Chapter 1

Money Makes the World Go 'Round

In This Chapter

- Understanding the terminology associated with exchange rates
- Identifying the factors that change the exchange rate
- Realizing excessive short-run volatility in the exchange rate and hedging against it
- Examining alternative exchange rate regimes

International finance is a vast and, at times, complex subject. My goal is to break it down for you into easy-to-manage parts. Although on the surface international finance may seem a daunting subject to learn, it really is fascinating and can help you understand the world of exchange rates. Time to get started!

This chapter aims to inform you about what's to come throughout this book. Each section in this chapter corresponds to each of the five parts of the book and gives you a glimpse of what each part covers.

Checking Out Definitions and Calculations

When learning about any new subject, gaining a basic understanding of the important terminology and, whenever applicable, calculations is important. This fact is also true for international finance. The main subject in international finance is exchange rates. Therefore, Part I includes chapters that cover the basic knowledge of exchange rates, which involves their definition, calculations, and the use of correct terminology when exchange rates change. Among the calculations-related subjects, you'll read about how to

calculate the percent change in exchange rates as well as how to convert an amount of money denominated in a currency into a different one. It turns out that all sorts of international business pros, as well as investors (or speculators), care about the changes in exchange rates.

What's an exchange rate?

An *exchange rate* (also known as the *nominal exchange rate*) represents the relative price of two currencies. For example, the dollar–euro exchange rate implies the relative price of the euro in terms of dollars. If the dollar–euro exchange rate is $0.95, it means that you need $0.95 to buy €1. Therefore, the exchange rate simply states how many units of one currency you need to buy one unit of another currency.

Throughout the book, you see the term *consumption basket.* Basically, think about the content of your shopping cart when you go grocery shopping, such as milk, bread, eggs, and so on. The consumption basket of a country includes goods and services that are bought or consumed by the average person in this country.

Other types of exchange rates also exist, including the real and effective exchange rates. The *real exchange rate,* for example, uses the nominal exchange rate and the ratio of the prices of two countries' consumption baskets in respective currencies. In this case, the real exchange rate compares the price of two consumption baskets in a common currency. Therefore, unlike the nominal exchange rate, which only implies the exchange of currencies, the real exchange rate compares the price of two countries' consumption baskets. The effective real exchange rate considers the comparison of the price of the home consumption basket to that of the weighted-average price of the most important trade partners of the home country.

What do you say when the exchange rate changes?

Using the proper terminology is important when referring to a change in the exchange rate. It's true that this terminology relates to the exchange rate regime in question. I discuss alternative exchange rate regimes much later, in Part IV. For now, you can think of a ***floating*** (or ***flexible***) regime and a ***pegged*** regime. In a floating exchange rate regime, mostly market forces determine exchange rates — in other words, the sale and purchase of the relevant currencies affect exchange rates. I ignore the nuances among the pegged exchange rate regimes for now and state that, for the most part, governments set the exchange rate in pegged exchange rate regimes.

An exchange rate regime implies whether or how a country decides to manage its currency with respect to other currencies. In a flexible exchange rate regime, the country leaves the determination of its currency's price mostly to international foreign exchange markets. Alternatively, a country may decide to exercise varying degrees of control over the exchange rates involving its currency. Chapters in Part IV discuss the factors that affect countries' decisions regarding the exchange rate regime.

Appreciation and revaluation have the same meaning: The value of one currency increases against the other. But these terms are used for the floating and pegged exchange rate regimes, respectively. For example, both the dollar and the euro are floating currencies. If the dollar–euro exchange rate decreases from $0.95 to $0.85, it implies appreciation of the dollar. If China decreases the yuan–dollar exchange rate from CNY6.23 to CNY6.02, it's revaluation because China pegs its currency. In both cases, you need less of the domestic currency to buy one unit of the foreign currency.

Depreciation and devaluation also have the same meaning: The value of one currency decreases against the other. Again, these terms are used for the floating and pegged exchange rate regimes, respectively. If the dollar–euro exchange rate increases from $0.95 to $1.05, it implies depreciation of the dollar. If China increases the yuan–dollar exchange rate from CNY6.23 to CNY6.35, it's devaluation. In both cases, you need more of the domestic currency to buy one unit of the foreign currency.

Who cares about exchange rates?

