the international community about their policies and practices by following internationally accepted standards and codes of good practice. For countries that do not do so, international standards and codes serve as a guide for strengthening their systems. The IMF has worked to develop and refine voluntary standards in areas of its responsibility, in some cases cooperating with other international organizations, such as the Bank for International Settlements and the World Bank. These include standards related to a country's statistical practices; codes of good practice in fiscal, monetary, and financial policies; and guidelines on strengthening the financial sector, such as banking system supervision and regulatory standards.

Standardized Data Publication

The publication of up-to-date and reliable data, as well as information about countries' economic and financial policies, practices, and decision-making, is needed to help investors make informed judgments and for markets to operate efficiently and smoothly. In the wake of the Mexican crisis of 1994-95, the IMF in 1996 developed a special data dissemination standard (SDDS) to guide countries that have, or that might seek, access to international capital markets in the dissemination of economic and financial data to the public. Subscribing countries agree to publish detailed national economic and financial data, including data on international reserves and external debt, on an announced schedule. A general data dissemination system (GDDS) was established in 1997 to guide countries that are not yet in a position to subscribe to the SDDS and need to improve their statistical systems.

Transparency and Accountability

Transparency, on the part of IMF member countries and the IMF, helps foster better economic performance in several ways. Greater openness by member countries encourages more widespread and better-informed analysis of their policies by the public; enhances the accountability of policymakers and the credibility of policies; and informs financial markets so that they can function in a more orderly and efficient manner. Greater openness and clarity by the IMF about its own policies, and the advice it gives members, contribute to a more informed policy debate and to a better understanding of the IMF's role and operations. By exposing its advice to public scrutiny and debate, the IMF can also help raise the level of its analysis. Since the mid-1990s, the IMF has vastly increased the volume of information it publishes. Information on its own activities and policies, and on those of its member countries are published particularly on its website. The accountability of the IMF, to its member governments and to the broader public, has been enhanced in recent years through external evaluations by outside experts of its policies and activities. An Independent Evaluation Office was established in 2001.

Involving Private Sector in Crisis Prevention and Resolution

Crises may be prevented, and the volatility of private flows reduced, by improved risk assessment and closer and more frequent dialogue between countries and private investors. Such dialogue can also foster greater private sector involvement in the resolution of crises when they do occur, including through the restructuring of private debt. Both creditors and debtors can benefit from such dialogue. And the involvement of the private sector in crisis prevention and resolution should also help to limit "moral hazard", that is the possibility that the private sector may be attracted to engage in risky lending if it is confident that potential losses will be limited by official rescue operations, including by the IMF. IMF members have agreed on some principles to guide the involvement of the private sector in crisis resolution. These principles, however, require further development, and they will need to be applied flexibly in individual country cases.

Questions and Exercises

1. *How might be described the changes in the IMF activities?*
2. *What advantages are associated with the membership in the IMF?*
3. *Characterize the past and present mutual relationship between the IMF and your home country?*
4. *What are the basic conditions of standard financial assistance of the IMF?*

5. *Describe the principle of providing the IMF standard financial assistance.*
6. *How are the IMF loans paid back?*
7. *Who and according to what criterions decide about eligibility of a country to obtain a concessional loan?*
8. *What do you think about perspectives of the IMF concessional lending?*
9. *How does the IMF fulfill its role in maintaining the international liquidity?*
10. *What should be the appropriate scope of the IMF lending conditionality?*
11. *What is the mission creep and what should the IMF be concentrated on?*
12. *Was 1945 the year of IMF establishment as well as of start of its operations?*
13. *Must be the Managing Director of the IMF of non-American nationality? Why?*
14. *Does the IMF involvement in poverty reduction financing have an increasing trend?*
15. *Is the IMF based on non-profit principle?*

8. WORLD BANK GROUP

The World Bank is the second international financial institution established in accordance with final results of the Bretton Woods conference. In 1944, Western powers were determined to prevent any re-emergence of the economic depression which had dominated the 1930s, and which played a big part in bringing about the second World War. In the last year of the devastation of that war, priority had to be given to re-establishing the European countries economically. Robert Olivier wrote: "their major objective was to provide a world within which competitive market forces would operate freely, unhampered by government interference, for they supposed that market forces would produce optimum results for the entire world." From the beginning the World Bank was intended to counter protectionism and economic depression.

Establishment of the IBRD

However, the World Bank did not come into operation at the same shape and with the same name as it performs nowadays. During the after-war period, the partner organization of the IMF was the *International Bank for Reconstruction and Development* (IBRD). Commencing operations on June 25, 1946, it approved its first loan on May 9, 1947 (USD 250 million to France for postwar reconstruction, in real terms the largest loan issued by the Bank to date). The IBRD along with the *International Development Association* (IDA) represent the core of the *World Bank Group* (WBG) because their alliance is called the *World Bank* (WB). These two institutions have the common management as well as employees but different structure of members and clients. One can find significant differences also in the financing system or products and services offered.

8.1 Purposes and Goals of the World Bank

Original Purposes of World Bank

Originally, the IBRD was, according to Article 1, to "assist in the reconstruction and development of territories of member nations by facilitating the investment of capital for productive purposes which was another way of saying the reconstruction of Europe, and to promote the long-range balanced growth of international trade". However, European reconstruction was mostly effected by the Marshall Plan where interest was low or non-existent. For this purpose, the WB made only four loans, to France, Netherlands, Denmark and Luxembourg, totaling USD 497million. Pursuing its second task, the first loan to a developing country, Chile, was made in 1948 but the start was slow. Its loans have always been made using rates not very different from commercial rates typically at 0.5 % above its own cost of borrowing and only for specific purposes. This reduced the attractiveness of borrowing particularly to poorer countries and by 1953 the Bank had only lent a total of USD 1.75 billion altogether.

Changing World Bank Policies

During the next decades the Bank focused mainly on large scale infrastructure projects, building highways, airports, and power plants. As Japan and its European client countries achieved certain levels of economic development and income per capital the IBRD became focused entirely on developing countries. Since the early 1990s the IBRD has also provided financing to the post-Socialist states of Central and Eastern Europe and the Former Soviet Union. In recent years the WBG has been moving from targeting economic growth in aggregate, to aiming specifically at poverty reduction. It has also become more focused on support for small scale local enterprises. It has embraced the idea that clean

water, education, and sustainable development are essential to economic growth and has begun investing heavily in such projects. In response to external critics, the WBG's institutions have adopted a wide range of environmental and social safeguard policies, designed to ensure that their projects do not harm individuals or groups in client countries. Despite these policies, WBG projects are frequently criticized by non-governmental organizations (NGOs) for causing environmental and social damage and for not achieving their intended goal of poverty reduction.

Millennium Development Goals

In September 2000, the United Nations Millennium Summit brought together the largest gathering of world leaders in history. In the summit's final declaration, signed by 189 countries, the international community committed to a specific agenda for reducing global poverty. This agenda listed eight Millennium Development Goals that not only identified the gains needed but quantified them and established yardsticks for measuring improvements in people's lives. The goals, listed below, today guide the efforts of virtually all organizations working in development and have been commonly accepted as a framework for measuring development progress.

Goal 1. Eradicate extreme poverty and hunger

- Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.
- Halve, between 1990 and 2015, the proportion of people who suffer from hunger.

Goal 2. Achieve universal primary education

- Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

Goal 3. Promote gender equality and empower women

- Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015.

Goal 4. Reduce child mortality

- Reduce by two thirds, between 1990 and 2015, the under-five mortality rate

Goal 5. Improve maternal health

- Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.

Goal 6. Combat HIV/AIDS, malaria and other diseases

- Have halted by 2015 and begun to reverse the spread of HIV/AIDS.
- Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.

Goal 7. Ensure environmental sustainability

- Integrate the principles of sustainable development into country policies and programs and reverse the losses of environmental resources.
- Halve by 2015 the proportion of people without sustainable access to safe drinking water.
- By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers.

Goal 8. Develop a Global Partnership for Development

- Develop further an open, rule-based, predictable, non-discriminatory trading and financial system
- Address the special needs of the least developed countries
- Address the special needs of landlocked countries and small island developing States.

- Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term.
- In cooperation with developing countries, develop and implement strategies for decent and productive work for youth
- In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.

As of now, it looks like the first goal, *halving the proportion of people living in extreme poverty between 1990 and 2015 and improving access to safe water*, will be met. But this data reflects global averages, and actual results will be uneven around the world, and particularly weak in Africa. The breadth of the challenge requires the Bank, in partnership with developing countries and the international development community, to scale-up the impact of our work to achieve the needed development results.

8.2 Membership and Organization of the World Bank

8.2.1 Membership and Capital Subscriptions

The organizations that make up the WBG are owned by the governments of member nations, which have the ultimate decision-making power within the organizations on all matters, be they policy, financial, or membership issues. In the case the IBRD there are 184 member countries, nearly all the countries of the world. The IDA has 165 members. Before a country may join the IBRD, it must become a member of the IMF. Also, membership in the International Finance Corporation (IFC), the International Development Association (IDA) and the Multilateral Investment Guarantee Agency (MIGA) as other member organizations of the WBG are conditioned on membership in the Bank. Please note, however, that the procedures for membership in the IMF, WB and others can be arranged to be completed more or less simultaneously.

Procedures in Membership Process

The procedures are generally as follows. The first formal step in the membership process is for a prospective member to submit an application for membership. Upon receipt of the applications, and once the Fund quota has been determined, the authorities of the applicant country will be consulted on whether the proposed corresponding subscriptions in the Bank, IFC, IDA and MIGA are acceptable. Upon confirmation that the proposed subscriptions are acceptable, the applications will be considered by the Executive Directors of the Bank and IDA, and by the Boards of Directors of IFC and MIGA. Upon a favorable outcome, the Executive Directors of the Bank and IDA and the Boards of Directors of IFC and MIGA will recommend to the Boards of Governors (the Council of Governors in the case of MIGA) that the applicant country be admitted to membership under terms and conditions specified in resolutions to be adopted by the Boards of Governors. The voting procedure usually takes about six weeks. During that time, the authorities of the applicant country would be expected to take such steps as are required under its constitutional procedures (including the adoption of legislation) to authorize it to make the subscription payments and undertake the obligations of a member of the organizations. The exact nature of these steps and the contents of proposed legislation would be discussed with the Bank's legal staff, and would be generally similar to those relating to membership in the Fund. Once the

following steps have been taken, namely, the membership resolutions are adopted, the subscription payments have been made, certain documents have been furnished to the organizations, and the applicant country has signed the Articles of Agreement of the Fund, then the applicant country will be in a position to sign the original of the Articles of Agreement of the Bank, IFC and IDA, and the MIGA Convention in Washington, D.C., and to deposit the instrument of ratification of the MIGA Convention, thus completing the membership process.

IBRD Capital Subscription

All the shares of the Bank's capital stock are valued at USD 120,635 per share. Under the IBRD's current practice, the capital subscription of a new member consists of two components. The first is an obligatory subscription which the new member must subscribe to at the time it joins the Bank. This obligatory subscription has two parts. The first part is derived from the member's quota in the Fund, and is currently equal to 88.29 % of the member's Fund quota. The second part is based on a fixed number of 195 shares, which represents the portion of the membership shares corresponding to the increase in the subscriptions of members authorized in conjunction with the IBRD's 1988 general capital increase. With respect to each share of this subscription, the member must pay 0.60 % of the price in US dollars in cash and 5.40 % in the member's currency or in US dollars. The 5.40 % may be paid in cash or by means of non-negotiable, non-interest-bearing notes. The balance of the price of the shares consists of callable capital. The second component, subscription of which is optional, consists of 250 shares with respect to which no payment is due at the time of subscription. The total price of these shares is made up of callable capital. All members of the Bank were offered to subscribe 250 "membership" shares on these terms in 1979 to avoid dilution of the voting power of the smaller members of the IBRD as a result of the 1979 general capital increase. New members are also authorized to subscribe 250 shares on the same terms and conditions.

IDA Capital Subscription

The members of IDA are classified as "Part I" members (mostly developed countries which contribute to the resources of IDA), and "Part II" members (mostly developing countries, some of which also contribute to the resources of IDA). The initial obligatory subscription of a new member in IDA bears a fixed arithmetical ratio to that member's obligatory subscription in the IBRD. The current ratio is 1.07 % of the subscription in the IBRD. The member's initial subscription to IDA is payable differently for Part I and Part II countries. Part I countries must pay the total amount of their initial subscription in US dollars or any other freely convertible currency, whereas Part II countries are required to pay only 10 % of the initial subscription in US dollars (or any other freely convertible currency), and may pay the remaining 90 % in the member's currency. Non-negotiable, non-interest-bearing demand notes can be substituted for the 90 % amount.

Voting Power

Consequently, the Bank is run like a cooperative, with its member countries as shareholders. The number of shares a country has stems from the IMF quota and thus is based roughly on the size of its economy. The US is the largest single shareholder, with 16.45 percent of votes, followed by Japan (7.89 %), Germany (4.51 %), the United Kingdom (4.32 %), and France (4.32 %). The rest of the shares are divided among the other member countries. The voting power of selected countries in the IBRD and the IDA is presented in Table 8.1

Table 8.1 Voting power of selected countries in the IBRD and the IDA (March 2003)

country	*IBRD*		*IDA*	
	number of votes	*share in %*	*number of votes*	*share in %*
USA	256 219	16.45	1 913 640	14.52
Japan	127 250	7.89	1 461 212	11.09
Germany	72 649	4.51	940 076	7.13
France	69 647	4.32	579 342	4.40
United Kingdom	69 647	4.32	658 718	5.00
Saudi Arabia	45 045	2.79	471 464	3.58
China	45 049	2.79	247 345	1.88
Russia	45 045	2.79	35 991	0.27
Czech Republic	6 558	0.41	61 671	0.47
Slovakia	3 466	0.21	38 740	0.29
Poland	11 158	0.69	304 241	2.30
Hungary	8 300	0.51	100 075	0.76
IBRD/IDA total	1 617 412	100.00	13 224 476	100.00

Source: http://www.worldbank.org

8.2.2 World Bank Organization

Board of Governors

The World Bank's member countries are represented by a *Board of Governors*. Each member country appoints one Governor and one Alternate Governor in accordance with the Bank's Articles of Agreement. The Governor and Alternate each serve a five-year term and may be re-appointed. If the member of the Bank is also a member of IFC or IDA, the appointed Governor of the Bank and his Alternate also serve ex-officio as Governor and Alternate on the IFC and IDA Boards of Governors. MlGA Governors and Alternates are appointed separately. Generally, these Governors are government officials, such as Ministers of Finance or Ministers of Development. Under the Articles, all powers of the Bank are vested in the Board of Governors. Pursuant to the Bank's By-Laws adopted by the Board of Governors, the Governors have delegated to the Executive Directors all the powers that are not expressly reserved to the Governors under the Articles. The Governors admit or suspend members, increase or decrease the authorized capital stock, determine the distribution of net income, review financial statements and budgets, and exercise other powers that they have not delegated to the Executive Directors. The Board of Governors meets once a year at the Bank's Annual Meetings. The meetings are traditionally held in Washington two years out of three and, in order to reflect the international character of the institutions, every third year in a different member country.

Board of Executive Directors

The *Executive Directors* are responsible for the conduct of the general operations of the Bank and exercise all the powers delegated to them by the Board of Governors under the Articles of Agreement. Five Executive Directors are appointed by the members with the five largest numbers of shares (currently the US, Japan, Germany, France and the UK). The other Executive Directors are elected by the other members. In IFC and IDA, Executive Directors and Alternates of the Bank serve ex-officio as Executive Directors and Alternates of IFC and IDA (as long as the country that appoints them, or any one of the countries that have elected them, is also a member of IFC and IDA). Members of the MlGA Board of Directors are elected separately. Regular elections of Executive Directors are held every two years, normally in connection with the Bank's Annual Meetings. Over the years, it has been customary for election rules to ensure that wide geographical and balanced

representation be maintained on the Board of Executive Directors. Increases in the number of elected Executive Directors require a decision of the Board of Governors by an 80 % majority of the total voting power. Before November 1, 1992, there were 22 Executive Directors, 17 of whom were elected. In 1992, in view of the large number of new members that had joined the Bank, the number of elected Executive Directors was increased to 19. The two new seats, Russia and a new group around Switzerland, brought the total number of Executive Directors to its present level of 24.The Executive Directors function in continuous session at the IBRD and meet as often as the Bank's business requires. Executive Directors consider and decide on IBRD loan and guarantee proposals and IDA credit, grant and guarantee proposals made by the President, and they decide on policies that guide the WB's general operations. They are also responsible for presenting to the Board of Governors, at the Annual Meeting, an audit of accounts, an administrative budget, and an annual report on the Bank's operations and policies as well as other matters. In shaping WB policy, the Board of Executive Directors takes into account the evolving perspectives of member countries on the role of the WBG as well as the Bank's operational experience.

President and Employees

The *Bank's president* is, by tradition, a national of the largest shareholder, the US. Elected for a five-year renewable term, the president of the WB chairs meetings of the Board of Directors and is responsible for overall management of the Bank. In addition, the president is the head of the IFC, the MIGA, and the International Centre for Settlement of Investment Disputes (ICSID).The current president of the World Bank Group is Mr. James D. Wolfensohn who has been president since 1995 and serves as the ninth president of the WBG. The Bank employs approximately 9,300 people, including economists, educators, environmental scientists, financial analysts, anthropologists, engineers, and many others. Employees come from about 160 different countries, and over 3,000 staff work in country offices.

8.3 Member Institutions of the World Bank Group

The World Bank Group consists of five closely associated institutions, all owned by member countries that carry ultimate decision-making power. As explained below, each institution plays a distinct role in the mission to fight poverty and improve living standards for people in the developing world. The term "World Bank Group" encompasses all five institutions. The term "World Bank" refers specifically to two of the five, IBRD and IDA.

8.3.1 International Development Association

The IDA is the part of the World Bank that helps the earth's poorest countries reduce poverty by providing interest-free loans and grants for programs aimed at boosting economic growth and improving living conditions. Its focus therefore differs from the center point of the IBRD activities because the IBRD aims to reduce poverty in middle-income and creditworthy poorer countries by promoting sustainable development through loans, guarantees, and (non-lending) analytical and advisory services.

IDA's History

By the 1950s, it became clear that the poorest developing countries needed softer terms than those that could be offered by the IBRD, so they could afford to borrow the capital they needed to grow. With the US taking the initiative, a group of the Bank's member countries decided to set up an agency that could lend to the poorest countries on the most favorable terms possible. They called the agency the "International Development Association." Its founders saw IDA as a way for the

"haves" of the world to help the "have-nots." But they also wanted IDA to be run with the discipline of a bank. For this reason, US President Dwight D. Eisenhower proposed, and other countries agreed, that IDA should be part of the WB. IDA's Articles of Agreement became effective in 1960. The first IDA loans, known as credits, were approved in 1961 to Chile, Honduras, India and Sudan. Actually the IDA has 164 member countries.

IDA's Borrowers

IDA lends to those countries that had an income in 2002 of less than USD 865 per person and lack the financial ability to borrow from IBRD. Some "blend borrower" countries like India and Indonesia are eligible for IDA loans because of their low per person incomes but are also eligible for IBRD loans because they are financially creditworthy. Eighty-one countries are currently eligible to borrow from IDA. Together these countries are home to 2.5 billion people, half of the total population of the developing world. Most of these people, an estimated 1.5 billion, survive on incomes of USD 2 or less a day.

8.3.2 International Finance Corporation

The International Finance Corporation (IFC) promotes sustainable private sector investment in developing countries as a way to reduce poverty and improve people's lives. Established in 1956, IFC is the largest multilateral source of loan and equity financing for private sector projects in the developing world. It promotes sustainable private sector development primarily by: (i) financing private sector projects located in the developing world, (ii) helping private companies in the developing world mobilize financing in international financial markets, (iii) providing advice and technical assistance to businesses and governments.

IFC's History

For several years officials of the WB had been supporting the creation of a new and different entity to complement their own. These proposals would have given the Bank the ability to meet some of these goals by lending to private companies without government guarantees. Then, in the late 1940s, the concept was greatly refined by WB President Eugene R. Black and his vice president, former US banker and General Foods Corporation executive Robert L. Garner. The idea received its first official backing in the March 1951 report of a US development policy advisory board headed by Nelson Rockefeller. This panel conceived of a package to add considerable value to the World Bank's own product by encouraging the growth of productive private enterprises that would contribute many key components to development. Garner actively marketed the concept. After the 1952 presidential elections, the US reduced its support for the idea, eventually endorsing a modified proposal two years later that left IFC to start business with no equity investment powers. Other nations then came on board, and the formal Articles of Agreement governing the International Finance Corporation were drafted by the WB in 1955. IFC officially came into existence in the summer of 1956 with Garner as its first head.

IFC's Organization

There are 176 member countries of the IFC. An IFC member country must be a member of the IBRD, have signed IFC's Articles of Agreement and have deposited with the WB an Instrument of Acceptance of the Articles of Agreement. IFC's share capital, which is paid in, is provided by its member countries, and voting is in proportion to the number of shares held. IFC's authorized capital is USD 2.45 billion. IFC's Executive Vice President, Peter Woicke, is responsible for the overall management of day-to-day operations. The Management Group, which includes IFC's vice presidents, assists the Executive Vice

President in decision-making and strategic planning. IFC has over 2,200 staff, of whom 58 % work in its Washington, DC, headquarters. About 42 % of IFC staff are stationed in over 86 IFC field offices.

IFC offers a full array of financial products and services to companies in its developing member countries. These include, but are not restricted to:

- Long-term loans in major and local currencies, at fixed or variable rates.
- Equity investments.
- Quasi-equity instruments (such as subordinated loans, preferred stock, income notes, convertible debt).
- Syndicated loans.
- Risk management (such as intermediation of currency and interest rate swaps, provision of hedging facilities).
- Intermediary finance.

