#### CHAPTER

# **12**

# **International Financial Crises**

#### **Learning Objectives**

After studying this chapter, students will be able to:

- 12.1 Define four types of crises.
- 12.2 Distinguish a crisis caused by economic imbalances from one caused by volatile capital flows.
- 12.3 List and explain three measures countries can take to reduce their exposure to financial crises.
- **12.4** Explain the need for reforms in the architecture of international finance and international financial institutions.
- 12.5 Describe the main forces behind the global financial crisis that began in 2007.

# INTRODUCTION: THE CHALLENGE TO FINANCIAL INTEGRATION

Increasing international economic integration has created opportunities for growth and development, but it has also made it easier for crises to spread from one country to another. The worldwide recession that began in 2008 was triggered by a financial crisis that started in 2007, and while it is perhaps the most severe example of a crisis since the 1930s, there are several other recent examples. In 1992, before the advent of the euro, currency speculation against the British pound and other European currencies nearly caused the collapse of monetary arrangements in Europe and inflicted high costs on a number of countries in the European Union (EU). In late 1994, speculation against the Mexican peso led to its collapse and spread a "Tequila effect" through South America. In 1997, several East Asian economies were thrown into steep recession by a wave of sudden capital outflows, and in 1998, Russia's default on its international debt sent shockwaves as far as Latin America.

Financial crises are not new, but the way they develop and spread continues to evolve with the world's financial and economic integration. In some instances, they are an almost predictable result of inconsistent or unrealistic macroeconomic policies, but in other cases, countries with fundamentally sound macroeconomic policies have been pulled into a currency or **financial crisis** for no obvious reason. This makes financial crises difficult to predict, but it also increases the value of a set of early warning

indicators. The **contagion effects** of a crisis do not conform to a single pattern, and they reinforce the idea that there are different types of crises with their own rules of behavior.

Financial crises have brought down governments, ruined economies, and destroyed individual lives. Their enormous costs have created an intense amount of research into causes, prevention, and treatment. This chapter reviews some of the basic themes of this literature. It begins by describing two types of crises that have been observed during the past twenty years. Then it turns to a discussion of several key issues, including the steps that a country might take to avoid or minimize a crisis and the policy choices that it faces once one begins.

Much of the research in this area is designed to formulate sound principles for international financial reforms. The many reform proposals that have appeared in recent years are usually referred to as proposals for reform of the **international financial architecture**. Often their contents revolve around a set of proposed changes to the International Monetary Fund (IMF) and other multilateral institutions with a role in international financial relations. The final section of this chapter looks at two of the main questions in that discussion: Does the world economy need a **lender of last resort**, and what type of conditions should a lender impose on the recipients of its assistance?

#### **DEFINITION OF A FINANCIAL CRISIS**

#### LO 12.1 Define four types of crises.

Financial crises have a variety of potential characteristics, but they usually involve an exchange rate crisis, a banking crisis, a debt crisis, or some combination of the three. Exchange rates, banking systems, and debt are not the only components, but in recent crises they have been points of vulnerability—partly because they are often the variables through which the contagion effects of a crisis are spread from one country to another and between the financial system and the rest of the economy.

A **banking crisis** occurs when the banking system becomes unable to perform its normal lending functions and some or all of a nation's banks are threatened with insolvency. A bank, like any other business, is considered insolvent or bankrupt if its assets are less than its liabilities or, to put it another way, if its net worth is negative. The recession that began in December 2007 is part of the fallout from a banking crisis that started earlier in the same year. A variety of financial institutions, including banks, were involved.

The primary role of banks is **intermediation** between savers and borrowers. Simply put, banks and other financial institutions pool the savings of households and make them available to businesses that want to invest. If the businesses that borrow from a bank go under, then the bank cannot repay its depositors, and the bank may go out of business as well. **Disintermediation** occurs when banks are unable to act as intermediaries between savers and investors—it is a serious problem with negative economic consequences.