First, various multinational firms care about the changes in exchange rates. Some domestic firms export to or import from other countries. Some firms have licensing and franchising agreements with foreign firms. Some have production facilities in foreign countries, with or without local partners. The important point about international business is that these firms have account payables or receivables in foreign currencies. A change in the exchange rate makes their payables or receivables in domestic currency smaller or larger in terms of their home currency.

Multinational companies cannot ignore the changes in exchange rates, but as an investor, you can, if you want to. You may not follow the changes in exchange rates if your portfolio consists of domestic equity and debt securities. But if you have foreign assets in your portfolio or you're a speculator trying to make a profit by buying currency low and selling high, you'll be very interested in which direction and how much exchange rates change.

Finding Out What Determines (Or Changes) Exchange Rates

You may know today's dollar–euro exchange rate. But it will be something else next year. How do you predict what the exchange rate will be? Which factors are helpful in predicting the change in exchange rates? Part II of this book focuses on these important questions.

Which model to use?

In this book, I show you two alternative ways of looking at exchange rate determination. First, you can apply a microeconomic approach to exchange rate determination and assume that currencies are exchanged just like oranges. The question as to how many oranges do you need to buy one apple is fundamentally similar to the one as to how many dollars do you need to buy one euro. In the demand–supply model, the demand and supply curves shift for various reasons, some that relate to international trade and others that relate to international investment.

Second, you can focus only on international investment. In this case, you can think of yourself as an investor deciding between dollar- and euro-denominated securities (of similar maturity and risk). How do you decide between these securities? The answer involves two factors: real interest rates associated with these securities and the expected change in the exchange rate. Keep in mind that monetary policies of two countries affect the real returns in this model, as well as your expectations regarding the future exchange rate. Therefore, you need to keep a close eye on monetary policies of both countries, form your expectations regarding the real returns and the future exchange rate, sell one of the currencies, buy the other currency, and buy securities denominated in the latter currency. The currency you're buying appreciates in the current (spot) foreign exchange market.

Are there any prediction rules to live by?

Yes, certain generally accepted factors lead to predictable changes in the exchange rates. Two main factors are nominal interest rates and inflation rates. Higher inflation rates generally lead to higher nominal interest rates. If you ask why inflation rates increase, the major culprit, in this case, is an expansionary monetary policy, implied by higher growth in nominal money supply accompanied by declines in central banks' key interest rates. Therefore, all three factors (monetary policy, inflation rates, and nominal

interest rates) are related and have a predictable effect on exchange rates. Most empirical evidence implies that expansionary monetary policies resulting in higher inflation rates and higher nominal interest rates lead to the depreciation of a currency.

In terms of real variables (variables that are adjusted for inflation), higher real interest rates and growth rates of real GDP (gross domestic product, or output of a country) lead to the appreciation of a currency.

Getting to the Long and Short of It

The chapters in Part III focus on two main subjects. First, they expand upon the subject of exchange rate determination and discuss long-run relationships. Second, the chapters put your knowledge in perspective by pointing out the high short-term volatility of exchange rates.

What's the percent change in the exchange rate?

You can both predict the direction of change in the exchange rate and also calculate your best guess regarding the percent change by examining two important concepts: interest rate parity (IRP) and purchasing power parity (PPP). The IRP relates the percent change in the exchange rate to the nominal interest rate differential between two countries. The PPP, on the other hand, explains the percent change in the exchange rate based on the inflation differential between two countries. Actual changes in exchange rates may not reflect the IRP- or PPP-suggested changes every time you observe them, but both concepts give you a best guess regarding the direction and size of the change in the exchange rate.

The empirical evidence confirms that both the IRP and the PPP are helpful long-run concepts with which you can predict exchange rates.

Can anything be done about the risk due to short-term volatility in exchange rates?

Because predicting the exchange rates is difficult in the short run, market participants such as multinational firms are exposed to exchange rate risk. Foreign exchange derivatives help multinational firms hedge against this

risk. Additionally, speculators use these derivatives to make profits. Part III discusses three types of foreign exchange derivatives: forward contracts, futures contracts, and options. They have important differences, such as whether they imply an obligation to buy or sell currency, which, in turn, affects their attractiveness to different market participants.

Answering Questions about the System: Fixed, Flexible, or Pegged?

In Part IV, I talk about the international monetary system, which refers to implicit or explicit arrangements governing exchange rates. Because the type of money affects the type of exchange rate regime, I first discuss the different types of money throughout history and the associated exchange rate regimes. Then the focus shifts to the international monetary systems since the late 19th century. These systems, the associated exchange rate regimes, and their challenges are discussed in chronological order, starting in the 19th century and ending with the euro.