IFC's Project Financing

IFC can provide financial instruments singly or in whatever combination necessary to ensure that projects are adequately funded from the outset. It can also help structure financial packages, coordinating financing from foreign and local banks and companies, and export credit agencies. IFC charges market rates for its products and does not accept government guarantees. To be eligible for IFC financing, projects must be profitable for investors, benefit the economy of the host country, and comply with stringent environmental and social guidelines. IFC finances projects in all types of industries and sectors, for example: manufacturing, infrastructure, tourism, health and education, and financial services. Financial service projects represent a significant share of new approvals and range from investments in nascent leasing, insurance and mortgage markets to student loans and credit lines to local banks which, in turn, provide microfinance or business loans to Small and Medium Enterprises. Although IFC is primarily a financier of private sector projects, it may provide finance for a company with some government ownership, provided there is private sector participation and the venture is run on a commercial basis. It can finance companies that are wholly locally owned as well as joint ventures between foreign and local shareholders. To ensure the participation of investors and lenders from the private sector, IFC limits the total amount of own-account debt and equity financing it will provide for any single project. For new projects the maximum is 25 % of the total estimated project costs, or, on an exceptional basis, up 35 % for small projects. For expansion projects IFC may provide up to 50 % of the project cost, provided its investments do not exceed 25 % of the total capitalization of the project company. On average, for every USD 1 of IFC financing, other investors and lenders provide over USD 5. IFC investment typically range from USD 1 million to USD 100 million. Its funds may be used for permanent working capital or for foreign or local expenditures in any IBRD member country to acquire fixed assets. Table 8.2 shows ten countries with largest exposures of the IFC.

Table 8.2 IFC's largest country exposures (as of June 30, 2004, USD million)

Brazil	*Russia*	*India*	*Mexico*	*Turkey*	*Argentina*	*China*	*Thailand*	*Indonesia*	*Philippines*
1,316	1,188	1,136	1,068	885	817	779	468	467	435

Source: IFC Annual Report 2004

Advisory Services and Resource Mobilization

IFC advises business in developing countries on a wide variety of matters, including physical and financial restructuring; the formulation of business plans; identification of markets, products, technologies, and financial and technical partners; and mobilization of project finance. It can provide advisory services in the context of an investment, or independently for a fee, in line with market practice. IFC also advises governments in developing countries on how to create an enabling business environment, and it provides guidance on attracting foreign direct investment. For example, it helps develop domestic capital markets. It also provides assistance in areas such as restructuring and privatization of state-owned enterprises. Owing to its success record and special standing as a multilateral institution, IFC is able to act as a catalyst for private investment. Its participation in a project enhances investor confidence and attracts other lenders and shareholders. IFC mobilizes financing directly for sound companies in developing countries by syndicating loans with international commercial banks and underwriting investment funds and corporate securities issues. It also handles private placements of securities.

Table 8.3 IFC operations in fiscal years 2000-2004 (in USD million)

	FY00	FY01	FY02	FY03	FY04
OPERATIONS					
Investment commitments					
Number of projects[1]	205	199	204	204	217
Number of countries	78	72	74	64	65
Total commitments signed[2]	3,867	3,931	3,608	5,033	5,633
For IFC's own account[2]	2,337	2,732	3,090	3,852	4,753
Held for others	1,530	1,199	518	1,181	880
Investment disbursements					
Total financing disbursed	3,307	2,370	2,072	4,468	4,115
For IFC's own account	2,210	1,535	1,498	2,959	3,152
Held for others	1,097	835	574	1,509	964
Committed portfolio[3]					
Number of firms	1,333	1,378	1,402	1,378	1,337
Total committed portfolio[2]	22,168	21,851	21,569	23,379	23,453
For IFC's own account[2]	13,962	14,321	15,049	16,777	17,938
Held for others	8,206	7,530	6,519	6,602	5,515

Source: IFC Annual Report 2004

8.3.3 Multilateral Investment Guarantee Agency

MIGA helps promote foreign direct investment in developing countries by providing guarantees to investors against noncommercial risks, such as expropriation, currency inconvertibility and transfer restrictions, war and civil disturbance, and breach of contract. MIGA's capacity to serve as an objective intermediary and to influence the resolution of potential disputes enhances investors' confidence that they will be protected against these risks. In addition, MIGA provides technical assistance and advisory services to help countries attract and retain foreign investment and to disseminate information on investment opportunities to the international business community.

MIGA's Membership and Organization

MIGA membership, which currently stands at 164, is open to all WB members. The agency began operations in 1988 with a capital base of USD1 billion. In 1999, the MIGA Council of Governors approved a resolution for a capital increase of USD 850 million. Members have since contributed USD 655 million (or 77 %) of this amount; when further pledges are converted, this should rise to USD 824 million, or 97 %. In addition, the agency received a USD 150 million contribution to its recapitalization from the WB. Each country appoints one governor and one alternate. MIGA's corporate powers are vested in the Council of Governors, which delegates most of its powers to a Board of 24 directors. Voting power is weighted according to the share capital each director represents. The directors meet regularly at the WBG headquarters in Washington, D.C., where they review and decide on investment projects and oversee general management policies. Directors also serve on one or more of five standing committees, which help the Board discharge its oversight responsibilities through in-depth examinations of policies and procedures.

MIGA's Investment Guarantee Services

MIGA provides investment guarantees against certain non-commercial risks (i.e., political risk insurance) to eligible foreign investors for qualified investments in developing member countries. MIGA's coverage is against the following risks: (i) transfer restriction, (ii) expropriation, (iii) breach of contract, (iv) war and civil disturbance. MIGA insures new cross-border investments originating in any MIGA member country, destined for any other developing member country. New investment contributions associated with the expansion, modernization, or financial restructuring of existing projects are also eligible, as are acquisitions that involve the privatization of state-owned enterprises. Other investments may be eligible and are considered on a case-by-case basis. Types of foreign investments that can be covered include equity, shareholder loans, and shareholder loan guaranties, provided the loans have a minimum maturity of three years. Loans to unrelated borrowers can be insured, provided a shareholder investment in the project is insured concurrently or has already been insured. Other forms of investment, such as technical assistance and management contracts, and franchising and licensing agreements, may also be eligible for coverage. See Table 8.4 for more details about development of number and amount of MIGA's guarantees issued. Figure 8.1 depicts the earned premium, fee and investment income (left graph) and number of technical assistance activities (right graph).

Table 8.4 Guarantees issued by MIGA

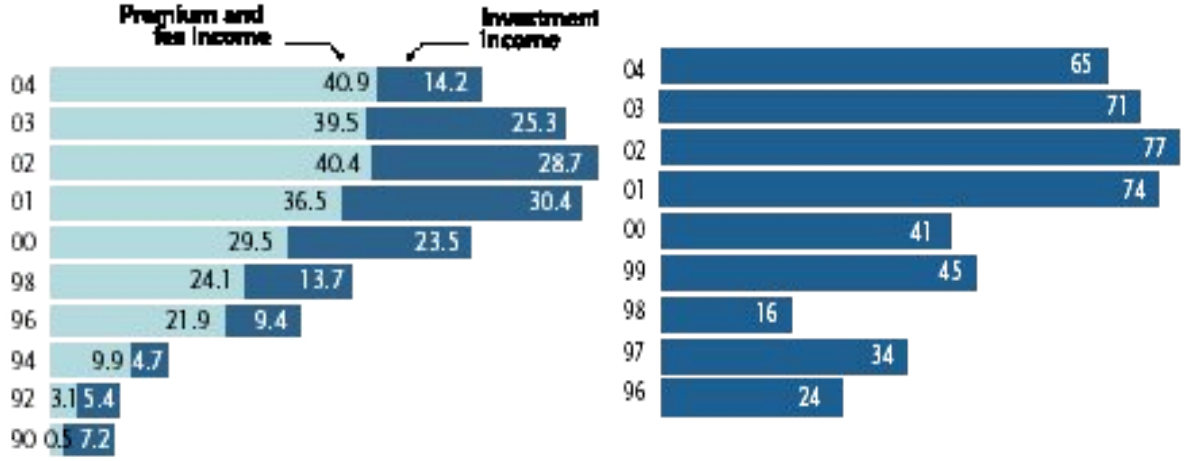
	2000	2001	2002	2003	2004	Total FY90-04
Number of Guarantees Issued	53	66	58	59	55	711
Number of Projects Supported	37	46	33	37	35	453
Amount of New Issuance, Gross ($ B)	1.6	2.0	1.2	1.4	1.1	12.8
Amount of New Issuance, Total ($ B)[1]	1.9	2.2	1.4	1.4	1.1	13.5
Gross Exposure ($ B)[2]	4.4	5.2	5.3	5.1	5.2	-
Net Exposure ($ B)[2]	2.8	3.2	3.2	3.2	3.3	-

Source: MIGA Annual Report 2004

Eligible Investors and Guarantee's Terms

Eligible investor's include nationals of a MIGA member country from a country other than the country in which the investment is to be made. Under certain conditions, investments made by nationals of the host country can also be eligible. A corporation is eligible for coverage if it is either incorporated, and has its principal place of business, in a member country, or if it is majority-owned by nationals of member countries. A state-owned corporation is eligible if it operates on a commercial basis. Investors may choose any combination of the four types of coverage. Equity investments can be covered up to 90 %, and debt up to 95 %, with coverages typically available for up to 15 years, and in some cases, for up to 20. MIGA may insure up to USD 200 million, and if necessary more can be arranged through syndication of insurance. Pricing is determined on the basis of both country and project risk, with the effective price varying depending on the type of investment and industry sector. The investor has the option to cancel a policy after three years, however MIGA may not cancel the coverage.

Figure 8.1 Earned premium, fee and investment income (USD million) and number of technical assistance activities



Source: MIGA Annual Report 2004

8.3.4 International Centre for Settlement of Investment Disputes

ICSID helps encourage foreign investment by providing international facilities for conciliation and arbitration of investment disputes, thereby helping foster an atmosphere of mutual confidence between states and foreign investors. Many international agreements concerning investment refer to ICSID's arbitration facilities. ICSID also issues publications on dispute settlement and foreign investment law.

ICSID's History

On a number of occasions in the past, the WB as an institution and the President of the Bank in his personal capacity have assisted in mediation or conciliation of investment disputes between governments and private foreign investors. The creation of the ICSID in 1966 was in part intended to relieve the President and the staff of the burden of becoming involved in such disputes. But the Bank's overriding consideration in creating ICSID was the belief that an institution specially designed to facilitate the settlement of investment disputes between governments and foreign investors could help to promote increased flows of international investment. ICSID was established under the Convention on the Settlement of Investment Disputes

between States and Nationals of Other States (the Convention) which came into force on October 14, 1966.

ICSID's Organization

ICSID has an Administrative Council and a Secretariat. The Administrative Council is chaired by the World Bank's President and consists of one representative of each State which has ratified the Convention. Annual meetings of the Council are held in conjunction with the joint Bank/Fund annual meetings. ICSID is an autonomous international organization. However, it has close links with the World Bank. All of ICSID's members are also members of the Bank. Unless a government makes a contrary designation, its Governor for the Bank sits ex officio on ICSID's Administrative Council. The expenses of the ICSID Secretariat are financed out of the Bank's budget, although the costs of individual proceedings are borne by the parties involved.

ICSID's Services

Pursuant to the Convention, ICSID provides facilities for the conciliation and arbitration of disputes between member countries and investors who qualify as nationals of other member countries. Recourse to ICSID conciliation and arbitration is entirely voluntary. However, once the parties have consented to arbitration under the ICSID Convention, neither can unilaterally withdraw its consent. Moreover, all ICSID Contracting States, whether or not parties to the dispute, are required by the Convention to recognize and enforce ICSID arbitral awards. Besides providing facilities for conciliation and arbitration under the ICSID Convention, the Centre has since 1978 had a set of Additional Facility Rules authorizing the ICSID Secretariat to administer certain types of proceedings between States and foreign nationals which fall outside the scope of the Convention. These include conciliation and arbitration proceedings where either the State party or the home State of the foreign national is not a member of ICSID. Additional Facility conciliation and arbitration are also available for cases where the dispute is not an investment dispute provided it relates to a transaction which has "features that distinguishes it from an ordinary commercial transaction." The Additional Facility Rules further allow ICSID to administer a type of proceedings not provided for in the Convention, namely fact-finding proceedings to which any State and foreign national may have recourse if they wish to institute an inquiry "to examine and report on facts."

8.4 Lending Activities of the World Bank

The Bank has two basic types of lending instruments: *investment loans* and *development policy loans*. Investment loans have a long-term focus (5 to 10 years), and finance goods, works, and services in support of economic and social development projects in a broad range of sectors. Development Policy loans have a short-term focus (1 to 3 years), and provide quick-disbursing external financing to support policy and institutional reforms.

Investment Loans

Investment loans provide financing for a wide range of activities aimed at creating the physical and social infrastructure necessary for poverty alleviation and sustainable development. Over the past two decades, investment lending has, on average, accounted for 75 to 80 % of all Bank lending. The nature of investment lending has evolved over time. Originally focused on hardware, engineering services, and bricks and mortar, investment lending has come to focus more on institution building, social development, and building the public policy infrastructure needed to facilitate private sector activity. Projects range from urban poverty reduction

(involving private contractors in new housing construction, for example) to rural development (formalizing land tenure to increase the security of small farmers); water and sanitation (improving the efficiency of water utilities); natural resource management (providing training in sustainable forestry and farming); post-conflict reconstruction (reintegrating soldiers into communities); education (promoting the education of girls); and health (establishing rural clinics and training health care workers).

Investment loans are available to IBRD and IDA borrowers not in arrears with the Bank Group. Funds are disbursed against specific foreign or local expenditures related to the investment project, including pre-identified equipment, materials, civil works, technical and consulting services, studies, and incremental recurrent costs. Procurement of these goods, works, and services is an important aspect of project implementation. To ensure satisfactory performance, the loan agreement may include conditions of disbursement for specific project components.

Development Policy Loans

Development Policy loans provide quick-disbursing assistance to countries with external financing needs, to support structural reforms in a sector or the economy as a whole. They support the policy and institutional changes needed to create an environment conducive to sustained and equitable growth. Over the past two decades, development policy lending, previously called adjustment lending, has accounted, on average, for 20 to 25 % of total Bank lending. Development Policy loans were originally designed to provide support for macroeconomic policy reforms, such as in trade policy and agriculture. Over time, they have evolved to focus more on structural, financial sector, and social policy reform, and on improving public sector resource management. Development Policy operations now generally aim to promote competitive market structures (for example, legal and regulatory reform), correct distortions in incentive regimes (taxation and trade reform), establish appropriate monitoring and safeguards (financial sector reform), create an environment conducive to private sector investment (judicial reform, adoption of a modern investment code), encourage private sector activity (privatization and public-private partnerships), promote good governance (civil service reform), and mitigate short-term adverse effects of development policy (establishment of social protection funds).

Development policy loans are available to IBRD and IDA borrowers not in arrears to the WBG. Eligibility for a development policy loan also requires agreement on monitorable policy and institutional reform actions, and satisfactory macroeconomic management. Coordination with the IMF is an essential part of the preparation of a development policy loan. Funds are disbursed in one or more stages (tranches) into a special deposit account. Tranches are released when the borrower complies with stipulated release conditions, such as the passage of reform legislation, the achievement of certain performance benchmarks, or other evidence of progress toward a satisfactory macroeconomic framework. Funds may be disbursed against a positive list of specific imports needed for the operation, or subject to a negative list of prohibited expenditures (e.g., military and luxury items). Since 1996, the negative list has typically been used.

How a Loan Is Made

Once the borrower identifies and prepares a project proposal, the WB reviews its viability. During loan negotiations the Bank and borrower agree on the development objective, components, outputs, performance indicators, an implementation plan, and a schedule disbursing loan funds. Once the Bank approves the loan and it becomes effective, the borrower implements the project or program according to terms agreed on with the WB. The Bank supervises the implementation of each loan and evaluates its results. Three-fourths of outstanding loans are

managed by country directors located away from the Bank's Washington, D.C., headquarters. Nearly 30 percent of WB staff are based in nearly 100 country offices worldwide. All loans are governed by the World Bank's operational policies, which aim to ensure that Bank-financed operations are economically, financially, socially, and environmentally sound. Fiduciary policies and procedures govern the use of project-related funds, particularly for the procurement of goods and services. Safeguard policies help to prevent unintended adverse effects on third parties and the environment. To be approved, all WB projects need to show that they do no harm to people or the environment. In addition to the Environmental Assessment, undertaken by all projects, the Bank has official policies with regard to natural habitats, pest management, cultural property, involuntary resettlement, indigenous peoples, forests, safety of dams, projects on international waterways, and projects in disputed areas.

Box 8.1 Profiles of selected World Bank projects

Burkina Faso has the second highest HIV/AIDS infection rate in West Africa. Poni Province is especially vulnerable because many young men migrate to neighboring Cote d'Ivoire to work on coffee and cocoa plantations, and sometimes return infected. As part of a broader World Bank HIV/AIDS project worth USD 22 million, the WB launched an innovative community-driven effort in 2001 to stem the epidemic in Poni Province. The project undertook a massive social mobilization campaign to inform and engage local political, administrative and community leaders. The project, which aimed to reach the entire province of 200,000 inhabitants, relied on local sources to provide training and technical support, and worked directly with community representatives rather than through local associations. It allowed communities to prepare, implement and monitor their own micro-projects, and manage funds put at their disposal. Building on entrenched traditions of participatory approaches in Burkina Faso, participants were encouraged to diagnose and improve the community's understanding of the HIV/AIDS situation. They identified areas in their communities where the largest numbers of sexual encounters occur, and proposed interventions without stigmatizing specific groups. Village committees prepared micro-projects and opened up local bank accounts, which gave the project credibility and inspired confidence among the local population. The project reached 550 villages and some 50 organizations. In nine months, it funded almost 600 micro-projects worth USD 175,000, covering close to 95 % of all villages. It also trained some 2,000 instructors from all segments of society throughout the province about HIV/AIDS issues.

On August 17, 1999, a massive earthquake devastated Turkey's Marmara region. Seventeen thousand people were killed in the quake, which measured 7.4 on the Richter scale. Hundreds of thousands more lost their homes and livelihoods. Turkey's industrial heartland was extensively damaged. The international community reacted swiftly. The WB provided USD 252 million for emergency recovery assistance. Another USD 505 million was provided for the construction of 11,502 new homes in eight different sites throughout the devastated region. Thousands of people were involved in the rebuilding effort. Fourteen contractors built low concrete buildings that were designed and constructed to withstand future tremors. Duzce, in Western Turkey, was the first of the affected communities to rise again, being rebuilt around a combination of new apartment buildings, a new school for 240 students, and a new health center. More than 8,000 housing units have been built for survivors of the quake. Together, the WB and Turkish authorities also are taking steps to safeguard people against any future quakes. Two million earthquake insurance policies have been issued through the Turkish Catastrophic Insurance Pool, and the Turkish Emergency Management Agency has been established to respond effectively to future crises.

Source: www.worldbank.org

8.4.1 World Bank Lending in the Fiscal Year 2004

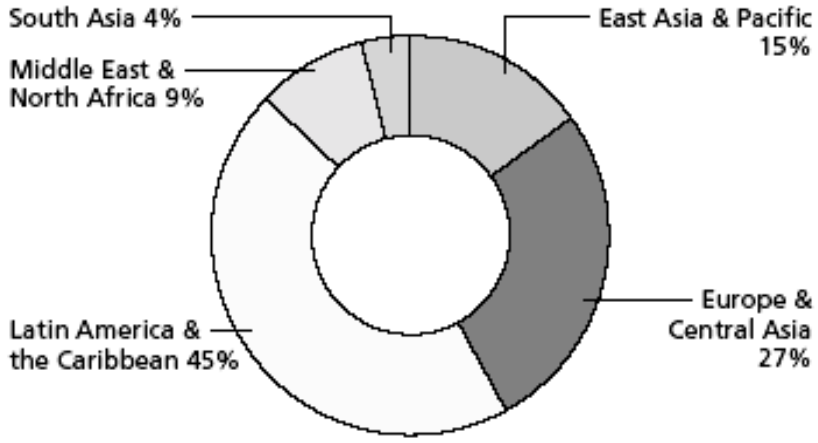
Role of IBRD

In fiscal 2004 countries with per capita income of less than USD 5,115 that were not IDA-only borrowers were eligible to borrow from IBRD. Countries with higher per capita incomes were able to borrow under special circumstances or as part of a graduation strategy. It is important to note, however, that the amount that IBRD is prepared to lend to eligible countries at any given time depends on their creditworthiness as individual IBRD borrowers. Countries may be eligible to borrow but may not have access to IBRD resources because of poor creditworthiness. Net IBRD loans outstanding to any individual borrowing country, irrespective of a borrower's creditworthiness, may not exceed USD 13.5 billion.

IBRD Lending

At USD 11 billion, new lending commitments by IBRD in fiscal 2004 were close to the previous year's level. The share of adjustment lending was slightly higher than fiscal 2003. Latin America and the Caribbean received the highest level of IBRD lending, with USD 5.0 billion or 45 % of total IBRD commitments, followed by Europe and Central Asia with USD 3.0 billion and East Asia and Pacific with USD 1.7 billion. Lending was slightly more concentrated than it was in fiscal 2003. Whereas five countries received roughly 49 % of total lending in fiscal 2003, four countries, namely Argentina, Turkey, Brazil, and China, received a combined commitment volume equaling 51 % of total IBRD lending in fiscal 2004. Among sectors, public administration, including law and justice, received the highest volume of IBRD lending, with USD 2.7 billion, followed by transportation with USD 2.5 billion and health and social services with USD 1.8 billion. The thematic composition of lending in fiscal 2004 was led by financial and private sector development, followed by public sector governance and human development. Figures 8.2 and 8.3. show IBRD lending by region and theme.

Figure 8.2 IBRD lending in 2004 by region



Source: World Bank Annual Report 2004

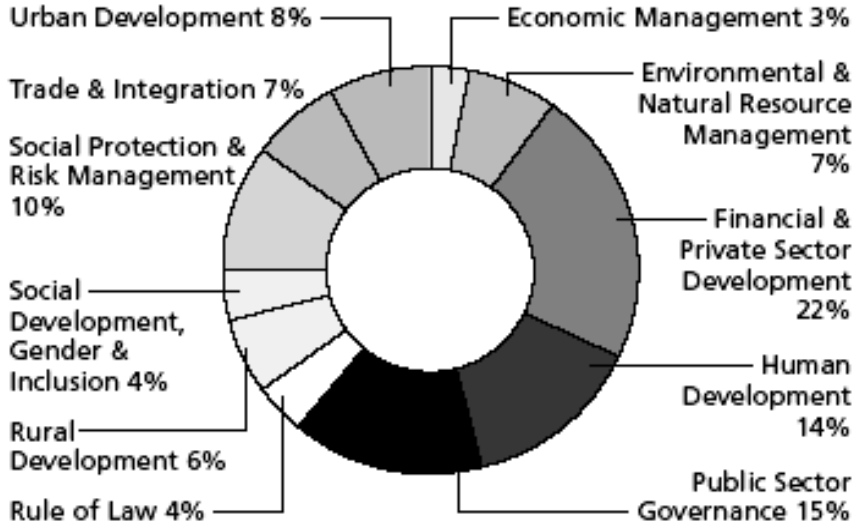
IBRD Resources

As part of its regular financing operations, IBRD raised USD 13 billion at medium- to long-term maturities in international capital markets in fiscal 2004. This funding volume was below the USD 19 billion raised in fiscal 2003. IBRD issued debt securities in 10 currencies with a wide range of maturities and structures in fiscal 2004. Product diversification helps IBRD expand its investor base and reduce lending rates on its loans. IBRD's financial strength is based on the support it receives from its shareholders and on its array of financial policies and practices designed to maintain a high credit standing in international financial markets.