When a bank or other financial institution fails, the investors who purchased its financial products lose some or all of their savings. Bank depositors in many countries are covered by deposit insurance, but holders of other types of financial products rarely are. The loss of savings causes households to cut back on consumption and spreads the recessionary effect wider and wider through the economy. This is one way in which a crisis is transmitted within an economy. Unaffected banks may stop making new loans as they take a cautious approach, new investment slows or stops altogether, layoffs occur, and the economy falls deeper into the vicious circle of a downward spiraling recession.

An **exchange rate crisis** is caused by a sudden and unexpected collapse in the value of a nation's currency. This can happen under a fixed, flexible, or intermediate type of exchange rate. If the exchange rate system is some form of a fixed exchange rate, the crisis entails a loss of international reserves, followed by a sudden devaluation once it appears that the reserves will run out. Devaluation is intended to accumulate reserves or to conserve existing reserves by making the rate of exchange less favorable to people trying to convert their domestic currency to dollars or another international reserve currency. If a country uses some form of flexible exchange rate, an exchange rate crisis involves a rapid and uncontrolled depreciation of the currency. While no type of exchange rate system guarantees safety, current research favors the idea that countries that adopt a pegged exchange rate may be more vulnerable to an exchange rate crisis.

Similar to the effects of a banking crisis, an exchange rate crisis often results in a steep recession. There are several channels through which recessionary effects may be transmitted, but one of the most common channels is the banking system. For example, before the Asian crisis of 1997 and 1998, banks borrowed dollars in international capital markets. When their home country currencies collapsed, the dollar value of their debt increased enormously. Consequently, many banks failed, disintermediation took place, new investment stopped, and the economies slid into a deep recession.

A **debt crisis** occurs when debtors cannot pay and must restructure their debt. It is somewhat rare that debtors completely repudiate their debt, and in most cases restructuring involves lowering the rate of interest, lengthening the payback period, partial forgiveness, or some combination. Debtors can be public, private, or some combination, and the debt may be external or domestic. External debt refers to debt owed in a foreign currency, regardless of the nationality of the party that is owed repayment, while domestic debt is denominated in the home country's currency. In addition, the rules governing external debt are set in a foreign legal system, while domestic debt uses the laws and courts of the home country. For example, China holds U.S. Treasury bills, which are part of the debt of the U.S. government, but since the debt is denominated in dollars and subject to legal rules and adjudication in U.S. courts under U.S. law, it is considered domestic debt rather than external debt.

Restructuring of debt spreads losses through an economy and may cause previously solvent lenders to become insolvent since the value of the assets they

own must be marked down. If their assets decline too much, they fall below their liabilities and the lender becomes insolvent. Debt crises can spread economic stagnation in other ways as well. In the 1990s, for example, Japanese firms and banks focused on paying off debt after the collapse of their real estate bubble in the late 1980s and early 1990s. This caused them to cut back on normal business spending and severely reduced the level of aggregate demand in the economy, leading to nearly a decade of stagnation. The euro crisis that began in 2011 has similar characteristics in that many businesses, including banks, are unwilling to lend and prefer to pay off the debts they accumulated after the collapse of the housing bubble and during the recession.

The fourth and final type of crisis is a **balance of payments crisis**. This type of crisis occurs when a country has a current account deficit that it cannot finance. Recall from Chapter 9 that a current account deficit occurs when payments owed the rest of the world are greater than payments received. The bulk of these payments are related to exports and imports and secondarily to payments for capital and labor. If total payments owed to other countries exceed payments received, then there is a current account deficit that must be financed. Countries do this by selling financial assets, which can include reserve currencies, as a way to generate capital inflows of sufficient size to cover the current account deficit. In ordinary circumstances, foreigners make bank loans, buy bonds or stocks, or invest directly in the deficit country by buying real estate, factories, or other businesses. Those transactions are recorded on the financial account and must generate sufficient revenue cover the current account deficit.

When it becomes apparent that the deficit country is too risky, the financial inflows that were used to cover the current account deficit cease. The perception of risk and the moment when it reaches a threshold where it is considered too great are both subjective and often impossible to predict. Nevertheless, capital inflows can end rather suddenly in what is called a sudden stop. The concept of a sudden stop was discussed briefly in Chapter 9. Recall that it occurs when investor expectations change and they stop buying assets in the crisis country. This moment is often followed by large destabilizing outflows of capital. Foreign and domestic investors both will try to convert their domestic currency–denominated liquid assets into dollars or another reserve currency and to move them out of the crisis country. Large capital outflows put pressure on domestic reserve holdings since everyone is trying to exchange the domestic currency for a reserve currency, often dollars.