Does the type of money matter for the exchange rate?

A close relationship exists between the type of money and the exchange rate regime. A monetary system based on a metallic standard such as the gold standard leads to a fixed exchange rate regime. For a good part in human history, some kind of a metallic standard governed. However, don't assume that the reign of the metallic standard was continuous throughout history. Mostly because a metallic standard such as the gold standard doesn't allow monetary policy, countries left the metallic standard whenever they had to endure a war or a military conflict so that they could print money and finance the war effort.

Money that's not backed by a precious metal has no intrinsic value. It's called fiat money. Therefore, the type of money used during the gold- (and/or silver-) standard periods interrupted by wars or revolutions was fiat money. This type of money has been used from 1971 through today (see Chapter 12 for information on the post-Bretton Woods era, when this type of currency was introduced).

Previously in this section, you read that a metallic standard, such as the gold standard, leads to fixed exchange rates. What kind of exchange rates would we have when currencies are fiat? The answer is that fiat money doesn't

imply a certain kind of exchange rate regime. It's up to countries to decide what kind of an exchange rate regime they want to have. In fact, following the end of the metallic era in 1973, developed and developing countries decided differently about this matter. While all developed countries adopted a floating exchange rate regime, most developing countries adopted some kind of pegged exchange rate regime.

In a pegged exchange rate regime, governments announce the exchange rates between the domestic currency and other major currencies. Pegging is done for a variety of reasons. First, pegging can support the country's development strategy. For example, if a country wants to industrialize and needs to import a variety of intermediate goods, it can make its imports cheaper by overvaluing its currency. On the other hand, if a country wants to promote its export sector as the engine of growth, undervaluation of the currency can accomplish this goal. In addition, a pegged currency can function as a nominal anchor to signal economic stability. In particular, developing countries used the pegged regime to attract foreign investors. In this case, the investment in question is portfolio investment and implies investing other countries' equity and debt securities.

Unilaterally pegged exchange rates in developing countries, especially in emerging markets with a potential to grow, sounded like an ingenious plan. These countries needed hard currency in large amounts, and international investors wanted to have higher nominal returns with virtually no exchange rate risk. But this kind of hot money comes in fast and leaves fast. When investors became anxious that these countries couldn't continue with the peg, they cashed in their portfolio in return for hard currency, leaving the countries in a currency crisis.

When talking about exchange rate regimes and currency crises, the International Monetary Fund (IMF) has to be included in the discussion. The IMF was introduced during the Bretton Woods conference in 1944 as the coordinator of the post–World War II international monetary system. The post–World War II system was a variation of the metallic standard and was called the reserve currency system. The dollar was pegged to gold, and all other currencies were pegged to the dollar. As in the case of any metallic standard, an agency such as the IMF needed to keep an eye on current account imbalances and redistribute funds from countries with a current account surplus to countries with a current account deficit. As early as the late 1940s, it became clear that the IMF didn't have enough funds to fulfill its objective.

Following the end of the Bretton Woods era in 1973, the IMF remained in business even though there was no metallic standard and therefore fixed exchange rates. However, as developed countries adopted floating exchange rates, most developing countries believed that if they adopted a floating exchange rate regime, their countries' fiscal and monetary problems would depreciate their currency too much. Therefore, after 1973, most develop-

ing countries unilaterally pegged their currency to the currencies of major developed countries. But pegged currencies experience crisis, meaning that countries lose their international reserves when fiscal and monetary policies aren't consistent with the peg. Therefore, the IMF remained in business, this time to provide balance of payments support to developing countries. Over the decades, the IMF has been criticized for providing financial support to countries that implement macroeconomic policies inconsistent with their currency peg.

Which international monetary system is better?

Economics is all about tradeoffs, and there's no such thing as a flawless international monetary system. All systems have their benefits and costs.

Any variety of a metallic standard, such as the gold standard of pre–World War II years and the reserve currency standard of the Bretton Woods era (1944–1971), avoids volatility in exchange rates. But the stability in exchange rates comes at a high cost. Evidence suggests that, when trying to keep the fixed exchange rate, achieving internal balance (growth and full employment) and external balance (no large current account surplus or deficit), and allowing free flow of funds between countries, the internal and external balance was sacrificed for the fixed exchange rate. This situation led to persistent current account deficits, lower growth, and higher unemployment in many countries. Especially during the early 1930s, retaliatory trade restrictions were introduced as a desperate attempt to promote growth and employment, which only worsened the overall economic outlook.