IBRD Financial Strength

IBRD's operating income in fiscal 2004 was USD 1,696 million, and allocable net income (which can be allocated to reserves and development activities) was USD 1,675 million. IBRD retained USD 680 million out of allocable net income in its general reserve in keeping with IBRD's strategy to preserve long-term financial strength and support other development needs. IBRD also added USD 405 million of the fiscal 2004 income to the surplus account. IBRD transferred USD 300 million to IDA, USD 240 million to the Heavily Indebted Poor Countries (HIPC) Trust Fund, and USD 50 million to the Debt Reduction Facility for IDA-Only Countries in fiscal 2004. IBRD maintained adequate liquidity in fiscal 2004 to ensure its ability to meet its obligations. As of June 30, 2004, the liquid asset portfolio was about USD 31 billion.

Figure 8.3 IBRD lending in 2004 by theme



Source: World Bank Annual Report 2004

Role of IDA

Eligibility for IDA resources is governed by a country's level of poverty (as measured by per capita income) and its lack of creditworthiness for IBRD resources. In fiscal 2004 countries with annual per capita gross national income of up to USD 865 were eligible for IDA assistance. (In exceptional circumstances, IDA extends eligibility to countries, such as small island economies, that are above the income cutoff but are not creditworthy to borrow from IBRD.) The amount of IDA resources that countries receive depends on the quality of their policies to promote growth and reduce poverty, which are assessed annually. IDA recipient countries face complex challenges in striving to meet the Millennium Development Goals. Policy priorities include strengthening the fight against the spread of HIV/AIDS and other communicable diseases, building a healthy investment climate as a prerequisite for private sector investment, promoting gender equality, and improving the quality of basic education and poor people's access to it.

IDA Commitments

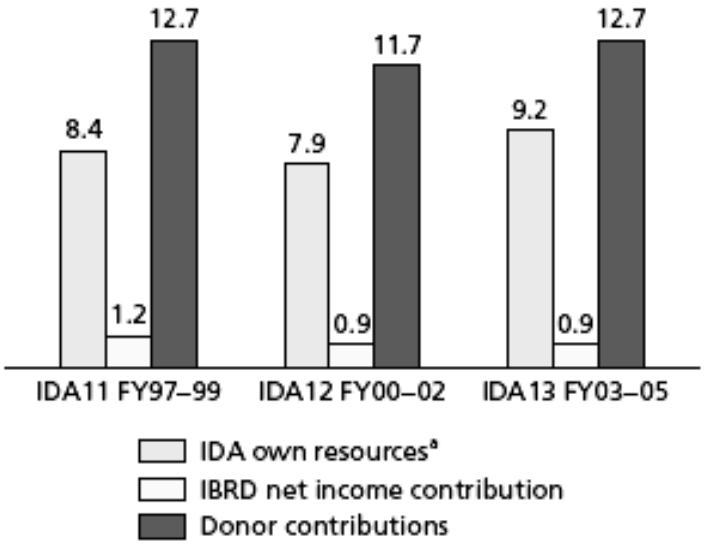
IDA commitments in fiscal 2004 reached USD 9 billon for 158 operations, consisting of USD 7.3 billion in credits and USD 1.7 billion in grants. IDA also provided a guarantee for USD 70 million. The volume of IDA commitments in fiscal 2004 represents a record in the history of IDA. The largest share of IDA resources was committed to Africa, with USD

4.1 billion, constituting 45 % of total IDA commitments. South Asia and East Asia and Pacific followed with USD 3 billion and USD 0.9 billion, respectively. Among countries, Bangladesh, the Democratic Republic of Congo, India, Pakistan, and Vietnam represent the largest single recipients. In fiscal 2004, about 19 % of total IDA financing was provided in the form of grants to the following clients and projects: the poorest countries, USD 264 million; debt-vulnerable countries, USD 529 million; post-conflict countries, USD 536 million; HIV/AIDS projects and those with HIV/AIDS-related components, USD 381 million; and natural disaster reconstruction projects, USD 2 million. Public administration, including law and justice, was the leading sector receiving IDA support, with USD 2.3 billion, or 24 % of the total. There was also significant support provided to the health and social services and transportation sectors, each representing USD 1.2 billion, or 14 % of the total. The two most prominent themes were public sector governance and financial and private sector development, each accounting for about 19 % of IDA commitments. Major attention was also paid to human development with 17 %, social development and gender with 13 %, and rural development with 10 %.

IDA Resources

The 13th Replenishment of IDA (IDA13), which governs IDA operations for fiscal 2003–05, will provide a total of SDR 18 billion (about USD 23 billion) in concessional resources to eligible countries. This amount includes SDR 10 billion (about USD 13 billion) in new donor contributions; SDR 7.3 billion (about USD 9 billion) in IDA internal resources, including repayments of principal from past credits and investment income; SDR 0.7 billion (about USD 0.9 billion) in IBRD net income transfers (if available); and a small carryover of donor resources from the previous replenishment. Figure 8.4 shows the sources of IDA's funding over the last three replenishments.

Figure 8.4 IDA resources in 1997-2005 (USD billions)



Source: World Bank Annual Report 2004

8.4.2 Heavily Indebted Poor Countries Initiative

In 1996, the WB and the IMF unveiled the Heavily Indebted Poor Countries Initiative (HIPC) to reduce the debt burdens of the world's poorest countries. This initiative was viewed as a means of helping the countries concerned achieve economic growth and reduce poverty.

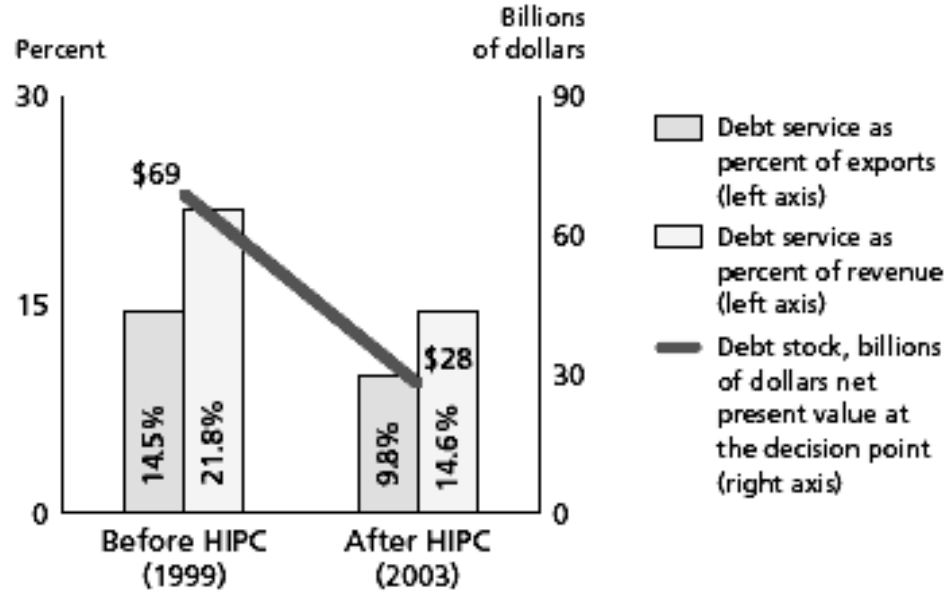
While a number of countries qualified for the initiative, and debt relief in nominal terms totaling more than USD 6 billion had been committed to seven countries by September 1999, concern grew that the initiative did not go far enough, or fast enough. Consequently, when the new approach to poverty reduction was introduced in 1999, the initiative was enhanced to provide:

- broader and deeper debt relief, through lower debt targets. For example, the number of countries eligible for debt relief under the enhanced HIPC Initiative is about 36, compared with 29 formerly.
- faster debt relief, through financing at an earlier stage of the policy program to free up resources for poverty-reducing spending, such as on health and education.

Cooperation between WB and IMF

Combined with debt relief outside the HIPC Initiative, countries are expected to see their debt stocks reduced on average by about two-thirds, freeing money for social spending. As of April 2002, 27 low-income countries, 23 in sub-Saharan Africa, had begun to receive debt relief under the HIPC Initiative. The eligible countries are low-income countries that have unsustainable debt burdens; most are in Africa. For these countries, even full use of traditional mechanisms of debt rescheduling and debt reduction, together with aid, concessional loans, and the pursuit of sound policies, are not sufficient for them to reach a sustainable level of external debt, that is, a level of debt that can be serviced comfortably through export earnings, aid, and capital inflows, while maintaining an adequate level of imports. Under the HIPC Initiative, debt reduction is provided to support policies that promote economic growth and poverty reduction. Part of the job of the IMF, working in collaboration with the WB, is to help ensure that the resources provided by debt reduction are not wasted: debt reduction alone, without the right policies, would bring no benefit in terms of poverty reduction. And policies to reduce poverty need to be supported not only by debt relief, but also by increased aid flows from the richer countries and by improved access for developing countries to industrial countries' markets. As Figure 8.5 clearly illustrates, the debt relief program has significantly reduced debt stock in heavily indebted poor countries.

Figure 8.5 HIPC debt relief: reduced debt stock and improving debt service ratios



Source: World Bank Annual Report 2004

Questions and Exercises

1. *What is the difference between World Bank and World Bank Group?*
2. *What are the member organizations of the World Bank Group? Describe their main focus and activities?*
3. *Why have been the World Bank Group member organizations established?*
4. *What was the original purpose of the World Bank and how has it been changing?*
5. *Do you still perceive the International Monetary Fund and the World Banks as sister and complementary institutions or as competitive entities?*
6. *What is the World Bank mission and dream?*
7. *Explain some differences between IBRD and IDA and provide also some similarities.*
8. *Describe simply the organization of the World Bank?*
9. *Why the World Bank President must be of American nationality?*
10. *Is France eligible to obtain an IBRD or IDA loan? Explain your answer.*
11. *What kinds of loans does the World Bank offer?*
12. *How complementary are the products and services of IFC, MIGA and ICSID to the World Bank products?*
13. *Describe the process how a World Bank loan is made?*
14. *Illustrate on figures of fiscal year 2004 priorities of the IBRD and IDA lending?*
15. *What are the resources for the World Bank lending?*
16. *How beneficiary is the World Bank AAA rating? What are the reasons for such high rating and what could threaten it?*
17. *What is the HIPC Initiative and how can it help the poorest countries?*
18. *Give some examples of cooperation between IMF and WB and try to evaluate the quality of cooperation.*

9. EUROPEAN MONETARY INTEGRATION

The process of European monetary integration has been lasting since the 1960s and there are still prospects for further continuing and deepening. The future of monetary integration in Europe is associated mainly with new EU-member countries which have declared the membership in the European monetary union (EMU) as a national economic policy target. However, the monetary integration process has passed many milestones and has been reshaped for many time. This chapter provides a brief overview of the process structured according to most important development stages.

9.1 The Treaty of Rome and the Werner Plan

There is very little in the Treaty of Rome about monetary policy coordination and nothing about monetary integration. Article 106 provided for consultative machinery, including a monetary committee, to discuss and coordinate policies and activities on international monetary questions. Further, Article 108 provided for the possibility of mutual assistance by the granting of limited credits by other member states while Article 107 stated that EEC members should regard their exchange-rate policies as a "matter for common concern". In addition, the European Payments Union (EPU) had operated in the aftermath of World War II to overcome the problem of inconvertibility among European currencies, being wound up in 1958. Further, in the European Monetary Agreement of 1960, ex-members of the EPU agreed to restrict movements in their exchange rates to ± 0.75 % from their par values in comparison with the ± 2 % allowed under IMF rules.

Situation in the 1950s – 1960s

Serious discussion of monetary integration began, however, at The Hague summit in December 1969. This considered a timetable for EMU, based on Commission papers known as the first Barre plan (after Raymond Barre, the Commission's Vice-President) and a plan for action devised by Pierre Werner, the Prime Minister of Luxembourg. The Werner Committee was set up in March 1970 and the European Council adopted the Commission proposals (the second Barre plan) based on the committee's final report in February 1971.

Competing Integration Plans

By 1970 two rival groups had outlined their positions - the "monetarists", led by Raymond Barre, who called for the immediate introduction of irrevocably fixed exchange rates and the "economists", led by Karl Schiller, who wanted coordination and harmonization before any rigidity of exchange rates was introduced. The Werner Report leant towards the "monetarist" view. It recommended the achievement of EMU by 1980 through a series of stages with the following recommendations:

Werner Plan

- the pooling of reserves and the settling of individual deficits and surpluses by internal EEC financial arrangements;
- the setting of a matrix of exchange rate parities which would be very closely adhered to;
- the adjustment of parities less and less frequently until they would be fixed for ever at the end of Stage Two (1980);
- the eventual replacement of national currencies by a single currency, although the single currency was not regarded as essential.

It also envisaged a single monetary authority and monetary policy, unified capital markets, determination of fiscal policy (including methods of financing and taxation) at Community level, strengthening and centralization of the Community's regional and structural policies; and closer consultation among social partners at the Community level. The Werner Report was endorsed by the Paris Summit of October, 1972, which called for its completion no later than the end of 1980. The failure of this program was due to a combination of external events (the collapse of the Bretton Woods fixed exchange rate scheme and the first oil price rise, leading to a period of great volatility in exchange markets) and internal weaknesses in the plan. These included a lack of constraints on national policies and institutional ambiguities as well as a failure to spell out clearly the timetable for progression from one stage to the next.

9.2 The Snake in the Tunnel

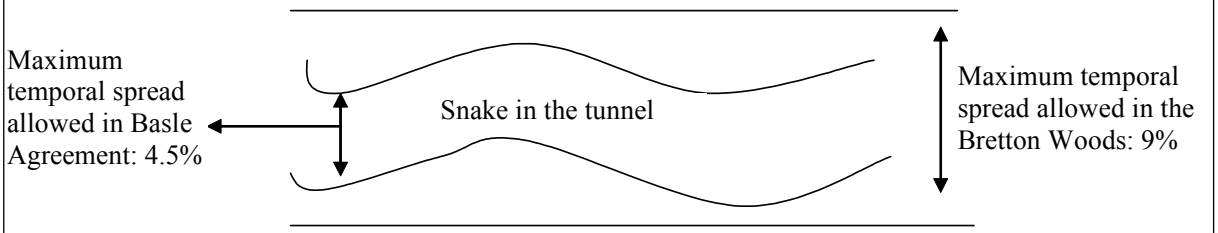
Establishment of the Snake

The Snake was established in April 1972 shortly after the demise of the Bretton Woods system. The attempt to save that system at the Smithsonian conference in Washington in 1971 had led to the allowable bands around exchange rate parities with the dollar being increased from ± 1 % to ± 2.25 %. But this meant that the allowable variation between any two European currencies could be ± 4.5 % (e.g. with the Franc being 2.25 % below its parity with the USD and the DEM 2.25 % above or *vice versa*). This was thought to be too large an allowable variation by the European countries. There were good practical reasons for this. Firstly, the Common Agricultural Policy depended on setting EU-wide prices for agricultural products. Exchange rate changes could upset those arrangements, producing a quite different set of incentives to farmers across the member states than had been envisaged. Secondly, the achievements of the EU in reducing protection among the member countries could be undermined by exchange rate changes which could have a significant effect on the competitiveness of different members. The system of the Snake is explained in Box 9.1.

Box 9.1 System of the Snake in the tunnel

The Snake was designed as an exchange rate arrangement that would reduce fluctuations between EU (then EEC) currencies. The design is simple, but may not be readily comprehensible. The graph below should help visualize what is involved.

Following the Smithsonian Agreement, the fluctuation margin for European currencies was set as ± 2.25 % around the dollar parity. This is known as the maximum instantaneous spread around the dollar parity and it is equal to 4.5 %. This spread, however, implies that European currencies can diverge from each other by a maximum of 9 %. This is known as the maximum temporal spread. It happens when one European currency moves from the bottom of the margin to the top, while another European currency moves in the opposite direction. The Basle Agreement of April 1972 established the snake in the tunnel to reduce the maximum temporal spread from 9 % to 4.5 %. This can be represented as follows:



As a result of the arrangement, fluctuations between European currencies was halved: from 9 % to 4.5 %.

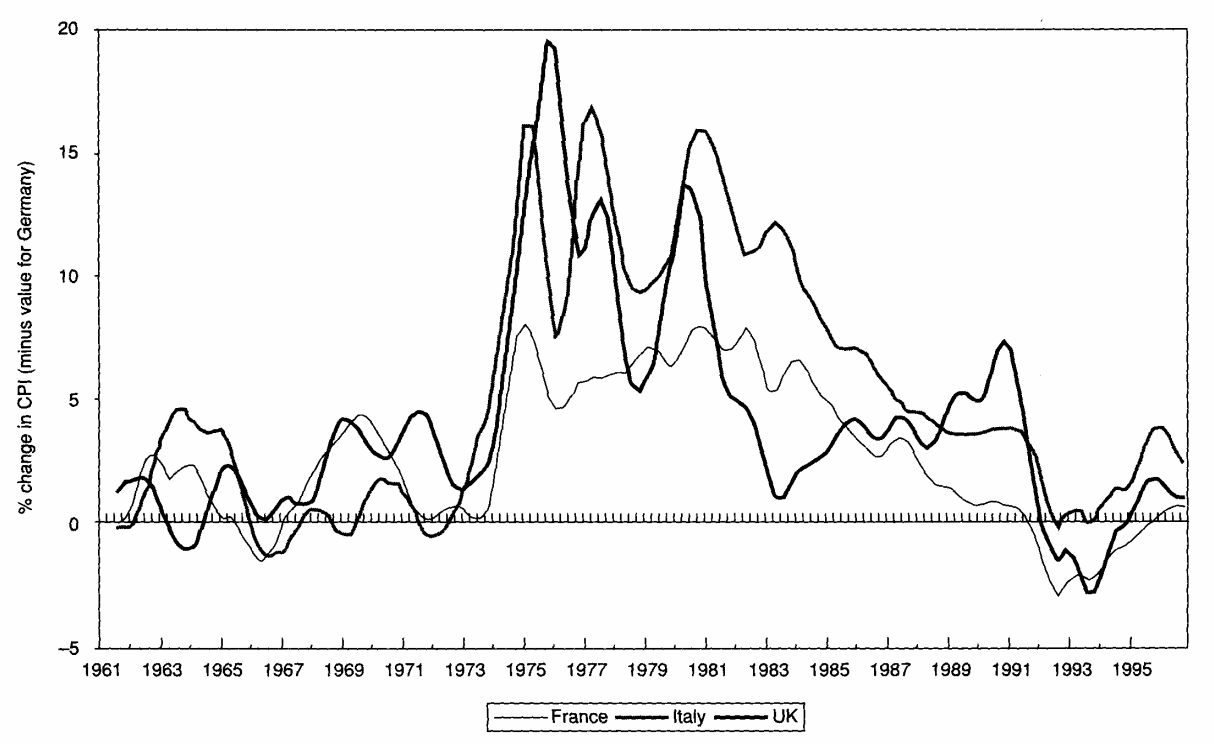
Functioning of the Snake

The Snake did not, however, prove effective. Only Benelux, West Germany and Denmark were permanent members. At various times, France, the UK, Sweden, Norway and Italy all entered and left. Between April 1972 and March 1979, the "fixed" parities were altered thirty-one times and the band was abandoned and rejoined by committed participants eighteen times. Britain joined the system in 1972 but was only able to survive within it for eight weeks before being forced by the selling of sterling in foreign exchange markets to allow its currency to float. The French franc left the Snake in January 1974 and rejoined in July 1975 only to leave it again in March 1976. Like the UK, Italy barely participated at all.

Functioning of the Snake

There were two reasons for the failure – one external, one domestic (i.e. European). The external factor concerned the weakness of the USD. As a result of its involvement in Viet-Nam, the US was running huge budget deficits and the, consequently, balance of payments deficits. Under these conditions, the speculators rightly expected that the dollar was overvalued and would have to be devalued against the gold to correct US balance of payments disequilibrium. Therefore, they started to sell dollars and buy DEM – as Germany was running balance of payments surpluses. The domestic factors were: (i) the divergence between European economies and economic policies; and (ii) the absence of credible institutions that would ensure convergence. Divergence between European economies and economic policies was exacerbated by the first oil shock. Whereas some countries such as France and Italy responded to the crises with an accommodating monetary and fiscal policies; Germany and the Netherlands tightened their policies. As a result, inflation levels diverged significantly – as can be seen in Figure 9.1. Divergence in inflation meant divergence in real exchange rates: the French Franc, the Italian Lire and the UK sterling became overvalued, whereas the DEM and the Dutch Guilder became undervalued.

Figure 9.1 Inflation divergence vis-á-vis Germany



Source: Gros and Thygesen (1998, p. 32)

9.3 The European Monetary System

Establishment and Components of EMS

The Council Resolution of December 5, 1978 states the aim of the European Monetary System (EMS) as the foundation for closer monetary co-operation "leading to zone of monetary stability in Europe". As indicated earlier, "monetary stability" has been the motive for earlier attempts at monetary integration in Europe. The preference for monetary stability has been determined by three factors: (i) insulation against external (mainly US) monetary shocks; (ii) exchange rate stability for encouraging trade; and (iii) exchange rate stability required for smooth operation of the common agricultural policy.

The EMS came into operation on March 13, 1979. All members of the EU become members of the EMS. The EMS was conceived not just as an exchange rate system but as a full monetary system with three main components:

- the Exchange Rate Mechanism (ERM);
- the European Monetary Cooperation Fund (EMCF); and
- credit facilities linked by the common currency of denomination, the European Currency Unit (ECU).