What happens next depends on a variety of variables, but this is usually the moment when the IMF is asked to help or when the crisis country reaches out for help from its allies. Loans, loan guarantees, currency swaps, and other financial instruments are useful stopgaps, but ultimately, the crisis country must eliminate the current account deficit. Recall that deficits are addressed through expenditure switching and expenditure reducing policies, which is a technical way to say that the crisis country must reduce demand, including its demand for imports. The transition from a deficit to a balanced or surplus current account can be brutal, and in crisis situations it usually involves a significant recession.

#### **VULNERABILITIES, TRIGGERS, AND CONTAGION**

## LO 12.2 Distinguish a crisis caused by economic imbalances from one caused by volatile capital flows.

It is safe to say that every international financial crisis is unique in its origins and in the way it causes domestic economies to unravel. It is also safe to say that crises may be unexpected, but they rarely occur without antecedent areas of vulnerabilities. Banking, exchange rate, and debt crises are more likely when there are underlying weaknesses and vulnerabilities in the economy. These weaknesses do not necessarily lead to a crisis, but they make economies vulnerable to events that can trigger a crisis. Crisis triggers, such as a bank failure or sudden speculation against a currency, are usually unpredictable; for this reason, attempts to predict crises tend to focus on the points of vulnerability and the probability that those points might lead to the onset and spread of a crisis.

In this section, two main types of vulnerabilities are considered. These are not the only possible ones, but they cover a wide range of situations that have contributed to economic weaknesses and, on occasion, turned into domestic and international crises. The first type of vulnerability is a result of definite and identifiable macroeconomic imbalances. For this type, the moment of crisis onset is unpredictable, but unless the underlying conditions are corrected, it is almost certain to occur eventually. The second type of vulnerability is brought on by volatile flows of financial capital that move out of a country quickly. These capital outflows are often preceded by a period of capital inflows and a build-up of foreign liabilities. A sudden change in investor expectations may be a triggering factor, and underlying fragility in the banking and financial sector may be present. Still, this type of crisis can be puzzling because in several recent cases it has affected countries with particularly strong international positions and stable macroeconomic policies.

#### **Vulnerability: Economic Imbalances**

Over the past few decades, a number of crises have been triggered by events that put severe pressure on existing macroeconomic imbalances. Macroeconomic imbalances can take various forms, including large budget deficits, large current account deficits, overvalued exchange rates, or unsustainable levels of private sector debt, such as in the housing market.

Historically, poor fiscal or monetary management has frequently played a role, as when governments allow large budget deficits or high rates of inflation. The need to finance budget deficits can make governments vulnerable to a change in the perceptions of lenders about their probability of being repaid, and inflation with a fixed exchange rate creates vulnerability through a real appreciation of the currency and a loss of competitiveness (see Chapter 10). Not all crises are caused by poor fiscal or monetary management, however, and many crises originate in the private sector, where imbalances are caused by speculation in real estate, the stock market, or other assets.

The global crisis that began in 2007 has exhibited several of these sources of crisis, depending on the country and the time period. Beginning with the rise of house prices in the United States, the United Kingdom, Spain, and several other countries, private investors—including banks, insurance companies, pension funds, and individuals—had significant incentives to invest in real estate, driving prices to unsustainable levels. Investment was facilitated by global imbalances in which countries with high savings rates and large current account surpluses, such as China, Germany, and oil exporters, lent to the United States. the United Kingdom, Spain, and other countries with large current account deficits and significant investment opportunities. The result was an unsustainable increase in house prices and a housing bubble in many cities. When house prices began to fall, it put pressure on financial systems in countries where large financial institutions were using the home loans they made as collateral to borrow heavily in short-term credit markets. The failure of U.S. investment bank Lehman Brothers occurred when it was no longer able to obtain shortterm credit after its lenders rejected its collateral, triggering the most intense period of the financial crisis.