The floating exchange rate regime that developed countries have adopted since the early 1970s has the benefit of requiring no internal or external balance. It's virtually maintenance free. But because currency trading in foreign exchange markets determines the exchange rates, countries' monetary and fiscal policies or expectations regarding these policies have an effect on exchange rates. The problem is that short-run fluctuations in floating exchange rates don't reflect the changes in macroeconomic fundamentals. In fact, the short-run volatility seems to be excessive compared to the changes in macroeconomic fundamentals.

Many developing countries have adopted pegged exchange rates, and they have their benefits and costs as well. A pegged currency can signal stability and encourage much-needed hard currency flowing to the country. If the country has a well-developed financial system that can distribute these funds efficiently among borrowers, hot money can stimulate growth. If the financial

system of the country is weak or the government's policies aren't consistent with the peg, investors will expect that the peg will be broken. If they wait until the peg is actually broken, they suffer losses because, when the peg is broken, the currency substantially depreciates. Therefore, investors convert their investment into hard currency right away. Clearly, a large amount of hard currency leaves the country in this case. The peg is broken, the currency is let to float (and depreciate), and the country has lost most of its international reserves.

Is the Euro-zone an optimum currency area?

One of the most interesting developments in international finance took place with the introduction of the euro in 1999. At the time of its introduction, 11 European countries (among them, Germany, France, and Italy) gave up their national currencies to take part in a common currency area, known as the euro-zone. As of 2011, there were 17 European countries in the euro-zone. Of course, the European common currency didn't happen overnight. Starting in the 1950s, European countries went through various stages of economic and monetary integration.

The euro raises issues addressed by a theory known as the optimum currency area (OCA) theory. Consider a number of countries, and call them a region. If these countries experience similar macroeconomic shocks, and if there's labor mobility between these countries, this region may be an OCA. After adopting the common currency, countries of the region are expected to trade with each other more because of lower transaction costs and, consequently, enjoy price converge. However, as problems in some of the Euro-zone countries, such as Greece, Ireland, and Spain, revealed in the late 2000s, a common currency can also be problematic. A common currency requires coordination in both monetary and fiscal policy. The European Central Bank (ECB) has worked to achieve monetary policy coordination, but it seems that there is no supranational authority in the European Union (EU) similar to the ECB to coordinate fiscal policies.

The lack of fiscal policy coordination has led to some of the euro-zone countries having high levels of debt. If financial markets view these countries' debt as excessive, they may expect that highly-indebted Euro-zone countries may not be able to make payments on their debt, which means that these countries may default on their debt. Therefore, higher levels of debt in some of the euro-zone countries may threaten the Euro's credibility.

Gaining Insight into the Do's and Don'ts of International Finance

Some absolutes and some falsehoods arise in the subject of international finance. In Part V, you find a summary of some main ideas to take from this book. These ideas are presented in terms of what to think and what not to think about the most important concepts in international finance.

You definitely need to know that macroeconomic fundamentals such as inflation rates, exchange rates, and growth rates affect the long-run changes in exchange rates. But you also must realize that short-term changes in the exchange rate don't reflect the changes in fundamentals, although they may well reflect expectations of changes in those fundamentals. This fact certainly motivates the use of foreign exchange derivatives to hedge against the foreign exchange risk in short-term transactions. In terms of the international monetary system, no perfect system exists. Alternative international monetary systems have their costs and benefits. Although a common currency area such as the Euro-zone sounds like a great efficiency-enhancing idea, it requires a great deal of policy coordination.

In terms of warnings, the fact that macroeconomic fundamentals cannot explain short-term changes in the exchange rate doesn't mean that the theory of exchange rate determination is useless. The theory is helpful in determining the long-run changes in exchange rates. Additionally, because most developed countries' exchange rates are determined in foreign exchange markets, you don't want to ignore policymakers. Monetary but also fiscal authority significantly affects exchange rates. Finally, in terms of the international monetary system, exchange rates that don't change or that change infrequently, as in the case of fixed or pegged exchange rates, don't necessarily imply stability.

Looking at Finance Globally

Exchange rates imply the relative price of one currency in terms of another currency. In a way, countries are related to each other through exchange rates. Remember that what one country does affects another. Macroeconomic decisions made in your home country affect people that live thousands of miles away. Our world isn't so big, after all. International finance shows how economies are intertwined and how currencies change the way businesses run. Read on!