However, "Phase Two", which was expected to take place two years after the inception of the EMS and which was to bring about a full utilization of the and the development of the European Monetary Fund, did not take place, leaving the EMS to operate almost entirely as an exchange rate system. Not all members of the EMS are members of the ERM. The UK, although in the EMS since 1979, has been a member of the ERM only during the period 1990-92. Greece has never been a member of the ERM. The EMS has gone through distinct periods of operation. It is possible to identify four such periods.

Period One: 1979-83

This was a learning period in a hostile economic environment (the second oil price shock). It featured seven adjustments to central rates in only 4 years. The problems were partly external: a major oil price rise in 1979; Reaganomics in the US, loose fiscal policy + tight monetary policy led to high interest rates and the beginning of the rise and rise of the USD (1981-85). However, there were also policy differences in Europe, a somewhat less deflationary policy in France (following Mitterrand's election in 1981) and a stronger anti-deficit attitude in Germany following Kohl's election (1982). There was much talk in 1982 and early 1983 of French withdrawal from the system and its virtual collapse. The regular adjustments could be seen as advantageous in reducing speculation, but not in providing anti-inflationary credibility to the countries whose currencies were being regularly devalued. All of this represented a dramatic contrast with the IMF Bretton Woods system which saw only a few major changes in exchange rate parities over a period of 26 years. The turning point in terms of the acceptance of the EMS could be seen as 1983 for France, 1984 for Italy. Despite the many realignments, the discipline imposed by the system encouraged the acceptance of changes in central rates that did not fully accommodate inflation differentials. However, the inflation record was helped by the strong dollar and the fall in the world price of oil.

Period Two: March 1983 – January 1987

This was a period of substantial disinflation and narrowing of inflation rate differentials with realignment becoming a collective decision. External factors were important (the strong dollar up to March 1985; fast economic growth in the US; the oil counter shock in 1986). There were only four realignments in nearly four years including the general

realignment of January, 1987. Talk began to be heard of nominal convergence of macroeconomic indicators (interest rates, inflation) and of coordination of monetary policies. The more inflationary countries began to think in terms of using the fixed exchange rate system to provide market confidence in their anti-inflationary policies. It was only at the end of the period, however, that noises began to be made again about the movement to monetary union.

Period Three: February 1987 – September 1992

This was a period of capital liberalization and a determined attempt to achieve exchange rate stability as a step towards monetary union. There was renewed interest in growth but less favorable external developments (dollar weakness; slow-down in US growth). There was only one change in central rates in over five and half years and that was simply a small reduction in the parity of the lira to allow its movement from the broad to the narrow band. The Basel-Nyborg agreement appeared to introduce rules which would lessen the deflationary bias of the system. This facilitated intra-marginal interventions and coordinated interest rate responses in periods of tension. The effect of the practice in the EMS that reserves used for intervention in defending a weak currency have to be reconstituted within the span of a few months is that convergence, provided that exchange rates do remain fixed, will be towards the low inflation in Germany and not towards some average as would be the case if intervention credits provided a more permanent safety net. Monetary union ideas were given a push by the Single European Act (1986); the Delors Committee was set up and reported, recommending movement to monetary union in three stages. Spain, Portugal and the UK all joined the system, leaving only Greece outside. Confidence in exchange rate stability grew sharply in the early years. Evidence of nominal convergence in several countries grew.

Period Four: September 1992 - whenever

In September 1992, two major currencies (sterling and the lira) were forced out of the EMS while three others (the peseta, the escudo and the punt) devalued. Three more currencies (the French franc, the krona and the Belgian franc) were under severe pressure at various stages. There was much talk of the collapse of the system and enormous short-term increases in interest rates to try to prevent capital flows. Skepticism about monetary union increased dramatically, especially since it was clear that part of the problem of 1992 was that exchange rates were well out of line following the prolonged period without adjustment of central rates.

One interpretation of the 1992 crisis was that the speculative capital movements were triggered by political events and were successful where competitiveness problems were relevant. Drawing on French experience, the source of the problems affecting the currency had a political rather than an economic source, the speculative attacks could be resisted. With regard to Spain and Italy, it has been argued that formal participation in the institutions of the EMS cannot deliver success if they are not linked to domestic adjustment policies. Lack of competitiveness at the existing exchange rates was also important in the problems of the escudo and sterling, reinforced in the UK's case by the political ambivalence towards monetary unification. Ireland stands out as an exception because success in convergence of economic fundamentals was insufficient to maintain the central parity. This is explained by spillovers from the UK devaluation.

9.3.1 Changes in Central Rates

The frequency of changes in central rates is mentioned above for different phases of the operation of the EMS. The full list of such changes is as follows:

Table 9.1 Changes in central rates during the operation of the EMS

date	*change*
September 24, 1979	DEM +2.0 %; DKK -2.9 %
November 30, 1979	DKK -4.8 %
March 23, 1981	ITL -6.0 %
October 5, 1981	ITL -3.0 %; FRF -3.0 %; DEM +5.5 %; NLG +5.5 %
February 22, 1982	BEF -8.5 %; LUF -8.5 %; DKK -3.0 %
June 14, 1982	FRF -5.75 %; ITL -2.75 %; DEM +4.25 %; NLG +4.25 %
March 21, 1983	FRF -2.5 %; ITL -2.5 %; DEM +5.5 %; NLG +3.5 %; BEF +1.5 %; LUF +1.5 %; DKK +2.5 %; GBP -3.5 %
July 22, 1985	ITL -6.0 %; DEM +2.0 %; NLG +2.0 %; BEF +2.0 %; LUF +2.0 %; DKK +2.0 %; GBP +2.0 %; FRF +2.0 %
April 7, 1986	FRF -3.0 %; DEM +3.0 %; NLG +3.0 %; %; BEF +1.0 %; LUF +1.0 %; DKK +1.0 %
August 4, 1986	GBP -8.0 %
January 12, 1987	DEM +3.0 %; NLG +3.0 %; BEF +2.0 %; LUF + 2.0 %
January 5, 1990	As part of Italian movement to narrow band, ITL effectively -3.7 %
September 14, 1992	ITL -3.5 %; all others +3.5 %
September 16, 1992	GBP suspended from ERM
September 17, 1992	ITL suspended from ERM, ESP -5.0 %
November 23, 1992	ESP -6.0 %; PTE -6.0 %
January 30, 1993	GBP -10.0 %
May 13, 1993	ESP -8.0 %; PTE -6.5 %
August 2, 1993	bands widened to ± 15 %
March 6, 1995	ESP -7.0 %, PTE -3.5 %

Delors Report

The second half of the 1980s also saw a renewed political push towards monetary integration. In 1985, when member countries adopted the Single European Act, they increased the need for the progressive development of EMU. In June 1988 the Council of Europe set up a committee under Jacques Delors, the President of the European Commission, to study and make proposals regarding the necessary stages for the achievement of EMU. The result, submitted in April 1989, was *The Report of the Committee on Economic and Monetary Union*, also known as the "Delors Report". It set out the goal to be reached, the reasons for it and its possible implications, as well as specifying the desired stages leading up to EMU. The Delors Report was accepted as the basis for the debate at the European summit held in Madrid on June 26, 1989. Its principal recommendations were then incorporated into the Treaty on European Union, agreed upon at Maastricht in December 1991.

9.4 The Treaty on European Union and the Plans for Monetary Union

The Treaty on European Union set out the nature, functions and constitution of the new central banking system which would manage the single currency, monetary policy and foreign exchange in EMU. It also explained how fiscal and budgetary policy would be managed and set out the stages through which EMU would be reached.

First Stage

The first stage was seen retrospectively as having commenced in July 1990 with the liberalization of capital flows and the integration of financial markets under the single market program. During this first stage, all EU countries were to become full members of the ERM in the narrow band. There was to be an increase in the coordination of national monetary policies and the pooling of 10 % of national foreign exchange reserves to allow intervention in currency markets.

Second Stage

Second stage was to begin in January 1994 with the establishment of the European Monetary Institute (EMI) which would have the task of preparing the way for monetary union. During Stage 2, responsibility for the execution of monetary, exchange rate and fiscal policy would still rest with the member states. However, the EMI would plan monetary policy, monitor the policies of member states, and advise member governments. Changes would only be allowed to central exchange rates in the ERM under exceptional circumstances.

Third Stage

The EMI would be replaced at the beginning of Stage 3 by the European Central Bank (ECB) which, together with the central banks of the member states, would form the European System of Central Banks (ESCB). In Stage 3 exchange rates would be irrevocably fixed and national currencies would eventually be replaced by a single EU currency. The ECB would take over from the EMI, and would assume responsibility for exchange rate and monetary policies. A decision was required before the end of December 1996 as to when Stage 3 would commence. If, however, no date had been set by the end of 1997, then the third stage would start on January 1, 1999.

Convergence Criteria

With regard to membership of the monetary union, the Treaty set out a number of convergence conditions, which EU member states would need to meet to be allowed to join. All criteria are associated with macroeconomic situation and their fulfillment should assure the economic homogeneity within EMU and consequently its smooth functioning. Membership would require:

- demonstration that the country's inflation rate had converged on the lowest rates of inflation within the union - to be judged specifically by whether the average rate of inflation, observed over a period of one year before the decision regarding membership was within 1.5 percentage points of the average of the three lowest national rates;
- evidence that the inflation convergence was durable - to be shown by a long-term interest rate within 2 percentage points of the average of the long-term interest rate of the three countries with lowest inflation;
- a sustainable government financial position defined as (i) a general government budget deficit no greater than 3 % of GDP at market prices and (ii) a ratio of gross public debt to GDP at market prices no greater than 60 % - unless this debt ratio is falling "at a satisfactory pace",

- observance of the normal fluctuation margins provided for by the ERM of the EMS for at least two years with no devaluations against any other member currency.

In addition, the Commission and the EMI were required to take account of development of the ECU, the results of the integration of markets, the situation and development of the balances of payments on current account, and the development of unit labor costs and other price indices. A majority of the EU member states were required to be economically fit for monetary union if the currency union were to go ahead from December 1996 but no such "critical mass" was required for the union to be established on the 1st January 1999 (with membership being determined before 1st July 1998). The specific numbers included in the convergence conditions had nothing in particular to recommend them. At the time of the signing of the Treaty on European Union, they looked to be achievable targets for many EU member states while appearing sufficiently tough to hope to persuade financial markets that the monetary policies pursued after 1999 would be strong, anti-inflationary policies.

Movement to Monetary Union

By 1997 doubts about monetary union had risen to the extent that postponement of the 1999 starting date seemed increasingly likely. At that stage few countries seemed likely to meet all the convergence criteria by July 1998. Ten countries were meeting the inflation convergence target of 2.63 % or less. All of these plus the U.K. were meeting the long-term interest requirement of 8.7 % or less. However, only Denmark, Ireland, Luxembourg and the Netherlands were meeting the requirement that General Government Borrowing be no more than 3 % of GDP. Of these four, only Luxembourg and Denmark strictly qualified on the General Government Gross Debt criterion. Ireland, too, effectively was qualifying since it had been judged for three successive years to be moving sufficiently quickly towards the required 60 %. Optimistic forecasts suggested that one or two other countries might qualify by 1998. The big worries were France and Germany.

The governments of France and Germany remained strongly committed to the single currency on political grounds but faced increasing doubts from their own populations. France had for some time been in favor of economic and monetary union as the only sure way of tying Germany firmly to the rest of Europe. Ever since the unification of Germany, the German chancellor, Kohl, had appeared to share the French fear that, in the event of a loosening of European ties, Germany could become more introspective and nationalist and more concerned with the position of German minorities in other European countries. Economic and monetary union was thus as much a symbol of European integration as it was an economic arrangement.

Germany's Concerns and Doubts about Germany

The doubt was whether Germany itself would be able to achieve the 3 % target by 1998. In March 1997, the German Finance Minister argued that the achievement of the convergence conditions was more important than the timing of convergence. This added to the feeling that Germany might be willing to accept a postponement of the 1999 commencing date for monetary union. The German fear, as we have seen, was that any weakness on the entry criteria would be taken badly by both the markets and the German population. Further, in October 1993, the German constitutional court had attached conditions to Germany's ratification of the treaty on European Union such that the court retained the power to prevent Germany's entry to monetary union if the convergence conditions in the Maastricht Treaty were not adhered to. Although this seemed unlikely, the court ruling added to pressure on the German government to try to ensure that the full

achievement of the Maastricht convergence conditions remained the test of entry to EMU. Stressing the inviolability of the convergence conditions also showed Germany's doubts about allowing Spain, Italy and Portugal to join from 1999. The German government felt that their presence in the first wave of membership would add greatly to the feeling that the euro would be a weak currency and that European inflation rates would be much higher than most Germans seemed prepared to accept.

No Provision for EMU Delay

In any case, there was no provision in the Treaty on European Union for delay: January 1, 1999 was the compulsory date for the start of the single currency. To delay the start would require a formal renegotiation of the Treaty with all fifteen members agreeing on the change and with the change needing to be ratified by each member, either through national parliamentary approval or popular referendum. Another possibility would be for monetary union to go ahead on time but with the European Council ruling that no countries had met the convergence criteria. The monetary union would be left as an "empty shell" waiting for later activation. However, this would increase the risks associated with delay since it would leave the possible date for the later commencement of the union completely uncertain. This would be much more difficult for countries to cope with than would the substitution of a stated new date for the existing one. Also, the "empty shell" option would require manipulation of the rules since, as we have seen, at least three countries - Luxembourg, Denmark and Ireland - seemed likely to qualify fully for membership. The only way to make these countries ineligible would be to suspend the ERM for a few hours so that no country could meet the requirement of two years of uninterrupted ERM membership.

Selection of EMU Member Countries

In the event, the strong drive to meet the conditions together with some generous accounting interpretations of the facts allowed the European Council to argue that almost all of the countries that had wished to be part of the first wave of membership of the union had either met the conditions or were moving towards them with sufficient speed. This was most dubious in relation to Italy whose public debt remained stubbornly well above the desired 60 per cent of GDP. However, Italy had been a founding member of the EU in 1957 and had always been a strong supporter of integration. Further, it was a large country and, from a trading point of view, it was better to have it as a member of the single currency than not. Consequently, of the twelve countries who wished to join from January 1999, only Greece was failed on the convergence criteria and the single currency commenced with 11 participating members. Three members of the EU – the UK, Denmark and Sweden – chose to remain outside of the monetary union at least for the time being. Greece was judged to have done sufficiently well in relation to the convergence criteria within the following two years and became a member of the single currency from January 1, 2001.

9.5 Monetary Union Developments

Establishment of ERM II and Launching of Euro

After agreement was reached regarding the number of members of monetary union, progress towards the full establishment of the monetary union commenced. The European Central Bank (ECB) and the European System of Central Banks (ESCB) were established on June 1, 1998 and in September agreement was reached with Denmark and Greece, two of the countries not in the first wave of single currency membership, over the formation of a replacement for the old ERM (ERM II). Under this agreement, Denmark agreed to keep its currency within a band of 2.25 % around its

central rate with the euro. Greece, on the other hand, stuck with the existing 15 % band. Sweden and the UK chose not to be a part of ERM II, which meant that their currencies would float against the euro when it was established. During the second half of 1998 important decisions were made by the Governing Council of the ECB regarding post-monetary union monetary policy. The euro was formally established on January 1, 1999 and trading in the currency commenced on January 4, 1999. Although the euro was a fully established currency from that date, euro notes and coins were not to be issued until January 1, 2002. Before that date, national currencies remained in use throughout the euro area. For most consumers and firms, therefore, the establishment of the euro had the effect of establishing a fully fixed system of exchange rates. Table 9.1 shows the conversion rates of all currencies to the euro.

Table 9.1 Conversion rates of national currencies to the euro

country	*old currency*	*conversion rate*
Austria	Schilling (ATS)	€1 = ATS 13.7603
Belgium	Franc (BEF)	€1 = BEF 40.3399
Germany	Deutschemark (DEM)	€1 = DEM 1.95583
Spain	Peseta (ESP)	€1 = ESP 166.386
Finland	Markka (FIM)	€1 = FIM 5.94573
France	Franc (FRF)	€1 = FRF 6.55957
Ireland	Punt (IEP)	€1 = IEP 0.787564
Italy	Lira (ITL)	€1 = ITL 1936.27
Luxembourg	Franc (LUF)	€1 = LUF 40.3399
Netherlands	Guilder (NLG)	€1 = NLG l2.20371
Portugal	Escudo (PTE)	€1 = PTE 200.482
Greece	Drachma (GRD)	€1 = GRD 340.750

Source: European Central Bank

Euro Exchange Rate Development

In many ways the euro was a success. However, the attention of economic and political commentators has been directed almost entirely to the weakness of the euro against other currencies, particularly the US dollar. A confident opening for the euro saw it reach an exchange rate of 1.18738 USD/EUR at the end of the first day of trading. However, the euro's value began to fall immediately after this and, despite occasional small recoveries, it fell steadily to a low of USD 0.8250 during trading on October 25, 2000, a loss of value of over 30 %. Although it then began to rise again and went above USD 0.95 in early January 2001, it could not sustain the recovery and fell back below USD 0.90 in mid-March 2001. After a wave of terrorist attacks and along with economic slowdown in the US and the war in Iraq, the USD started to depreciate and euro peaked in November 2004 at 1.304 USD/EUR.

9.5.1 Arguments in Favor of Euro

In what ways, then, could the euro be considered a success? Four arguments are usually put forward. Three of these are microeconomic and one is macroeconomic.

Transaction Costs and Price Transparency

The first relates to the lowering of transaction costs and increased price transparency across the national borders in the euro area. These effects, especially that of price transparency, became much stronger from 2002 onwards when euro notes and coins replaced national currencies, which were scheduled to cease circulation from March 1, 2002. Then, it should become much more difficult for producers to charge different prices in different

markets. This should allow efficient firms to compete more effectively. This, in turn, should help to increase the rate of economic growth.

Box 9.2 The practicalities of introducing the euro

As mentioned above, euro notes and coins were only introduced at the street level in January 2002. Approximately 13 billion notes and 76 billion coins had to be replaced. The distribution of the 76 million coins required the equivalent of 1000 one-tone trucks making the equivalent of 100 000 journeys. In Germany alone some 2000 cashier months were taken up exchanging private customers' cash holdings – assuming rather optimistically only one visit per customer. Some 3.2 million vending machines had to be converted, requiring at least one man-hour to convert each to accept new notes and coins.

Exchange Rate Risk

The second point in favor of the euro is the assurance it has brought of exchange rate stability for exporters, importers and investors active throughout the euro area. It allows them to avoid the costs involved in covering exchange rate risk relating to exposures vis-à-vis the countries in the euro area. The lower costs brought about by the single currency reduce the barriers to cross-border trade and investment and should encourage small and medium-sized companies that have, in the past, been active only in the domestic market to enter the markets of the neighboring countries, further increasing the degree of competition within the euro area.

Impact on European Financial Markets

Thirdly, the use of a single currency should have an important impact on the development of European financial markets. From January 1999, the euro established itself as one of the world leading trade and investment currencies, in particular as a currency for international bond issuance. In April 2000, Otmar Issing, the chief economist of the ECB announced that the value of bonds issued in euro had surpassed that of USD bonds. The development of a deep and liquid bond market in euro makes it easier for companies to raise finance, even for the riskier projects, in the domestic capital market, without incurring exchange rate risks. Again, it has been argued that the introduction of the euro and the development of the corporate bond market that has followed has provided support for unprecedented merger and acquisition activity by euro area firms as well as improved efficiency and competitiveness. Equally, the introduction of the single currency has boosted integration efforts in equities and derivatives markets and payment and settlement systems.

Economic Convergence

The final argument in support of the euro concerns the impact of the economic policies that were necessary to allow countries to meet, or nearly meet, the Maastricht convergence conditions for monetary union membership together with the stability and growth pact, which is meant to govern national fiscal policies within monetary union. It has been suggested that the resulting greater stability in macroeconomic policy has been beneficial to firms and has encouraged member countries to carry out important restructuring of economies, notably of labor markets and tax systems.

9.5.2 Future Membership of the EMU

Denmark and Sweden

On September 28, 2000, Denmark again rejected monetary union membership in a referendum. This time the margin was the quite large one of 53.1 to 46.9 %. The size of the "no" majority makes it unlikely that the question will again be asked of the Danish people in the near future. Sweden also seems unlikely to join in a hurry. If ever there was a vote that could have been blown off course by a chance event, it was Sweden's referendum on joining the euro. Just three days before the poll, Anna Lindh, the country's popular and charismatic foreign minister, was stabbed to death in a Stockholm department store. Since she had also been the euro-campaigners' standard-bearer, many expected a late surge of sympathy in favor of a yes. After the murder, for the first time in months, a couple of opinion polls showed the yes camp ahead or level. But the Swedes were not to be emotionally swayed. On September 14, 2003, they voted decisively against joining: 56 % said no; 42 %, yes. Along with Britain and Denmark, Sweden will continue to stand aside from the EU's 12 other countries that have abandoned their old currencies.

United Kingdom

As part of the negotiations leading up to the signing of the Maastricht Treaty in 1991, the UK government obtained an opt-out, allowing it to choose not to be an initial member of the monetary union. Technically, it was not eligible to join the euro area at the beginning of January 1999 because sterling had not been a member of the exchange rate mechanism (ERM) of the EMS for at least two years immediately prior to the establishment of the monetary union (sterling had been in the ERM only from 1990 to 1992). In practice, sterling would almost certainly have been granted membership from January 1999, but the government chose to exercise its opt-out and remain outside.

The question was then whether the UK would join in the future and, if so, when. In 1998 the government indicated its willingness to join in principle but said that a number of factors would need to be taken into account in deciding when to join. It also committed itself to seeking the people's permission to join through a referendum. The factors that the Chancellor of the Exchequer, Gordon Brown, said should be taken into account before the UK entered were:

- whether there was sufficient flexibility in the stability and growth pact and in labor markets to respond to economic shocks;
- whether monetary union membership would create better conditions for foreign direct investment for the UK;
- what the impact of membership or non-membership would be on the City of London;
- whether monetary union membership would promote higher growth, stability and lasting increases in jobs; and
- whether business cycles were compatible to the extent that the UK could exist comfortably with euro interest rates.