The first phase of the 2007–2009 crisis involved macroeconomic imbalances in current accounts, and savings and investment. These imbalances were not due to government policies in most cases but were the result of private sector decisions regarding spending, saving, and investment. The second phase began as tax revenues declined and social spending automatically increased as countries fell deeper into recession and government budgets came under pressure. During recessions, government income declines due to the fall in economic activity and the decline in income in the private economy. At the same time, income support programs, health care spending, and even pension expenditures rise unexpectedly as workers are laid off, lose their employer-sponsored health care, and (sometimes) retire early. The fall in tax collections and the rise in social spending constitute an automatic stabilizer since the changes are stimulatory and partially counteract the recession. Inevitably, however, they create a budget deficit, and in some cases the deficit becomes unsustainable.

The Latin American debt crisis (1982–1989) is an example of a crisis caused by unsustainable macroeconomic balances (see Chapter 15). In August 1982, Mexico revealed that it was no longer able to service its external debt. This followed a decade of large-scale borrowing to finance budget deficits and development projects. As the debt crisis spread to other Latin American economies, budget deficits, current account deficits, excessive money creation, and overvalued exchange rates added banking crises and exchange rate crises to the ongoing debt crisis. The crisis trigger in this case may have been the worldwide increase in interest rates that began in the United States, but as more countries were revealed to be insolvent after nearly a decade of high levels of borrowing, the crisis spread. The Latin American debt crisis is a case of **sovereign default**, since it was default by sovereign governments. It is a particularly painful episode in Latin American economic history, and is discussed more fully in Chapter 15.

#### **Vulnerability: Volatile Capital Flows**

Not all crises are the result of macroeconomic imbalances or unsustainable expansions in fiscal and monetary policies. National economies are increasingly vulnerable to the effects of technology that instantaneously shift vast sums of financial capital from one market to another. Together with the high degree of financial openness achieved in the past few decades, the contagion effects of crisis can spill across oceans and national borders. The best example of this kind of crisis is the one that hit some of the economies of East Asia in 1997 and 1998. While several economies had underlying weaknesses in their financial sectors, others such as Singapore, Hong Kong, and Taiwan were adversely affected, even without the same weaknesses.

The fundamental cause of this type of crisis is that financial capital is highly volatile, and technological advances have reinforced this volatility. The discovery of large emerging markets and the drive by financial investors in high-income countries to diversify their portfolios caused hundreds of billions of dollars to be invested throughout the world. Most savings stays in the country doing the saving, but an increasingly large volume of savings has entered international capital markets, where it moves relatively freely in response to interest rates, exchange rate expectations, and economic activity. This creates opportunities as well as problems. For example, portfolio managers often look at each other's actions for information about the direction of the market. Capital inflows can be a sign of economic strength and can generate more inflows, adding to the funds a country has to invest and generating more rapid growth. The inflows may also concentrate in specific assets, such as stocks of technology companies, real estate, or other markets, and create expectations of large future gains, encouraging financial bubbles to develop. Long periods of growth sometimes also experience debt build-ups, which can be unsustainable when growth slows. Capital outflows can also be a signal, however, and can intensify a small problem. What begins as a trickle of funds out of a country can be interpreted as bad news about underlying conditions and lead to an avalanche of capital flight. When that happens, international reserves disappear, exchange rates tumble, and the financial sector can suddenly look very weak.

A weak financial sector can also intensify the problems. A case in point is a banking sector that borrows internationally and lends locally. If the funds obtained in the international market are short-term and are used to fund long-term loans such as real estate, problems arise when the international loans must be repaid. As long as international lenders are willing to roll over the debt and extend new loans, everything moves along smoothly. As soon as the lenders believe that there is a problem with a borrowing bank, however, they refuse to roll over the debt, creating a liquidity problem if the bank's assets are tied up in real estate loans. In the short run, real estate is relatively illiquid and cannot be used to make a payment. When a number of banks are confronted with similar problems, their attempt to unload real estate depresses prices even further and undermines the solvency of the banking system since every bank with real estate investments is suddenly holding a portfolio of declining value.