Central European Countries

Although eight countries of central Europe joined the EU on May 1, 2004, adopting the euro will take most central European countries longer still. As new members of the EU they are legally obliged to join the euro zone, when they have met various tests for doing so. The European Commission and the ECB are advising them to take their time, for fear that their efforts to contain inflation and public spending will also choke growth. Any country wanting to enter the euro zone must first show that it can keep its currency stable against the euro for two years. Accession countries were relaxed about this part of the bargain

because they expected to be allowed fluctuations of up to 15 % in the value of their currencies against the euro. But in May the European Commission shocked them by saying that a much stricter standard would apply: 2.25 %, not 15 %. The current message is that the 2.25 % band will apply as a general rule, but that brief fluctuations up to a 15 % limit will not necessarily count as fatal errors. Still, that is a tough target for countries with managed floats.

For Poland, the Czech Republic and Hungary, which have the biggest economies in central Europe, budget deficits pose at least as serious an obstacle to euro zone entry. EU treaty rules say euro zone countries must keep budget deficits below 3 % of GDP (though some countries are already breaking this rule, putting in question the legitimacy of it). This year public sector deficits may well exceed 5 % of GDP in all three countries. All three governments talk about reining in spending, but they are composed of weak coalitions with limited scope and limited willpower to do so. Financial markets now pencil in dates as distant as 2009-11 before the three big countries are all safely inside the euro zone. Smaller and more fiscally disciplined countries, Estonia and Slovenia spring to mind, look set to force open the door of the ECB first. If they meet the tests, the bank cannot keep them out. Euro zone entry is not only an obligation for the accession countries, but also a right, which the European Court of Justice can enforce if asked.

Questions and Exercises

1. *Describe briefly the main development stages of European monetary integration.*
2. *Explain the functioning of the snake in the tunnel.*
3. *What are differences between snake in the tunnel and the EMS?*
4. *What was the EMS crisis in 1990s?*
5. *What were the economic reasons for wanting monetary integration in Europe?*
6. *Consider the argument that monetary union was a necessary extension of the European single market.*
7. *Why was it important that Germany should be a member of the European single currency?*
8. *Explain the reasoning behind each of the Maastricht convergence conditions.*
9. *Why did Denmark, Sweden and the UK choose to stay outside the EMU when it was established? Were the reasons the same in each case?*
10. *Consider the difficulties in coming to a conclusion on each of the UK Treasury's five economic tests for membership of the single currency.*
11. *What are prospects of the EMU's enlargement in future?*
12. *Why fiscal discipline is so important when having a common monetary policy and single currency?*
13. *Why Estonia and Slovenia are the most likely first EMU members from the group of eight new EU member countries from the central Europe?*

PART III.

INTERNATIONAL FINANCE IN TRANSITION COUNTRIES

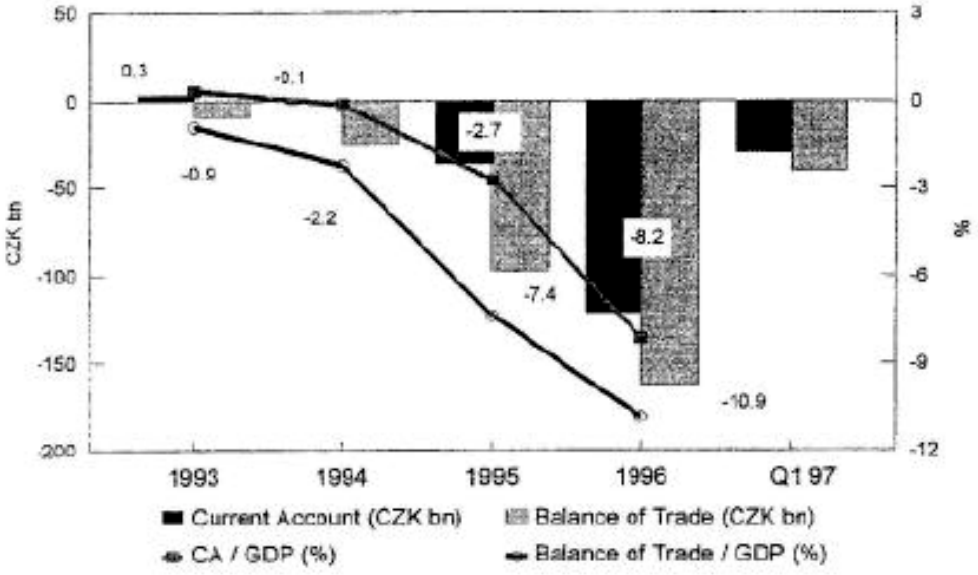
10. CZECH KORUNA EXCHANGE RATE TURBULENCE IN MAY 1997[1]

10.1 Causes of the Turbulence

Deteriorating of External Position

In 1996, the problems of external relations in the Czech economy had reached serious proportions. As a result, the economy was placed in a more vulnerable position. The current account registered a high deficit, and financial flows on the financial account, as the currency band was widened, contributed to the nominal appreciation of the koruna (CZK). The Czech Republic was under the close scrutiny of foreign investors specialized in investments on emerging financial markets, because various comparison studies had shown that the external development of the Czech economy was ranked among the worst in the world. Development of the trade balance and the current account balance in 1993-97 is illustrated in Figure 10.1 and Figure 10.2 depicts development of the Czech financial account balance in the same period.

Figure 10.1 Trade balance and current account balance in 1993-97



Source: Czech National Bank

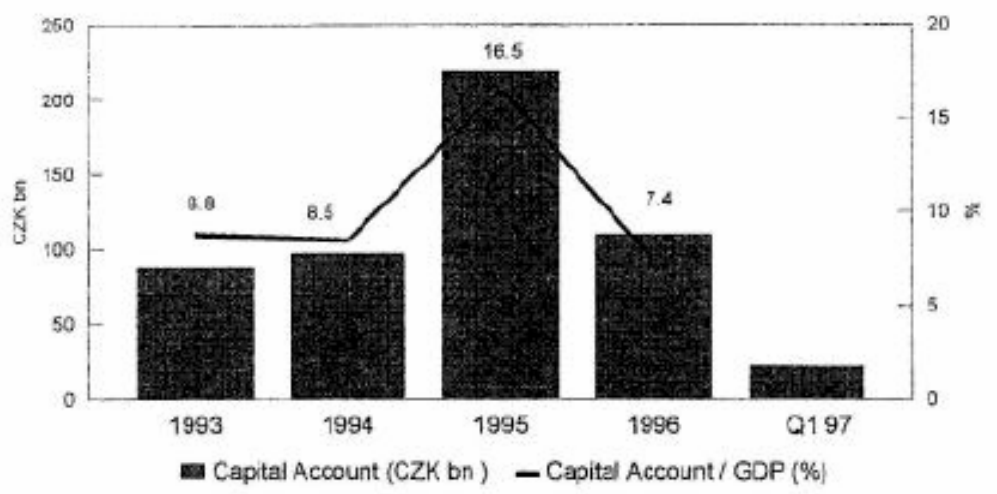
Reasons for Trade Balance Deficit and Financial Account Surplus

Worsening of the external disequilibrium in the area of the balance of trade was caused by a build-up of several factors from the import/export side: (i) a high propensity to import during a period of economic growth, (ii) wages outpacing labor productivity growth, (iii) slowed economic growth on the main consumer markets, (iv) increased competition in Eastern Europe and Asia, (v) real strengthening of the koruna vis-a-vis most Western European currencies due to nominal strengthening of the dollar and slowed growth in international importer prices, and (vi) asymmetric access to foreign markets for Czech importers and exporters. The factors that led to the overall surplus in the capital account can be divided into the following periods: (i) influence of privatization along with the massive entry of foreign entities into the

[1] This chapter is entirely based on the study ŠMÍDKOVÁ, K. *Koruna Exchange Rate Turbulence in May 1999.* Czech National Bank Working Paper No. WP 1998-02. Praha: CNB, 1998.

Czech economy, (ii) existence of an interest rate differential leading to the inflow of short-term resources, (iii) after extended convertibility, the koruna took on a more attractive character, (iv) Czech market integration into operations on international financial and capital markets, increasing, e.g. the volume of eurokoruna bond issue.

Figure 10.2 Financial account balance in 1993-97

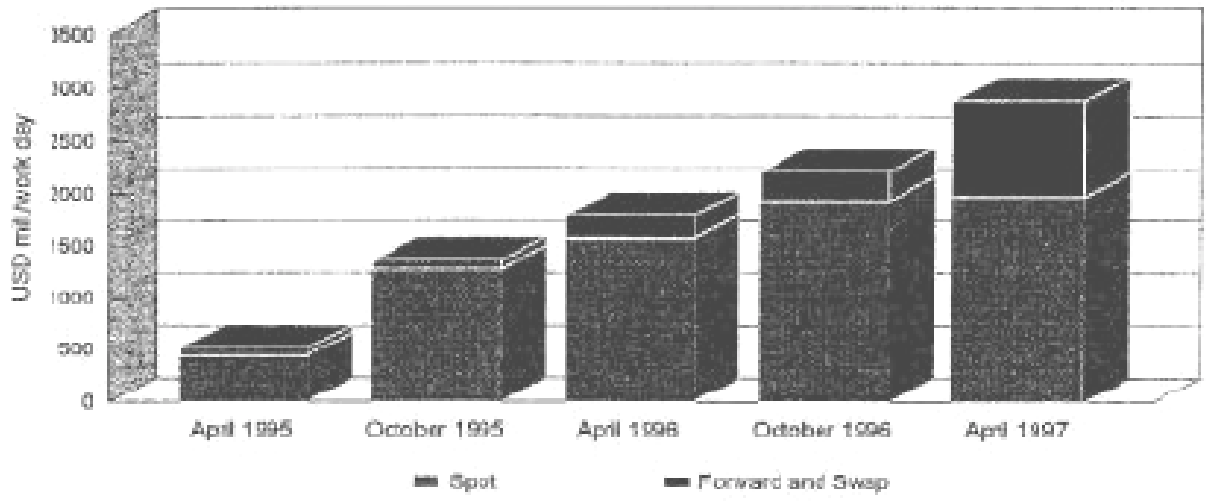


Source: Czech National Bank

Koruna Becomes Attractive Currency

Interest in the Czech economy from international financial organizations was triggered by the actual positive characteristics of the koruna. In fact, its convertibility has attracted foreign investors since 1995. During the period of transition, Czech financial markets had developed at a relatively fast pace, and a large number of foreign investors entered the koruna market. The share of trading among domestic banks and non-residents in the overall volume of exchange rate operations increased, and the role of forward operations strengthened. In April 1997, the average daily volume of trade was roughly 3.4 times higher than April of last year for spot trades and 8.4 times higher for forward and swap trades. The volumes of trading by domestic and foreign banks are shown in Figure 10.3.

Figure 10.3 Volumes of trading in the Czech foreign exchange market (USD million)



Source: Czech National Bank

10.1.1 Immediate Causes of Exchange Rate Turbulence

These factors, combined with various impulses, caused the exchange rate turbulence in 1997 to develop quickly and on a large scale. From the end of 1996, resident foreign exchange deposits were rising slowly, and from February 1997, the koruna started to gradually weaken within the set currency band. A fall in the Prague Stock Exchange's index PX 50 corresponded to the fall in the koruna exchange rate. These were important warning signals that the potential for exchange rate turbulence existed and that the players on the Czech financial markets were beginning to notice very serious problems in the Czech economy. The actual timing of the exchange rate turbulence was driven by a series of impulses:

- The vulnerability of the economy in the area of external relations had become more visible due to extensive coverage in the Czech media and opinions and viewpoints in various international studies.
- The first government "package" of economic policy measured reacting to the problems of the external imbalance was not well received by the financial markets and was viewed as an inadequate assessment of the situation.
- Uneasiness on financial markets was supported by political unrest.
- An exchange rate crisis broke out in Thailand where the currency provided foreign investors with a rate of return strongly correlated to the koruna's return. Indicating possible investment risk for other emerging markets, contagion effects from the crisis began to spread.

10.2 The May 1997 Turbulence

On May 15, 1997, a sharp drop in the koruna exchange rate threw the Czech Republic into a cycle of turbulence and uncertainty. In the early morning hours, the exchange rate plunged briefly to 5 % below parity.[2]

CNB Measures During Turbulence

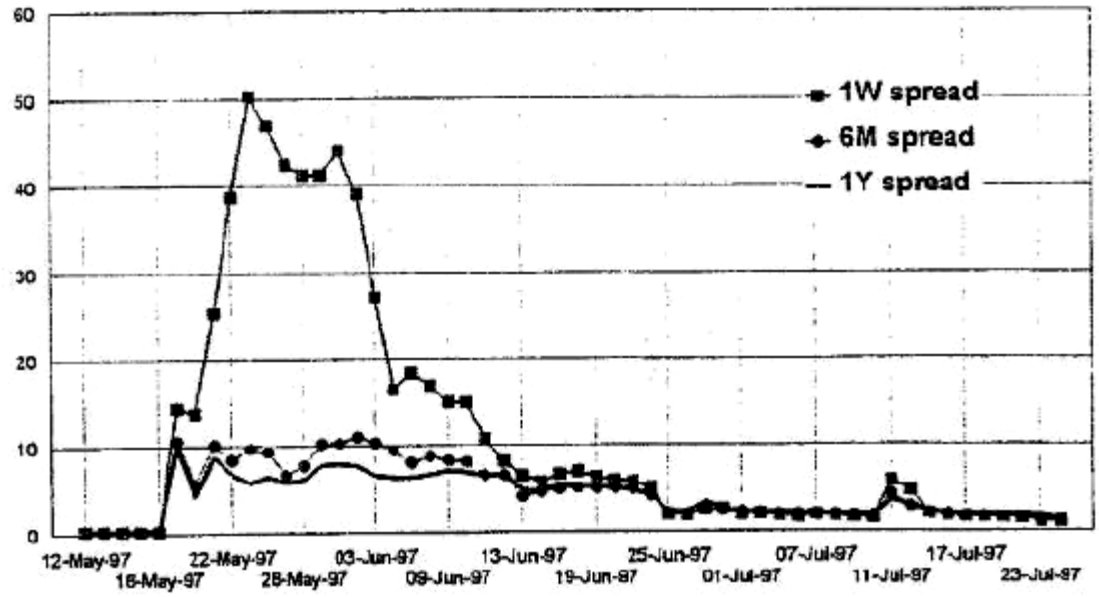
In the first days of the turbulence, the CNB intervened on the foreign exchange and money market in order to preserve the currency band. This strategy provided a real opportunity for easing the tension on the foreign exchange market by promoting the calm exit of foreign investors from the koruna market through extended intervention and by maintaining the credibility of the currency band in hopes of preventing resident panic. At the beginning, it was not clear as to what extent the foreign exchange speculation would come from the side of non-residents, nor whether residents would contribute to the speculative attack.

Interventions on the foreign exchange market accompanied by an attempt to informally limit the liquidity of the Czech off shore market maintained the koruna exchange rate within the currency band. The central bank intervened on the money market with the intention of withdrawing the banking sector's liquidity. This action caused significant hikes in CNB interest rates and in turn led to an overall rise in interest rates and spreads on the market. The

[2] A sharp drop in the koruna rate from 3.8 % to 4.8 % below parity during one hour accompanied by conjecture on short-selling (koruna are borrowed and converted into foreign currency , putting pressure on koruna weakening. After the koruna weakens, exchange rate profits are achieved through repurchasing) from American hedging funds forced the CNB to employ extensive foreign exchange intervention. In half an hour, the CNB had manager to pull the koruna back up to 3 % below parity, and the exchange rate was stabilized between 3 - 3.8 % below parity.

effectiveness of open market operations was strengthened by limited access to the Lombard credit. The spreads between PRIBOR and PRIBID rates of selected maturities during the period of May – July 1997 are portrayed in Figure 10.4.

Figure 10.4 Spreads between PRIBOR and PRIBID rates (in %)



Source: Czech National Bank

Escalation

The driving force behind the turbulence was the behavior of non-residents who left the koruna market and lunched speculative attacks against the koruna. However, it was the change in resident behavior that actually led to the sharp escalation of the situation. Residents began converting large amounts of koruna into foreign currency and even began over-stocking imported goods. In all probability, residents contributed to the attack on the koruna as well. Interestingly, the media and economic specialists who continually predicted the fall of the koruna, strengthened the probability of profit from speculations, and in this way, contributed to the change in resident behavior.

Change in CNB's Strategy

Escalation of the turbulence was an impulse for the CNB to rethink its strategy. The use of foreign exchange intervention over a long period of time was limited by the large volume of koruna transferred to foreign currency, i.e. there was a sharp decline in the CNB's foreign exchange reserves. During May 1997, approximately CZK 40 bln was converted into foreign currency. Experience has shown that informally limiting the liquidity of the external market is only a short-term instrument. Moreover, high interest rates and spreads accompanied by limited bank access to the Lombard credit, could have eventually caused the turbulence to leak over into the banking sector. This inherent threat led to an extraordinary meeting of the Bank Board on May 25, 1997 during which the Board had arranged to meet with the government the following day to decide the fate of the koruna exchange rate regime. No agreement, though, on introducing measures to support the existing exchange rate regime had been reached. On the evening of May 26, 1997, following this meeting, the Bank Board and the government announced their decision to adopt a new exchange rate regime. From this day on, the Czech koruna would be managed under a floating exchange rate with the deutschmark as the reference currency.

10.3 Post-turbulence Period

Stabilization of Exchange Rate

Relief from the exchange rate turbulence appeared in several stages. In the first stage, it was essential to stabilize the exchange rate and prevent any dramatic shock effect which, as seen in other countries, e.g. Mexico or Thailand, could develop as a reaction to the cancellation of the currency band. In this stage, the CNB applied a strategy composed of several measures allowing for smooth exchange rate movement without overshooting. During the period of turbulence, the CNB succeeded in maintaining the exchange rate within the currency band which made it possible to abandon the band at an advantageous position, i.e. 2 % from the depreciation limit. Therefore, the market's adjustment of the exchange rate after the change in the regime was moderate. The CNB's announcement that in the near future the average koruna exchange rate should float in the range of 17-19.50 CZK/DEM helped stabilize the exchange rate. However, uncertainty on the real character of the new exchange rate regime was the price that was paid for publicizing this information. From the end of May, CNB operations on the money market were carried out with the aim of maintaining a lower volume of liquidity than was demanded, for example, in comparison with the position of required reserves. Access to the Lombard credit continued to be closed. Hence, during the first stage of relief, interest rates on the money market remained high and unsteady. Wide spreads also contributed to the continuing uneasiness.

Interest Rate Landing

In June, the situation on the foreign exchange market eased up. The amount of foreign currency deposits no longer increased. In mid-June, pressure was put on the appreciation of the koruna, and the CNB absorbed the shock by purchasing foreign currency. As the second stage of relief began, the CNB concentrated on the consolidation of the money market and introduced its strategy of interest rate landing. This strategy of lowering reference rates (repo and Lombard) developed from the daily situation on the foreign exchange market: rates were lowered when there existed enough space for lowering them without any real risk of koruna depreciation. In mid-June, access to the Lombard credit was opened once again. These measures in turn gave rise to a gradual decline in rates on the money market and a reduction of spreads. The situation on the money market was complicated by the need to finance the state budget deficit. From the middle of June, operations by the Czech Ministry of Finance had exhausted a large volume of available liquidity making the CNB's target of gradually lowering interest rates more difficult. The discrepancy in state budget revenues and expenditures caused commercial bank portfolios to be restructured. Commercial banks increased their holdings of T-bills while reducing their holdings of CNB-bills.

Consolidation on Money Market

The third stage of relief was associated with the completion of the consolidation process on the money market. It had taken another two months for interest rates and spreads to fall to the desired level. In July and August, exchange rate developments indicated a relatively calm situation. Only a few deviations called for CNB intervention on the foreign exchange market - occurring nonetheless in both directions, i.e. purchase and sale. There were some indications that in the new exchange rate regime, the foreign exchange market had been very sensitive to news on inflation and the trade deficit. For example, after publicly announcing favorable information on 22 July, the koruna exchange rate strengthened. This was additionally supported by the conversion of a large foreign loan into koruna on the domestic foreign exchange market. The exchange rate gradually strengthened, reaching the level of 18.65 CZK/DEM. The CNB used this time to repurchase foreign currency. Due to uneasiness from the expected unfavorable trade deficit results, the exchange rate gradually

weakened in the second half of August. After more moderate deficit results were announced on Friday 22 August, the exchange rate strengthened for a short period of time. Nevertheless, in the last week of August, a slow weakening tendency had appeared once again.

Continuing of Interest Rates Lowering

A stable exchange rate allowed the CNB to continue in its strategy of lowering rates. The gradual lowering of the repo rate caused a slight drop in rates on the money market as well as the narrowing of spreads. Poor timing and structural management of the liquidity in the banking system and heightened uneasiness on the foreign exchange market before publicly announcing economic information caused occasional fluctuations in rates. In view of the fact that foreign currency intervention purchases and the cancellation of the import deposit increased the level of free liquidity in the banking sector, the volume of CNB sterilized operations grew. The limit rate remained unchanged, and the volume of CNB-bills held by banks in repo rose. Moreover, the restructuring of bank portfolios continued. The banks transferred the bills from direct holdings to repo. During August, there were no CNB bill auctions on the primary market. At the end of August 1997, real interest rates converged to the pre-turbulence levels. CNB monetary policy was no longer limited by interest rate landing, and it was possible once again for monetary instruments to respond to the internal problems of the Czech economy, especially inflation expectations.

Questions and Exercises

1. *What were the main reasons for the koruna exchange rate turbulence?*
2. *Why the Czech Republic was running the trade balance deficit?*
3. *What were the main factors for the massive foreign capital inflows and financial account surplus?*
4. *Why the convertibility and positive interest rate differential caused appreciation of the Czech koruna?*
5. *Describe the actions of the Czech national bank during the turbulence.*
6. *Was the change of exchange rate regime from fixed to floating unavoidable?*
7. *Were the monetary policy and fiscal policy in harmony during the pre-turbulence period?*

11. SPECULATIVE ATTACK AGAINST THE HUNGARIAN FORINT'S BAND[1]

11.1 Background

Fiscal and Wage Policies as Sources of Inflation

In 2002, of the factors affecting inflation, fiscal and wage policy considerably departed from the path anticipated early that year. The demand generated by general government increased by more than 4 % of GDP, which was significantly higher not only than the figures forecasted on the basis of the budget in early 2002, but also what was projected in the government's Mid-term Economic Programme in August 2002. At the same time, wage increase in the corporate sector was slow in adjusting to decreasing inflation and wage dynamics well exceeded productivity growth. Compared to a 9 % increase in wages projected in early 2002, actual increase was over 13 %. Wage raise in the private sector was by far more substantial than what could have been reasonably justified by productivity growth: real wages increased by 7-8 %, whereas productivity only grew by a mere 2 %. Public spending and wage dynamics generated an unprecedented annual 9 % increase in household consumption, pushing up prices during the year.

Stringent Monetary Policy

The Hungary's central bank (MNB) had to maintain stringent monetary conditions lest the inflation path should depart materially from what had been projected and the process of disinflation that commenced in May 2001 should reverse, given the strong upside risk to inflation generated by fiscal and wage policy. The MNB intended to maintain a relatively strong exchange rate of HUF/EUR 240-245 until October 2002, and in order to avoid exchange rate depreciation, it also raised the interest rate by 50 basis points twice.

Modification of Inflation Target

However, the Bank did not wish to fully offset the upside risk that fiscal expansion and wage dynamics posed to inflation. In the interest of the credibility of its inflation targets, the Bank thought it was important that the government of the day supported such targets. Therefore, in July 2002, it modified its inflation target for 2003, and set an inflation target for December 2004 that was fully in line with the government's Mid-term Economic Programme.

After the Irish Referendum

The Irish referendum on October 19, 2002 had brought about considerable change in the forint's exchange rate. It reassured market participants, among them, foreign investors, who had had worries about the date of Hungary's EU accession. Compared to the risks assumed, yields looked lucrative to foreign investors. In stark contrast with an earlier situation where the MNB had to resort to increasing its key interest rate in order to prevent the weakening of the forint's exchange rate, after 19 October, capital started to pour into Hungary, leading to the strengthening of the forint's exchange rate. The forint's pre-Irish referendum exchange rate of HUF/EUR 245 appreciated to HUF/EUR 237 within a month.

In the autumn of 2002 it became obvious that fiscal expansion and the rate of wage growth would be significantly higher than what was forecast in August. Thus, an exchange rate of HUF/EUR 240-245 seemed to be inadequate to meet even the modified inflation

[1] This chapter is entirely based on the study BARABÁS, G. (ed.) *Coping with the Speculative Attack Against the Forint's Band.* MNB Background Study No. 2003/3. Budapest: MNB, 2003. ISSN 1588-9084.

target. Given the above situation, the MNB did not intend to use its interest rate policy to prevent the appreciation of the forint that took off after the Irish referendum. Both the modified 2003 inflation target and the one set for 2004 required an exchange rate very close to the edge of the forint's band; thus the MNB only made two minor interest rate cuts.

Pressures on Central Bank

Concurrently with the appreciation of the exchange rate, pressure on the Bank to considerably reduce its key policy rate was building up. Many called for the abandoning of the inflation targets or at least its repeat modification. Under the circumstances a massive interest rate cut would have undermined the credibility of the inflation targets and jeopardized the process of disinflation through generating higher inflationary expectations. In stark contrast, the Bank's interest rate policy unequivocally evidenced the Bank's commitment to the process of disinflation, which was especially crucial in December and January, a period of utmost importance in terms of changes in prices and wages.

Events Immediately Prior to Attack

The appreciation of the forint's exchange rate after 19 October was attributable to the demand of long-maturity government securities by foreign nationals. No considerable amount of speculative capital flowed in until 15 January.[2] After the Bank's interest rate cut in December, the size of foreign nationals' government securities portfolio stopped increasing, with the forint's exchange rate stabilizing near the strong edge of the band. Though certain market players expected an exchange rate stronger than the edge of the band already in the final months of 2003 owing to Hungary's approaching entry into the ERM II, market processes did not suggest any short-term speculation on the appreciation of the forint. Instead, market players believed that the MNB would defend the band with deep interest rate cuts or even FX market intervention if need be. The Bank's interest rate cut in November reinforced analysts' expectations that the Bank was going to defend the exchange rate band by lowering its key interest rate. Several statements from the President of the MNB and the Prime Minister to declare their commitment to maintaining the exchange rate band also contributed to a slower appreciation.

After the MNB's 50-basis-point interest rate cut on 16 December, capital influx slowed down. The size of the government securities portfolio held by foreign investors stood around HUF 1,800 billion before 15 January, and no longer grew. The forint's exchange rate stabilized in the immediate vicinity of the upper edge (HUF/EUR 234.69) of the exchange rate band. In early January, there were no signs suggesting an early shift in the band.

11.2 Speculative Attack on Forint

In early January 2003, the MNB was ready, if it were to intervene, to lower its key policy rate to a level where it was able to ensure that the exchange rate would remain near the strong edge of the band without substantial intervention. On 15 and 16 January, however, the Bank had to face the challenge of extremely heavy speculation on the appreciation of the forint.

11.2.1 Causes of the Attack

The speculation about the appreciation of the forint is likely to have been triggered by a combination of several factors:

[2] The size of the government securities portfolio held by foreign nationals grew from HUF 1,462 billion to HUF 1,793 billion in two months.

- Market actors projected a 5-percent inflation for year-end 2003, which was higher than the modified inflation target. In their estimation this meant that the inflation target for 2003 could be met only if the forint's exchange rate exceeded the upper edge and abandoned the trading band.
- Many market participants anticipated a 2007 introduction of the euro, which, they thought, meant a shift in the band in two years at the latest; that again could have given rise to further appreciation.
- A number of investment banks counted on a consistent and predictable trend in exchange rate appreciation in the region of Central and Eastern Europe in the period running up to the introduction of the euro. According to their analysis, which was based on the theory of purchasing power parity, the forint's purchasing power would have to reach the level at which the currencies of peripheral countries (i.e. Portugal, Spain and Greece) stood upon the introduction of the euro.
- The exchange rate itself, which was near the edge of the band, is also likely to have spurred market actors to force a shift in the band. They erroneously overestimated the role of the interest rate channel and believed that the MNB would be unable to cut interest rates because of the inflation targets it had to meet.

11.2.2 The Speculative Attack of January 15-16, 2003

Trading of Foreign Banks

On 15 January the exchange rate of the forint reached the edge of its trading band. The MNB, under its commitment to the band, had to sell a total of HUF 213 billion (against EUR 908 million) at HUF/EUR 234.69 to 14 of its resident partner commercial banks, which bought forints from the MNB upon their foreign counterparties' order. The FX transactions by Hungarian banks revealed that buy orders for large amounts of forint on the day in question had been placed by 8 major foreign banks, many of which have subsidiaries in Hungary. The speculative attack was mounted by these foreign banks or rather the clients they represent. Following the intervention on the first day of the attack, at an extraordinary meeting in the afternoon, the Monetary Council of the MNB decided to lower its key interest rate by 100 basis points effective from 16 January.

Surprising MNB's Decision

Although the market had been expecting an interest rate cut, its timing took investors by surprise. Not only because the decision was made at an extraordinary meeting a mere two days after the Monetary Council had decided, contrary to expectations, to leave the key exchange rate unchanged, but also because that same morning, when asked by the representatives of the press, the President of the MNB, then on a visit in Vienna, flatly ruled out any interest rate cut, citing the upside risk that fiscal deficit and wage dynamics represented to inflation. As there had been no intervention before the President's statement, it was in line with the strategy that any interest rate cut was only made after intervention at the upper edges of the band.

End of January 15

Market participants are likely to have interpreted the MNB's move as the sign of an imminent shift in the band, rather than the Bank's commitment to defend the band in every way possible. Some even voiced their opinion that a shift in the band was as imminent as the following morning, which is evidenced by the fact that after the MNB's trading hours (15.00 hrs), with a turnover completely unusual at this time of the day, the market rate of the forint abandoned the band, and in the evening transactions were concluded at a rate exceeding HUF 233.

Market Expectations of Exchange Rate Change

The next day, on 16 January, immediately after the FX market opened, foreign banks purchased a huge amount of forint from their Hungarian counterparties. The Hungarian banks bought the amount necessary for the transactions from the MNB again. The forint purchase was especially intense during the first half hour after the opening of the market, which suggested that market actors had been expecting a rate above the strong edge of the band in the very short run. Such expectations seem to have been fuelled by a press conference scheduled on Thursday morning as many speculators had been anticipating either the appreciation of the central parity or the abandonment of the exchange rate regime. At the press conference, the MNB President flatly refuted news reports on both shift in and abandonment of the band and said that in order to defend the exchange rate regime, the Bank was willing to further slash interest rates. This somewhat eased pressure on intervention, it was unable to put an end to it, though.

Volume of MNB Interventions

On the second day of the speculative attack the MNB had to intervene at the upper edge of the band in an amount of HUF 1,020 billion (EUR 4.371 billion). Aggregate data suggest that Hungarian market actors did have any forint demand on this day either. They simply intermediated their foreign partner banks' forint purchases to the MNB. Although the scope of such partner banks had widened markedly relative to 15 January, major actors were the same, i.e. the ones that were already active on 15 January, mostly the London subsidiaries of large international investment banks. Intervention at the strong edge of the band during the two days totaled EUR 5.3 billion, which is equal to 7 % of GDP in 2003.

11.2.3 Rapid Central Bank Response

Shifts in Interest Rates

On 16 January, the Monetary Council took several steps to defend the exchange rate band. It lowered the key interest rate by another 100 basis points, put restrictions on the quantity of two-week deposits and widened the overnight (O/N) interest rate corridor from ±1 % to ±3 %. The rapid central bank responses, the interest rate cuts and the immediate announcement of restrictions on the quantity (HUF 100 billion) of two-week deposits sent a clear message to the speculators that gains on forint purchases were far from being guaranteed.

Effects of Interest Rates Lowering

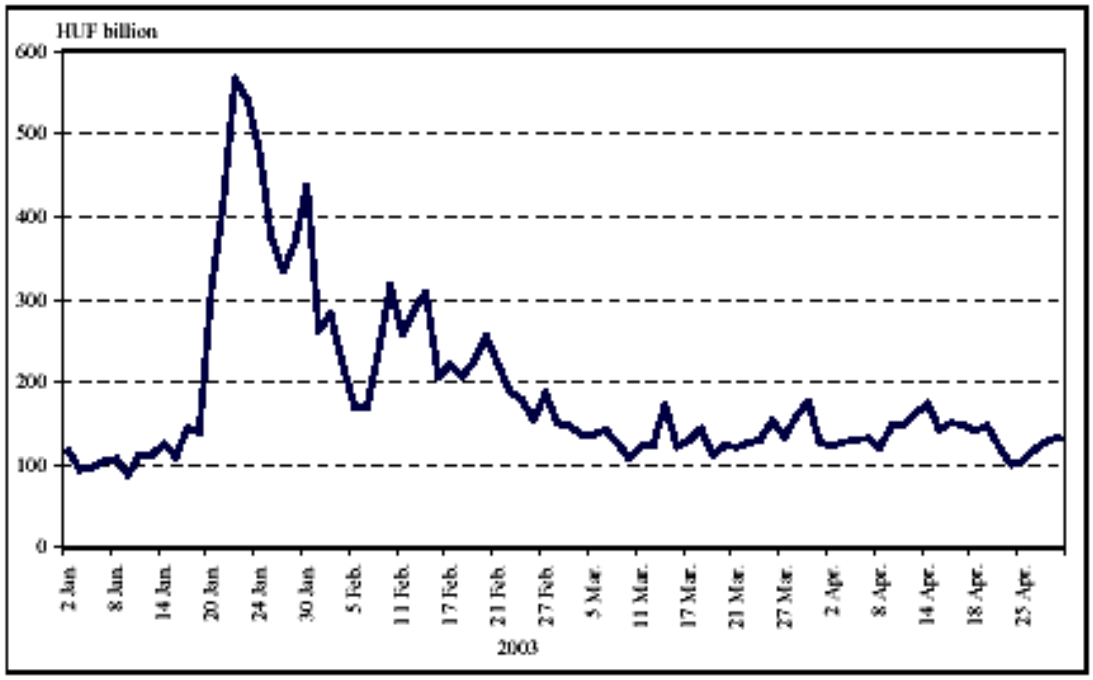
The market erroneously interpreted the changes in the Bank's instruments as suspended sterilization. In reality, relying on the availability of the O/N deposit facility, the MNB was able to absorb all excess liquidity in the banking system, with O/N deposits replacing two-week ones. This resulted in a 5-percentage point decrease in actual yield at the short end (the most sensitive end in terms of speculation money) of the yield curve in two days. Such measures combined with the communication strategy of the Bank committed to maintaining the exchange regime reached their goals. Some speculators started to sell forints (i.e. close their positions), and further depreciation of the forint urged others to follow suit. By the end of the day speculation had come to a halt, with the forint's exchange rate 5 % weaker.

11.2.4 Arsenal of the Speculative Attack

The speculative attack of January 2003 against the forint's band was different from earlier speculation aimed at forcing a shift in the band in the former narrow band exchange rate regime as the volume of the sums transacted and the flow rate of the capital involved in

the former were many times over. As such amounts were impossible to invest in the Hungarian government securities market, speculators had to place the forint they had purchased on the FX market in either short-maturity forint deposits or swaps. The size of forint deposits held by non-residents grew by approximately HUF 430 billion on the settlement days related to the two days of the speculative attack. This was less than half of the amount that they had purchased in spot transactions during those two days.

Figure 11.1 HUF deposits of non-residents with Hungarian commercial banks (HUF bn)



Source: MNB

As limits placed by foreign banks on their counterparties do not allow for unsecured borrowing (placement of deposits), speculation materialized mainly through short maturity swaps. The maturity of half of the swap deals concluded on 16 January was less than 2 weeks. In addition, owing to the special characteristics of the market, investors can easily close their originally long-maturity positions before maturity. Thus, the combined effect of such multi-transactions was that speculators placed synthetic forint deposits, hoping that they would be able to close their positions profitably at a higher forint exchange rate after the anticipated shift in the band.

11.3 Consolidation

The MNB's strategy, aimed at consolidating the money and foreign exchange markets, was driven by two basic objectives – meeting the inflation targets and maintaining financial stability. The two objectives were not in conflict, as they required identical actions – stabilizing exchange rate expectations and helping the speculative capital to leave as quickly as possible. The MNB adopted an action plan consisting of the following three distinct phases in order to consolidate the financial market:

- encouraging the rapid outflow of speculative capital with massive sales of euros;
- restoring the MNB's monetary policy instruments;
- after-treatment: encouraging the outflow of speculative funds remaining in the market by conducting silent intervention.

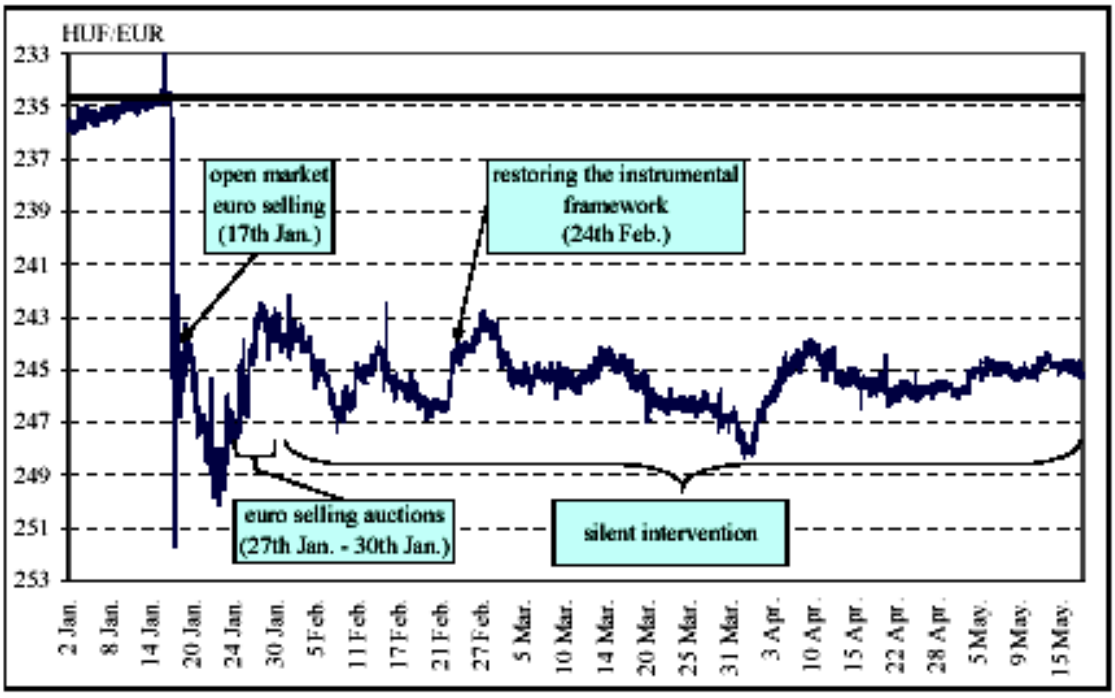
11.3.1 Intra-band Sales of Euros

Intra-band euro sales had similar importance to that of changes to the Bank's policy instruments. The Bank recognized right from the beginning that the EUR 5.3 billion purchased at the upper edge of the intervention band during the speculation on currency appreciation was enormous compared with the size of the Hungarian foreign exchange market. In the absence of central bank intervention, the outflow of speculative capital would have caused the exchange rate to weaken to an extent that it could have led to the outflow of non-speculative capital as well.

Open Interventions

Interventions in the foreign exchange market conducted after the speculative attack were fundamentally different from usual central bank interventions. Basically, the Bank sold euros for the purposes of handling a quantity problem – enormous amounts of speculative short-term forint assets were in the market relative to the size of the market, which posed a substantial downward risk on the exchange rate. The first intervention took place on Friday, 17 January. On this occasion, the Bank conducted open market intervention at the market rate, in order to stabilize the market. Following its entry into the market, the exchange rate stabilized around the supposed intervention rate, i.e. HUF/EUR 245. As the open intervention reinforced market participants' beliefs that the exchange rate would appreciate considerably in a short time, the MNB decided, as to increase speculative uncertainty, to withdraw temporarily from the open FX market and switch to a silent way of central bank intervention. In line with the Bank's expectations, this resulted in slow exchange rate depreciation: once again the forint's exchange rate had depreciated to nearly HUF/EUR 250 by 22 January.

Figure 11.2 The HUF/EUR exchange rate and euro sales by the MNB



Source: MNB

Euro Selling Auctions

As the outflow of the speculative capital took longer than expected, the MNB decided on adopting a contingency intervention technique never employed before. From 27 January, the MNB called for euro sales bids for 4 consecutive days. Bidders could submit 5 different euro purchase

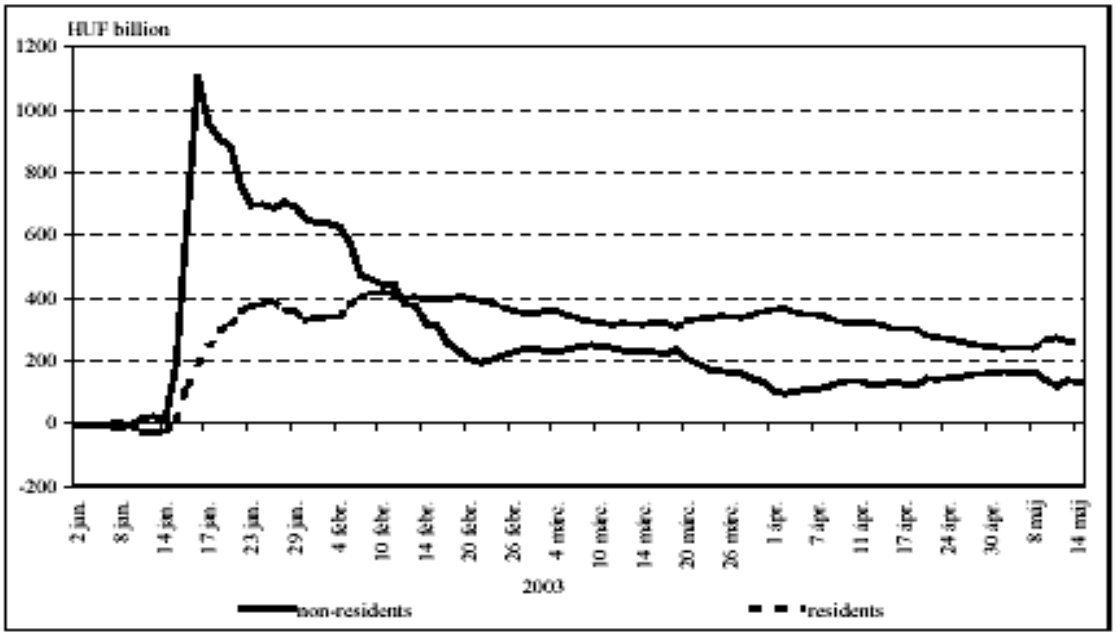
bids for the auction until 12.00 hours. The MNB notified each bidder at 14.00 hours. Although auctions managed to generate a large volume of euro sales on the whole, they only partially achieved their original aim, i.e. dismantling speculative positions at a realistic rate of exchange. Rather, the market interpreted the auctions as a sign of the MNB's preference for a stronger rate of exchange. The forint strengthened from HUF/EUR 247 on Monday morning to HUF/EUR 242.5 on Wednesday, and then it weakened again after the last auction, standing at HUF/EUR 244-245.

Open intervention and auctions taught the MNB the lesson that the market had interpreted the Bank's announced FX sales as a sign of the Bank's intention to appreciate the exchange rate, which did not step up the outflow of the speculative capital. Therefore, after the FX auctions the MNB gave up the open sales of the euro, however, it continued silent intervention. Using the above intervention channels, by 24 February the MNB had sold approximately half of the amounts of euros that it had bought while intervening at the upper edge of the band, which allowed for the possibility of the Bank's restoring its instruments.

11.3.2 Exit of Speculative Capital

The foreign participants involved in the intervention already began to close their respective forint positions in the afternoon, 16 January. Simultaneously, Hungarian banks and resident non-bank actors opened positions of over HUF 80 billion in the forint. Non-residents went on closing their respective positions (i.e. selling forint) on the following day and the day after. The outflow of the foreign speculative capital was an ongoing process until February 24, 2003, when the MNB restored its instrumental framework.

Figure 11.3 Cumulated long forint positions taken by residents and non-residents



Source: MNB

Behavior of Residents

The size of non-residents' closing their respective positions exceeded the volume of the Bank's intra-band euro sales. The reason for that was that resident actors too made the most of the exchange rate weakened by the continuous exit of non-residents in order to open (mainly forward) positions in the forint. In ten days resident actors opened positions of HUF 400 billion in the forint during the exchange rate depreciation following the attack against the forint's band (Figure 11.3). The information available to the Bank does not give any direct

indication as to how much of this amount went into hedging and how much was spent on speculative purchases.

Forms of Foreign Capital Exit

The MNB has managed to sell more than 70 % (i.e. EUR 3.8 billion) of the EUR 5.3 billion bought in mid-January until 23 May. There is a one-billion resident and approximately 200-million non-resident position (at a rate of HUF/EUR 245.9) against the remaining 1.2 billion euro position. The remaining portion is the MNB's 241 million-euro exchange rate gains, of which it has realized approximately EUR 174 million through its intra-band intervention. Some of the speculative capital, i.e. approximately EUR 1.2 billion, left the country through the transactions of market players, who purchased forint from the speculators in order to hedge their exchange rage exposure, rather than through those of the MNB. This means that more than 70 percent of the speculative capital exited through the MNB's euro sales, whereas one-third of the speculative positions was transformed into hedges.

11.3.3 Restoration of the Instrumental Framework

Reinstatement of the Instruments

On February 24, 2003, the Monetary Council passed a decision on restoring the monetary instruments to their state prior to the speculative attack. Accordingly, the interest rate corridor surrounding the central bank base rate was narrowed to ±1 % , simultaneously with removing the quantity restriction from the two-week deposit facility. This reinstatement of the instrumental framework was enabled by winding up most of the speculative foreign currency open positions.

Restoration as Signal to Investors

The one-step reinstatement conveyed a clear message to investors, namely that the provisional period of defense against the speculative attack had ended, consolidation was complete and the inflation target had returned into the focus of monetary policy. The restoration of instruments was supported by two factors which restricted the expected strengthening in the exchange rate and removed the threat of any major appreciation. First, in its statement on 10 February, the Monetary Council made it plain that it was satisfied with the HUF/EUR 245 exchange rate and that the current level of exchange rates was appropriate for meeting the inflation target in 2004. This signal made a strong impact on market participants' exchange rate expectations. Second, there were still sizeable long forint positions relative to the size of the Hungarian market, which dampened the rate of appreciation.

Market Operations Following the Reinstatement

The market operations following the reinstatement of monetary instruments were primarily aimed at preventing the outflow of the remaining speculative capital from causing any excessive fluctuations in yields or the exchange rate. Therefore the euro sales also continued after the reinstatement of the instruments, but at a slower pace. While not aimed at influencing the forint exchange rate, the small amounts of currency sales enabled the winding up of speculative positions. The MNB continued the silent intervention until 23 May, bringing the amount of euros sold at the market exchange rate to EUR 3.8 billion. This enabled the MNB to declare that virtually all the capital associated with the speculation on appreciation had left the country. Therefore the MNB announced that from 26 May it would stop intervening within the band and return to its former strategy of using interest rate policy to control the exchange rate.

11.4 Lessons To Be Learnt

Winners and Losers

The investors who participated in the unjustified speculation in January 2003 had to post massive losses. As the MNB had succeeded in selling nearly EUR 3.8 billion at a rate much lower than the upper edge of the band, it realized exchange rate gains totaling HUF 43 billion. The Bank will pay these gains into the central budget during three years, starting in 2006. On the whole, the market processes after the speculation against the forint's band facilitated the banking sector to increase its earnings and contributed to an over 50 % increase in the sector's after-tax profit in 2003 Q1 relative to the corresponding period in 2002. Banks also posted profit from declining yields and, through the commissions charged, from increased turnover on the FX market.

Credibility of Monetary Policy

Fending off the speculative attack successfully enhanced the credibility of the exchange rate regime. The MNB's extensive FX purchases and rapid interest rate cuts attested to its commitment to maintaining the exchange rate regime. Meanwhile, the exchange rate losses incurred by the speculators made it clear that the Bank was able to contain speculation against the strong edge of the forint's band successfully. Though the speculation on the appreciation of the forint did cause uncertainty, neither the speculation itself, nor yield and exchange rate changes in its wake put the Hungarian financial intermediary system in danger. The very provisions of the financial regulatory system pertaining to financial prudence and the banks' by-laws kept risk exposure on a low level, which prevented both the revenues and liquidity ofthe banking system from receiving a blow. Commercial banks did not participate in the speculation on the appreciation of the forint, they only played an intermediary role.

Implications for Monetary Policy

After the speculative attack the Bank had to face a new situation. The exchange rate band represents more severe limitations on monetary policy than previously thought. In order to avert future speculation on the appreciation of the forint, the MNB will have to keep the exchange rate of the forint not only within the band, but also at an adequate distance from the strong edge of the band. Compared to the period immediately prior to the speculation, this means obligate monetary loosening.

Defending Strong Edge of the Band

In the final months of 2002, a period of utmost importance in terms of price rises and wage negotiations, the forint's exchange rate was very near the strong edge of the exchange rate band, which influenced the disinflationary effects of earlier exchange rate appreciation beneficially: inflation and wage data from recent months suggest that at year-end 2002 and in early 2003, the disinflationary effects of a strong exchange rate, exerted indirectly, and through expectations, heightened. Disinflation accelerated in the group of goods (e.g. tradables, market services and processed food) that are most influenced by monetary policy and the exchange rate. Declining oil prices and the fact that global economic growth is expected to remain subdued also in 2003 further facilitates the process of disinflation.

Speculation on the appreciation of the forint in January forced the MNB into accommodating for a weaker-than-earlier exchange rate. However, the possibility of meeting the inflation target for 2004 has increased since the end of the speculative attack owing to earlier monetary tightening and exogenous factors. Thus, the 3.5 ± 1 % inflation target is likely to be met even at an exchange rate of HUF/EUR 245.

Questions and Exercises

1. *Why did the Hungarian forint face the speculation attack?*
2. *What was exchange rate strategy of the MNB prior the speculation attack?*
3. *Why the Irish referendum is associated with the speculation attack on the forint?*
4. *Make a list of four most important causes of the speculation attack?*
5. *Describe the development on the FX market during the attack?*
6. *What were the measures and behavior of the MNB during the attack period?*
7. *What were the phases of the MNB's consolidation and stabilization program?*
8. *What kind of intervention did the MNB use and what are the differences between them?*
9. *How fast was the outflow of speculative capital from Hungary?*
10. *Is Hungary actually standing ahead of any other speculative attack on its currency? Explain your answer.*

12. FDI INCENTIVES IN THE CZECH REPUBLIC AND CENTRAL EUROPE[1]

Foreign direct investments (FDI), the growth of international trade, and an increase in the mobility of production factors are worldwide significant accelerators of economic growth, structural changes and the growth of competitive advantage. The inflow of FDI is generally positively correlated with economic growth; however, there is no clear evidence of this causality. A bulk of FDI inflow and its timing has been one of the most important elements in the successful transition process of Central European countries (CEC), their growth dynamics, structural changes and technological catching-up process.

Role of Incentives in FDI Attracting

In recent twenty years, the inflow of FDI and its impact on economic growth has driven governments of many countries to increase country attractiveness by improving of business and investment environment. Many countries have introduced selective support of investments by the selective investment incentives. The extraordinary success of the governmental policy of attracting FDI (especially in some previously less developed countries such as for example in Ireland) has become a pattern for CEC. In the second half of 1990s, these countries have begun to copy this economic policy toward FDI. Welcoming attitude toward foreign investors in the privatization and setting-up of investment incentive programs have led to the significant increase of FDI inflow and acceleration of the economic growth.

Success and efficiency of such a governmental program depend on the point of view, that is what benefits government expects of FDI. Success of the selective investment support depends on incorporating of all costs too. Hence, apart of the fiscal costs of government, there is a wide range of other additional costs, such as bureaucracy costs, red tape, rent-seeking of pressure groups and inefficient allocation of scarce resources. It's very difficult to measure or even assess these additional costs.

12.1 FDI Localization Factors in Central European Countries

Advantages of Central Europe

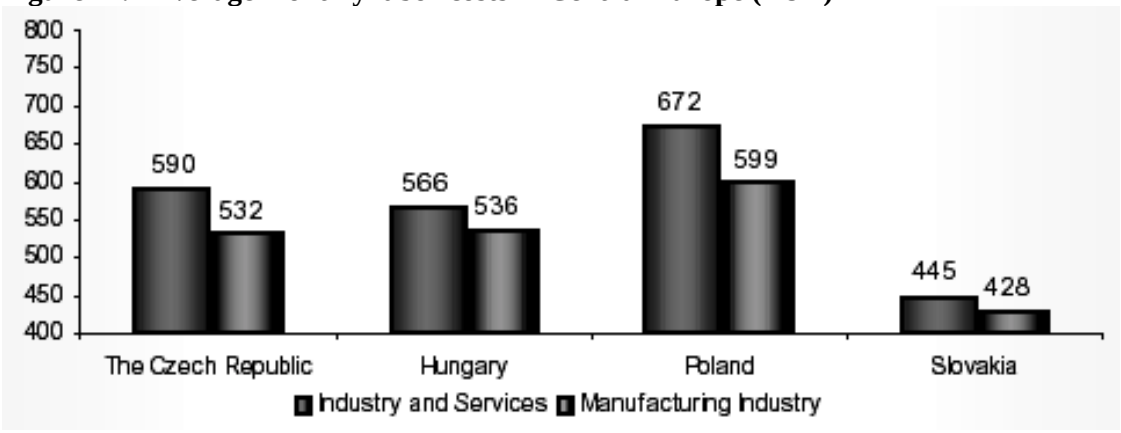
The Czech Republic, Hungary, Poland, and Slovakia have so far attracted about two thirds of the total FDI inflow in the whole region of the former post-communist block. The decisive factors of such FDI attractive attractiveness have been relative political, economic and institutional stability, reformatory drive of ness economic policy, and progress in both the EU and the NATO integration. In comparison with the other Eastern European countries significant advantage have also bee been geographical and cultural proximity to the economic centre of Europe and transport infrastructure connection with the EU countries.

Labor Force in Central Europe

The main motive of foreign investors making investments in Central Europe has not been only market seeking (especially in Poland), but also efficiency seeking. Foreign investors have been attracted by favorable ratio of the quality of labor and its low costs. The foreign investments made in Central Europe are usually able to achieve lower unit labor costs and higher productivity than their parent firms in a domestic country due to using inexpensive and skilled labor sources in the transition countries. The monthly average labor costs in Central Europe are shown in Figure 12.1.

[1] This chapter is entirely based on the study *FDI Incentives in the Czech Republic*. Newton's Case Study No. 2/2003. Praha: Newton Holding, 2003.

Figure 12.1 Average monthly labor costs in Central Europe (EUR)



Source: Eurostat

A study prepared by the Vienna Institute for Comparative Economic Studies has made a comparison of gross wages, labor productivity, and unit labor costs (ULC) in manufacturing of transitive countries with Austria. According to this paper, the wages level of Central European transition countries has amounted to 12-20 % of the level in Austria. Level of productivity (measured by parity purchasing power of 1996) has reached 45-67 %, and unit labor costs achieved 22-40 % in 2001. Relatively the lowest ULC have been measured in Hungary (22.7 %), and the highest one in Poland (39.8 %). The unit labor costs in the Czech Republic have amounted to 36 % of the Austrian level. Details are presented in Table 12.1.

Table 12.1 Comparison of labor force characteristics with Austria (in %)

	gross wages	*labor productivity*	*unit labor costs*
Czech Republic	16.0	44.4	36.1
Hungary	15.4	66.8	22.7
Poland	19.9	50.0	39.8
Slovakia	12.2	53.7	22.8

Source: WIIW

Liberalization and Taxation

Other important localization factor has been a governments' attitude toward FDI inflow both in privatization process and in liberalization of the FDI regime. Let us add that transitive countries have so far signed investment protection agreements and double taxation agreement with about 70 countries including all OECD countries. The existence of active investment support by the FDI incentives was also very important. Moreover, Central European transitive countries have increased their investment attractiveness by a gradual decrease of corporate taxes. In 1993, the corporate tax rates were set up in interval of 40-45 %, whereas in 2003 the rates vary in interval of 18-31 %. Moreover, countries with higher corporate tax rate (the Czech Republic and Poland) even intend to reduce their rates in a close future.

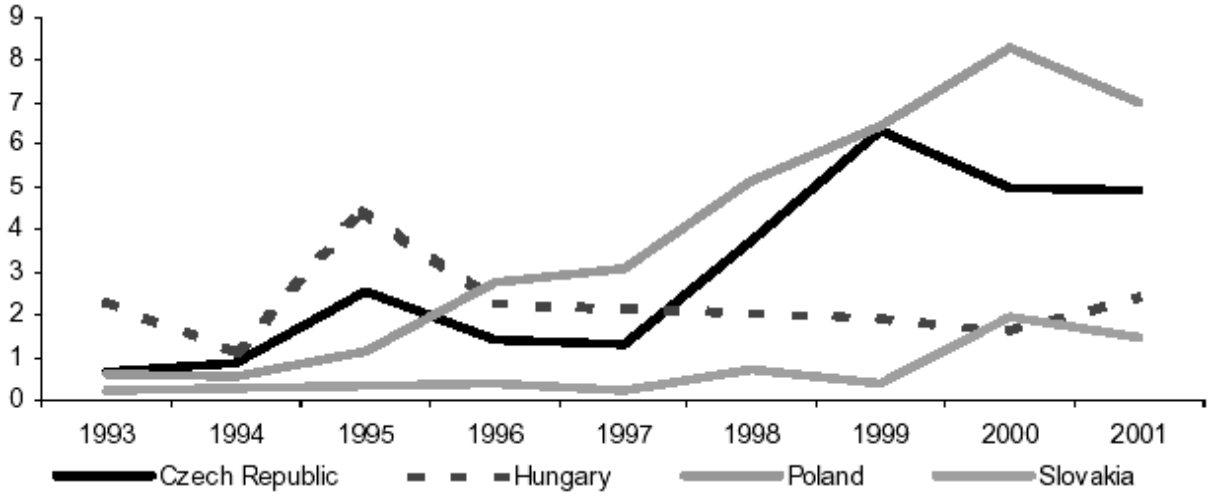
12.2 FDI and Investment Incentives in Central European Countries

Inflow of FDI into Central Europe

The inflow of FDI and its consequent impacts on the growth dynamics and structural changes in Central Europe have differed at a wide range. At the beginning of 1990s, the biggest volume of foreign direct investments headed to Hungary. There were three main reasons of that: (i) relatively high number of joint-ventures with foreign capital before 1990, (ii) high share of direct privatization to foreign capital, and (iii) early setting-up of investment incentive programme, technological parks and export processing zones. The successful Hungarian

experience with FDI inflow and its impacts on the economic development led Poland, followed the Czech Republic and Slovakia to set up similar investment incentive schemes. The changes in the governmental policies increased FDI inflow to Poland, the Czech Republic, and in latest two years to Slovakia too. At the end of 2001, the cumulative FDI inflow per capita amounted to 2432 USD in the Czech Republic, 2256 USD in Hungary, 1009 USD in Poland and 1017 USD in Slovakia. Development of annual inflow of FDI in central European countries is illustrated in Figure 12.2.

Figure 12.2 Annual FDI inflow in central European countries (USD bn)



Source: UNECE

Scheme of FDI Incentives

Central European countries have lined up step-by-step their FDI incentive schemes in structure of investment support and in maximal amount of the support. Maximum amount of investment incentives is usually 50 % of investment expenditures. The limit is determined by the European Union laws on the state aid. The main incentive in these countries is corporate tax relief for 5 or 10-year period and customs relief for imported machinery. Central European countries also offer real estates properties at a discount and grants for new jobs creation and for training. The countries also have lined up the qualification criteria for subsidies – the main criterion of minimal amount of investment is nowadays about USD 10 mil. Another adjustment has occurred in the tax policy mainly by decreasing of statutory corporate tax rate and accelerating depreciations. See Table 12.2 for comparison of the national schemes of FDI incentives.

Table 12.2 FDI incentives in the central European countries

	Czech Republic	***Hungary***	***Poland***	***Slovakia***
criteria	min USD 10 mil (min. USD 5 mil in regions with serious structural problems	min USD 11.6 mil. and min. 500 new jobs	min USD 9.1 mil., min. USD 0.5 mil. in modernization, min. 100 new jobs, new technology	min USD 8.8 mil. (min. USD 4.4 mil. to equity), min. 80 % of sales from the main field of business
tax relief	corporate tax relief for 10 years, max. 50 % of investment expenditures	tax benefits for 5 years, tax-free investment reserves	in special economic zones, tax relief max. 50 % of investment expenditures	tax credit system for 10 years, max. 50 % of investment expenditures
new jobs and	USD 2.5 – 6.1 th.,	USD 3.9 – 5.8 th.,	max USD 3.6 th.	USD 0.7 – 3.5 th.,

training grants	max 35 % of costs	tax allowances	max USD 1 th.	max 50 % of costs
customs duty	custom duty exemption on imported machinery	export-processing zones, customs duty exemption on imported machinery	customs duty exemption on imported machinery	customs duty exemption on imported machinery
other incentives	industrial property or land with discount, regional targeted advantages, support of new jobs creation	support of R&D and environment-tal activities, reduction of healthcare contribution, setting-up regional head-quarter support	investment grant 15-25 % of overall investment expenditures	for important investor (USD 22.1 mil) easier dealing with land owners, expropriation due to the public interest

Source: responsible national authorities

12.3 Investment Incentives in the Czech Republic

Elements and Conditions

The investment incentive scheme (Decree No. 298/98) was originally introduced in April 1998. In 2000, the Investment Incentive Act (No. 72/2000), later amended by Act No. 453/2001, replaced non-standard governmental decrees. Nowadays, the investment incentives in the Czech Republic are as follows:

- Corporate tax relief for ten years (newly established companies) or partial corporate tax discount for five years (already existing companies);
- Job-creation, training and re-training grants;
- Provision of industrial (infrastructured) property at a discount;
- Transfer of land owned by the Czech state at a discount;
- Exemption from customs duty and VAT on the imported technology.

The incentives are offered subjects according to the following eligibility criteria as follows:

- The investment must be made into a manufacturing sector and where a minimum of at least 50% of the costs of the production line consists of machinery listed on a government approved list of high-tech machinery;
- The investment must be made into the acquisition or construction of a new production plant or into the expansion or modernization of existing production facilities to launch a new production activity;
- The investor must invest a minimum of CZK 350 million (about USD 14 million); this limit is reduced to CZK 100 million (about USD 4 million) in areas undergoing dramatic economic restructuring;
- Investment of at least CZK 145 million (CZK 50 million in areas undergoing dramatic economic restructuring) must be covered by the equity of the investor;
- Investment into machinery must not account for less than 40 % of the total investment amount;
- The proposed production must meet all Czech environmental standards.

Other Principles

In the case of obtaining tax relief, the taxpayer must claim all available tax deductions, must be the first owner of tangible fixed assets for the investment project in the Czech Republic, must not be dissolved or be

subject of bankruptcy proceeding and may not reduce taxable income by transfer-pricing. Besides the FDI incentives in manufacturing industry, Czech government offers support for strategic services projects and support for technology centers. In this case, there are subsidies to business activity covering up to 50 % of eligible business expenses and subsidies for training and re-training: subsidy covering up to 35 % of special training costs per employee and up to 60 % of general training costs per employee.

Limits of FDI Incentives Amount

The investment incentives are part of state aid (or public support) and it is useful to consider their maximal amount. Although there is no multilateral agreement on investment support limitation, the Czech Republic is obliged by State Aid legislative of the European Union. According to this legislative, it is necessary to assess the impacts of every selective economic policy with regard on market principles and free market competition defense. The base of State Aid legislative is in Rome Treaty (paragraph 92) where any state aid is forbidden; however, with several exemptions. Public support could be allowed in regions with low economic performance level (under 75 % of the EU average measured by GDP per capita), high unemployment or under strong structural shocks.

At the same time of the Investment Incentive Act approval, the Public Support Act (No. 59/2000) was approved too. Since that time all public support must be approved by the Office for the Protection of Competition according to the Act. Except Prague, all regions are meeting the criteria of allowed state aid given by the EU legislative. According to the Act, the investment support has to be transparent and has to be at a certain level of selectivity. The government must not support firms selectively, according to sector or country of origin. According to the Act, maximal amount of public support must not exceed 50 % of eligible investment expenses. Nowadays, the Office generally approves investment public support at 46-50 % of the investment expenses according to the regional economic level and regional rate of unemployment. Prague is only one exception with allowed state aid of only 20 % of investment.

12.4 Manufacturing FDI Granted by Investment Incentives

The investment incentive scheme has significantly improved attractiveness of the Czech Republic in the eyes of foreign investors and has helped to increase the inflow of green-field FDI in manufacturing industry. According to the statistics of investment promotion agency CzechInvest, the Czech investment incentive program has so far succeed to attract amount of USD 5 billion of FDI. These investments would have created about 39 thousand of new jobs. More details about the CzechInvest projects, size of the investment and number of new jobs created are summed up in Table 12.3

Table 12.3 Granted FDI and number of created new jobs

	1998	***1999***	***2000***	***2001***	***2002***	***total***
projects	5	16	25	46	37	129
amount of investment (USD mil)	692.1	524.7	1 333.6	1 327.7	1 145.6	5 023.8
new jobs	1 609	4 850	11 088	13 211	8 220	38 927

Source: CzechInvest

Costs of FDI Incentives

According to the Investment Incentive Act and the Public Support Act, the amount of direct and indirect subsidies must not overreach 50 % of the investment. Taking into account maximal amount of public support in the Act and in the Decrees of the Czech Office for Protection of Competition,

the fiscal costs of FDI incentives could reach a huge amount of money. However, the authorities have not provided such information and all estimations of the costs would be rather speculative, that is why we take into account only official FDI incentive costs statement. According to the Ministry of Industry and Trade, the subsidies for industrial property programs amounted to CZK 2.4 billion by the end of 2002.

By the end of 2001, the Ministry of Labor and Social Affaires paid subsidies of CZK 1.5 billion. (of which the job creation subsidies amounted to CZK 1.1 billion and the training or re-training subsidies amounted to CZK 0.4 billion). However, the promised sum may reach CZK 2.3 billion According to the estimations provided by the Ministry of Finance, the corporate tax relief for the investment granted before the Investment Incentive Act would amount to CZK 6.8 billion in 1999-2003 period and the corporate tax relief for investment granted after the Act would amount to CZK 12.7 billion in the same period.

Granted FDI According to Sectors of Manufacturing Industry

It has a bulk of possible goals to provide investment incentives. The main reason and impulse of a government to attract FDI by special subsidies are expected structural change, technological transfer, and an increase in non-price competitive advantage. Generally said, governments seek to attract investors into high-tech industries. From this point of view, most investments have been driven to electrical and optical instruments, equipment industry, and to automobile industry (see Table 12.4). The share of automobile industry investments on total granted FDI has been even higher taking into account that a part of plastic and metal products industry investments are suppliers of the automobile industry. Than, the automobile industry investments have overreached 40 %. Sector classification of the FDI is in line with presumption that most of foreign investors have headed to dynamic industries. Another element of this development has been a shift of some production capacities by multinationals to the less expensive Central Europe locations, the tradition of machinery and automobile production in CEC and the development of Central Europe automobile industry cluster.

Table 12.4 Sector classification of granted FDI

sector	*number of projects*	*amount of investment (USD million)*	*share in %*	*new jobs*	*share in %*
food and tobacco	5	69.3	1.4	710	1.9
textiles and wearing apparel	10	216.8	4.4	1 358	3.6
wood	4	71.2	1.4	420	1.1
paper and publishing	5	150.3	3.1	553	1.5
refined petroleum	1	170.0	3.5	40	0.1
chemicals and pharmaceuticals	8	397.8	8.1	397	1.1
rubber and plastics	11	244.5	5.0	1 973	5.2
non-metal products	10	317.7	6.5	1 266	3.4
metals and metal products	9	184.1	3.7	2 483	6.6
machinery and equipment	13	523.3	10.6	5 001	13.3
electrical and optical equipment	24	1 351.3	27.5	15 076	40.0
motor vehicles	20	1 156.3	23.5	7 816	20.7
other	3	65.5	1.3	625	1.7

Source: CzechInvest

Granted FDI and Technological Intensity

The investment incentive programs are generally motivated by an effort to increase the competitive advantage of a country and by the shift on a technological ladder. The governmental aim is to lift the share of high value-added products on the total production of a country and increase rather qualitative competitive advantage than price one, i.e. the advantage based on rising the technological intensity of production. Hence, the inflow of granted FDI could be also classified according to their technological intensity. For this purpose we can use OECD standard classification of technological intensity. Granted investments have been mostly driven to the medium high-tech sectors, for instance automobile industry, its supplier industry, and machinery industry. The second highest share has reached the investments in high-tech sectors (especially in new jobs creation). However, the result is strongly influenced by the big investment project of Phillips in 2000. As we can see, the investment incentive scheme has been successful in attracting FDI according to the technology intensity of production as about 70 % of the investments have been placed in the medium or high technology sectors.

Table 12.5 Granted FDI according to the technological intensity level

technological intensity level	*number of projects*	*amount of investment (USD million)*	*share in %*	*new jobs*	*share in %*
high	11	1 034.0	20.6	11 164	28.6
medium high	53	2 431.2	48.4	17 128	43.9
medium low	38	1 027.2	20.4	7 310	18.8
low	27	531.4	10.6	3 376	8.7

Source: CzechInvest

Questions and Exercises

1. *What is the main goal to introduce the FDI incentives scheme?*
2. *What are the most appreciated advantages of the Central Europe?*
3. *Do these advantages last also nowadays?*
4. *Are FDI incentives the main reason to invest abroad or are they perceived by investors as an addition and some kind of bonus?*
5. *Is possible for country in the Central and Eastern Europe to have not a FDI incentives package?*
6. *Which of the central European schemes of FDI is the best. Explain your answer.*
7. *Do you view the effects of FDI incentives as sufficient to trade off the costs?*
8. *What is the CzechInvest?*
9. *Do you consider the sector structure and technological intensity level of FDI in the Czech manufacturing industry as satisfactory? Explain your answer.*

13. ERM II: POTENTIAL SOURCE OF INSTABILITY IN THE NEW EU-MEMBER COUNTRIES[1]

Status of New EU-member Countries

The EU summit in Copenhagen in December 2002 decided that May 1, 2004 is the date of EU enlargement – the largest one in its history. Ten countries joined the EU and were granted the status of "Member State with a Derogation". The new member countries (NMC) did not adopt the euro immediately but their central banks (NMCB) became members of the European System of Central banks (ESCB), however they will not participate in the process of common monetary policy decision-making until they introduce the euro. All rules and procedures of monetary integration of the NMCB are drawn in advance by the relevant European authorities (EA) – mainly by the EU Commission and the European Central Bank (ECB). During negotiations, they were considered by the EU as an integral part of the acquis communautaire and therefore the NMC need follow and fulfill them.

This chapter focuses only on one of the rules - Exchange Rate Mechanism II (ERM II) that is a specific arrangement of exchange rate policy for the NMC during the interim period from their EU accession to the euro adoption. The chapter aims to evaluate impacts of the ERM II on economies of the NMC and provide some policy implications. The chapter starts with the description of the ERM II from the institutional point of view and with the discussion about exchange rate stability assessment. The second part analyses actual exchange rate regimes in NMC and illustrates that due to significant differences among them the ERM II will not influence the NMC similarly. The third section deals with pros and cons of the ERM II and the last part presents some conclusions and policy recommendations.

13.1 Exchange Rate Mechanism II

Principles of ERM II

ERM II is a direct successor of the original ERM established in connection with the ECU (non-cash predecessor of the euro) implementation in March 1992. Since then, the ERM has undergone dynamic development[2] gaining the current shape on January 1, 1999 – the starting point of the third stage of EMU and the day of the euro launching. ERM II is unlike his forerunner a bilateral system where currencies of participating countries are linked only to the euro and not to all currencies involved.[3] Resolution of the European Council in 1997 determines the process of setting the central parity and the width of the fluctuation band. Final decision is taken by mutual accord of the ministers of the eurozone, the ECB and the minister and central bank governor of respective NMC intending to participate in ERM II. The standard fluctuation band is ± 15 %; however the possibility of setting a narrower band is not excluded. All parties have the right to initiate a confidential procedure if central parity is deemed to need realignment. Generally speaking, ERM II is based on quasi-fixed exchange rate arrangement which was widely applied in 1980s and 1990s, nevertheless since that time the international financial system and foreign exchange markets have been going through many significant changes that have made the hybrid exchange rate regimes inefficient and old-fashioned.

[1] This chapter is entirely based on the study STAVÁREK, D. ERM II: Potential Source of Instability in the New EU-member Countries. In *Economic Policy Perspectives of Estonia in the European Union.* Berlin: Berliner Wisseneschafts-Verlag, 2004, pp. 167-175. ISBN 3-8305-0814-X.

[2] Above all, speculative attacks and currency upheaval in 1992-93 resulting in widening of fluctuation band from ± 2.25 % to ± 15 % should be reminded.

[3] Denmark was the only member country of ERM II on April 30, 2004.

Cooperation between ECB and NMCB

Automatic ECB's support to the NMCB interventions arises when exchange rate is fluctuating very close to the band margins. Intervention within the bank not need be, but may be, supported by the ECB. Both the ECB and the NMCB are formally entitled to suspend interventions when the price stability as the main goal of monetary policy might be jeopardized. ERM II is designed only for the EU member countries and participation in it is in principle voluntary. However, if we take under consideration the fact that all NMC are really aspiring EMU-membership and that participation in ERM II for at least two years is indispensable to fulfill the Maastricht exchange rate stability criterion, participation in ERM II proves to be obligatory.

Conditions for ERM II Participation

While the convergence criteria for the adoption of euro are defined rather precisely, there are no clearly set conditions for the ERM II participation. Outline of the ERM II joining process was defined by the European Commission in 2003. The whole process consists of the four essential steps: (i) the exchange rate procedure, (ii) the ERM II Committee, (iii) the ERM II exchange rate meeting, (iv) the final communiqué. The time schedule is not fixed and depends on the degree of agreement reached between the authorities of NMC and the EA. It might me very quick process and take just a few days (as in case of Austria), but more realistic expectations count with a half of year. It means that due to technical and logistic reasons the first NMC from the "group of ten" could enter the ERM II at the very beginning of 2005 rather than immediately after joining the EU in May 2004, which has been mentioned quite frequently.

Questions About ERM II

Similarly some questions rise about the proceedings and efficiency of ERM II interventions in practice. Concerns may be considered as a logical consequence of the lack of experiences with the ERM II functioning. There have never been participating so many countries in ERM II as it is expected for the forthcoming years. But on the other side, uncertainty about conditionality and limitations of both the marginal and intramarginal interventions or about intensity and symmetrical assessment of central parity realignments turns out the ERM II to be a "black box" from the NMC's point of view.

13.2 Review of Exchange Rate Arrangements and Exchange Rate Stability Assessment

ERM II and Assessment of Exchange Rate Stability

As mentioned above, fulfillment of the exchange rate stability criterion is linked very tightly to the ERM II, but these two terms are absolutely not interchangeable, as it is possible for a country to participate in ERM II yet not fulfill – or not even be heading towards fulfilling – the exchange rate stability criterion. With respect to a width of fluctuation band it is also highly advisable to distinguish between functioning of the ERM II and the assessment of exchange rate stability. The present position of EA regarding to assessment of exchange rate stability and fulfillment of the criterion is presented below.

The EA standpoint stems from the pertinent official documents such as Treaty on European Union, as elaborated by the relevant protocol, and the Council Resolution establishing the ERM II (97/C 236/03) with effect from January 1, 1999[4], and can be summarized as follows:

[4] The most important passages are the third indent of Article 121 (1) of the Treaty and Article 3 of Protocol No.6. The last expression of the EA's opinion on the fulfillment of the exchange rate stability criterion can be found in the 2000 Convergence Report (European Commission, 2000), Annex D, Article D.4.

- Participation in ERM II for at least years at the time of the assessment is mandatory.
- Devaluation of the central parity within the two-year period is not allowed and is considered as a violation of the exchange rate stability criterion.
- Fulfillment of the criterion requires the exchange rate to have been maintained within a fluctuation margin ± 2.25 % around the central parity in ERM II "without severe tensions".
- If the exchange rate moves outside the band, a distinction is to be made between a breach of the upper margin and a breach of the lower margin.

Interpretation of Exchange Rate Stability

The EA's attitude can be set forth that revaluation or in other words upward realignment of the central parity does not endanger fulfillment of the criterion and is virtually possible. In a similar way, a breach of the upper margin is implicitly more admissible than a breach of the lower margin. Furthermore, maintaining of the exchange rate within a band narrower than standard accompanied by massive and long-lasting interventions or non-market operations might be assessed as an insufficient fulfillment of the criterion and the application for the EMU membership might be rejected. One can note that the final decision about the NMC admission to the EMU will be more political than economic and therefore the vagueness and non-exact interpretation of the exchange rate stability assessment aims to leave some leeway for the EA's decision-making. It will be interesting to see how the ERM II will be treated and the exchange rate stability assessed in the case of the UK once it finally decides to join the EMU. It is probably misleading to anticipate that the same principles of ERM II and exchange rate stability assessment will be employed for the GBP (British Pound) as it is supposed to be for the NMC.

Table 13.1 Exchange rate arrangements in accession countries

	fix	***intermediate***	***float***
stabilization phase (1990 - 1994)	Czech Republic Estonia Hungary Latvia (since '94) Lithuania (since '94) Malta Poland Slovakia	Cyprus	Bulgaria Latvia ('92-'94) Lithuania ('92-'94) Slovenia Romania
transition phase (1995 - 2000)	Bulgaria (since '97) Estonia Latvia Lithuania Malta	Czech R. ('95-'97) Cyprus Hungary Poland ('95-'00) Slovakia ('95-'98)	Bulgaria ('90-'97) Czech R. (since '97) Poland (since '00) Slovakia (since '98) Slovenia Romania
preparatory phase (2001 - ERM II)	Bulgaria Estonia Latvia Lithuania Malta	Cyprus Hungary	Czech Republic Poland Slovakia Slovenia Romania

fix: currency board, conventional peg, narrow band; *intermediate*: tightly managed float, broad band; *float*: managed float, free float

Source: web site of the International Monetary Fund, Nerlich (2002), p.5.

As it is evident, ERM II represents very specific exchange rate arrangement that differs significantly from the actual exchange rate regimes in many NMC. Table 13.1 illustrates development of exchange rate arrangements in the group of twelve accession countries during the whole period of transformation process. The way from the centrally planned economy to the market-driven one is divided to three stages characteristic by heterogeneous aims and policies applied.[5]

Diversity in Exchange Rate Arrangements

As the Table 1 backs up there is a lot of diversity in the field of exchange rate regimes among the NMC.[6] Three of them follow a currency board arrangement (Bulgaria and Estonia with respect to the euro, and Lithuania initially with respect to the USD but changed to the euro on February 2, 2002). Latvia has a conventional fixed exchange rate regime with a peg against the SDR and Malta has adopted a fixed peg to a weighted basket of euro, USD, and GBP. Hungary maintains a crawling peg arrangement with a central rate fixed against the euro and a ± 15 % fluctuation band and Cyprus as the second country with the intermediate regime has a fixed peg to the euro with a fluctuating band ± 2.25 % around the central parity. The remaining five countries have chosen a managed float but their monetary policy goals and inflation targets are defined differently.

ERM II as Source of Shifts in Exchange Rate Regimes

Knowing the design of ERM II and valid exchange rate regimes in NMC one can conclude that NMC will witness differently intensive shifts in their exchange rate arrangements aimed to shape the regimes more in line with the ERM II. Until recently, the ERM II was understood as a homogenous mechanism whose strict rules have to be followed by all participating countries without any exemption. Actual perceiving of the ERM II is broader and allows also functioning of other alternative exchange rate arrangements that are consistent with the ERM II requirements. Fixed pegs against the euro with fluctuation bands smaller than ± 15 % are in principle in line with the EU Treaty and will, if not supported by a multilateral agreement, be treated as unilateral commitments. While currency board arrangements might be judged compatible with ERM II – subject to an assessment on a case-by-case basis and regarded as unilateral commitments – fixed pegs against currencies other than the euro, free floats and crawling pegs are not compatible with the requirements.

Euroization

As adoption of the euro is generally accepted as a goal of all NMC one can highlight that euroization is another possibility how to introduce the euro as a legal tender and simultaneously how to avoid potentially dangerous ERM II. However, all relevant EA are very reserved and skeptical about the euroization in NMC. Even the Ecofin and the president of the ECB have tipped off that adoption of the euro in conflict with the Maastricht Treaty's principles will not be welcomed from the EU side.

[5] Cyprus and Malta do not belong to the group of transition economies and consequently their exchange rate regimes have been totally consistent during the whole period under consideration without any need for an adjustment.

[6] The ratio between fixed and floating exchange rate regimes has been changing during the transformation process in favor of floating arrangements. In accordance with conventional wisdom at that time, which emphasized the role of fixed exchange rate as a nominal anchor for macroeconomic stabilization, majority of Central and Eastern European (CEEC) countries decided for some form of fixed exchange rate regime. As the fixed exchange rates successfully stabilized economy and helped to reduce inflation, the CEEC preferences started to move towards more flexible exchange rate arrangements as a result of the need to manage increasing foreign capital inflows. Interestingly enough, this move seems to be against the supposed coming back to fixed exchange rates in the shape of ERM II.

13.3 Analysis of the ERM II Effects

Although the exchange rate is only one element of the set of economic policies, its influence on the internal as well as on external stability and equilibrium of the economy is prominent. Whereas the fixed exchange rate is the leading variable as the economic development and policies must adapt to the requirements of the maintaining of fixed exchange rate, the floating exchange rate rather follows development of other variables with the ability to mitigate the consequences of sub-optimal economic policies.

Three Levels of ERM II Effects

Necessity to subordinate exchange rate arrangements to the principles of the ERM II is a crucial factor that has to be taken into analysis of the ERM II impacts on the economies of NMC. The more far away is the present exchange rate regime from the ERM II the more changes are likely to be expected and the more they will be mirrored in the real economy. There are logically more concerns about the ERM II in the NMC with floating exchange rates than in the NMC with currency board or hard peg to the euro. The concerns are multiplied by the fact that fluctuation band seems to be, at least according to all existing indications, ± 2.25 % around the central parity, which may cause the two-year participation in the ERM II not to be a problem-free.[7] In a further text we analyze ERM II effects on NMC focusing on three fundamental levels: (i) stabilization of exchange rate, (ii) consistency of macroeconomic policy, (iii) stabilization of inflation.

Stabilization of Exchange Rate

The role in stabilizing the exchange rate by anchoring the expectations is one of the most-emphasized benefits of ERM II participation. This should subsequently contribute the process of economic convergence to the level of more developed EU-member countries. Commitment of the ECB to stand by the NMCB in interventions defending the fluctuation band margins should enhance the ERM II stabilization role even more. Nevertheless, considering more probable fluctuation band ± 2.25 % around the central parity, the space for the exchange rate development is so limited that intramarginal interventions are likely to being applied very often and to be more important. However, the ECB support in such kind of interventions is not guaranteed and therefore the stabilization effect seems to be rather undermined. On the other side, the standard band with fluctuations of ± 15 % around the parity is sufficiently wide to allow almost normal development of exchange rate and its anchoring function is subsequently deficient, too. Furthermore, the central exchange rate may be subject to adjust, mainly due to strong real appreciation trends that are evident in converging countries. The stabilizing role of ERM II would also be in practice limited by this way.

Consistency of Macroeconomic Policy

There is also an argument that participation in ERM II will invoke effective pressure for responsible macroeconomic policies and for consolidation and reforming of public finance above all. Any form of fixed exchange rate regimes strictly requires consistent and sound macroeconomic policies and its successful operation is not compatible, for example, with a long-term fiscal deficit or with wage growth that is not in line with productivity growth. However, we believe that sustainable fiscal and structural policies should precede the introduction of a fixed exchange rate arrangement and that restrictions on the movement of

[7] During the period from 12 March 2002 to 18 March 2004, the average exchange rate CZK/EUR was 31.509 and the exchange rate was fluctuating within the band +5,64%; -7.37 %. In the case of Slovakia, the average exchange rate was 41.967 SKK/EUR and the fluctuation band +6.98 %; -3.66 % around the average. The most volatile currency was Polish Zloty with the average exchange rate 4.2416 PLN/EUR and the fluctuation band +15.64 %; -22.37 %.

exchange rate should thus be the consequence of implementing consistent policies, and not the trigger form them. NMC are parts of financially globalized world and attract massive foreign capital inflows that are expected to continue. Any soft peg regime, such as ERM II, can be exposed to speculation, if markets decide to test the willingness and ability of the central bank to protect the official exchange rate and band margins which speculators find not to be sustainable and in accordance with real economic situation and policies applied.[8]

Stabilization of Inflation

Participation in ERM II is also being recommended because its ability to encourage low and less volatile inflation. Fixed exchange rate contributes to the anti-inflationary development both directly through stabilization of import prices and indirectly through stabilization of inflation expectations. However, looking at annual rates of inflation in NMC as of December 31, 2002 the need to moderate or curb the inflation is not urgent.[9] The macroeconomic issue of the highest importance arises in NMC whose monetary policy strategy is being pursued in the shape of inflation targeting. Although the exchange rate development is monitored within the concept of inflation targeting in small open economies such as the NMC very properly, the ERM II goes further and sets the maintaining of official central exchange rate as a monetary policy target along with the inflation target. Parallel existence of two monetary targets may undercut the comprehensibility of monetary policy and negatively affect credibility of the central bank. An open conflict between the monetary targets is not excluded either. The shorter the participation in the ERM II will be the lesser extend of the conflict is supposed to surface in NMC with inflation targeting and presently floating exchange rate regime.

13.4 Policy Recommendations

Although the ERM II has some stabilizing potential we see it preferably like a potentially dangerous institutional mechanism instead of stable and flexible arrangement guiding the NMC to their soft landing in the EMU as it has been frequently stressed by the EA. We perceive the possibility of financial crises, conflict between monetary policy goals, difficulties in meeting the Maastricht criteria and postponing of adoption of the euro due to ERM II as very feasible, mainly in countries experiencing huge inflows of foreign investment resulting in appreciation pressures, suffering from unconsolidated public finance and enormous budget deficits, or standing ahead of indispensable reforms of pension, social-care and health-care systems. We recommend that such NMC should remain outside of the ERM II for some time after its accession to the EU and concentrate on efforts to pursue structural reforms thoroughly and to improve efficiency and competitiveness of the economy.

We see as advisable for all NMC to stay in the ERM II for the minimum of two years only and to set the time of participation in the ERM II in conformity with fulfillment of other convergence criteria. Situation in Estonia is considerably different. Estonia has never changed its exchange rate regime and stayed in the currency board. Such kind of exchange rate arrangement is likely to be in accordance with the ERM II principles and it is expected that participation in the ERM II would not initiate any instability pressures in the Estonian economy. Thus, Estonia is supposed to become one of the first new members of the EMU at the very beginning of 2007.

[8] Attack on Hungarian forint in January 2003 can serve as an illustration of such episode.

[9] Only two NMC exceeded the Maastricht criterion of 3.8 %, namely Hungary with the inflation of 5.3 % and Slovenia with the inflation of 7.5 % (www.eiu.com).

Questions and Exercises

1. *What is the actual status of new EU-member countries in the EMU?*
2. *What is the ERM II and how does it differ from its predecessor ERM?*
3. *What is the difference between ECB and ESCB?*
4. *What is the functioning of the ERM II?*
5. *Provide some doubts and unclear issues about the ERM II?*
6. *Are the ERM II and Maastricht criterion of exchange rate stability the same? Explain your answer.*
7. *Why is the ERM II a possible source of instability in EU-member countries?*
8. *Is this hypothesis valid in all new EU-member countries? Why?*
9. *What are the probable effects of the ERM II on national economy?*
10. *What should be the ERM II strategy of countries with actually floating exchange rate?*
11. *Which countries are suppose to pass the minimum required period of time in the ERM II as the first? Why?*

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