This type of scenario is particularly troubling because it can go either way. That is, it may resolve itself without a crisis if international lenders are willing to extend additional credit while banks sell their long-term assets. Alternatively, if international investors expect a crisis and consequently are unwilling to give domestic banks the time they need to convert illiquid assets into liquid ones, then the crisis becomes a self-fulfilling prophecy. The belief in a crisis causes lenders to refuse to roll over the banking debts, and the banks, which are illiquid, become insolvent.

Several parts of this scenario are unsettling to economists and policymakers. First, there are multiple possible outcomes—or, in economic terms, there are *multiple equilibria*—depending on the responses of international lenders. Second, one of the possible outcomes is a crisis, but the crisis is self-fulfilling. It is not predetermined, nor is it necessary. Third, the crisis affects banks that are fundamentally sound but that have mismatches between the maturities of their debts and their assets. In other words, they are illiquid but not insolvent.

These factors seem to imply that it should be possible to avoid this type of crisis. In part, doing so requires that banks pay closer attention to the maturity match between their debts and assets. In some cases, this requires a higher degree of supervision and regulation on the part of the banking authorities. International lenders, for their part, must be more informed about the activities of their borrowers. This requires greater information flows, the use of standard accounting practices, and overall greater transparency in domestic and international financial systems. Finally, once a crisis occurs, international agencies, such as the IMF, that are called in to make emergency loans need to be able to distinguish between insolvency and illiquidity. The distinction is more complex than it seems, but it is crucial, since the appropriate response will vary depending on the short- to medium-run prospects of the borrowing country.

#### **How Crises Become International: Contagion**

Most crises are domestic. Banking crises, currency crises, and debt crises nearly always begin in a national context, and only some of them become international. Many crises, however, spill into other countries, and even if one does not become a global crisis, it nevertheless affects more than just the country where it originates. For example, the Mexican exchange rate crisis of 1994–1995 (see case study that follows) caused an outflow of capital from many middle-income countries and contributed to a sharp recession in Argentina and other countries. Argentina recovered relatively quickly, but the episode illustrates how problems in one place are easily transmitted to another.

Some crises are contagious, in ways that are similar to diseases. Direct linkages between economies can sometimes spread a crisis that begins in one economy and turn it into an international crisis. For example, the crisis that began in 2007 in the United States with a decline in housing prices spread fairly easily into Europe and Japan. Banks in those regions had purchased assets that ultimately depended on housing prices in the United States, and when they began to fall, the value of assets based on them declined as well. Suddenly, the problems of

United States were also the problems of Europe and Japan, including insolvent banks that had purchased assets based on housing prices.

Banking or other financial linkages may not be visible or known until a crisis begins, but ultimately they will be exposed if the crisis persists or is deep enough. Other forms of contagion may be less easily observed. For example, countries with no obvious linkages to a country in crisis may become entangled if the crisis country serves as "wake-up call" to international investors and speculators. During the Asian Crisis of 1997–1998 (see case study that follows), for instance, speculators successfully bet against Thailand's currency and then turned to similar countries in the region where they assumed there were similar problems. In some cases, their bets paid off, but in others they lost, as when they speculated against currencies that were backed by large reserves and were not overvalued.

The subprime crisis was a good example of an international crisis that developed as a result of contagion, but not all international crises are spread that way. Frequently, two or more countries face similar financial crises because they share a common set of economic fundamentals. For example, a long and steep decline in the prices of agricultural and mineral outputs between 1928 and 1931 was one of the factors that set in motion and sustained the worldwide Great Depression of the 1930s. Countries or regions with large agricultural or mining sectors saw declining prices for key commodities that eventually resulted in bankruptcies and banking crises. In this case, the spread of the crisis internationally was through the common set of economic conditions that many countries shared and not the result of direct contagion from one country to another. When commodity prices began to fall, it had similar effects in many countries simultaneously.

#### CASE STUDY

#### The Mexican Peso Crisis of 1994 and 1995

The collapse of the Mexican peso and the ensuing crisis that began at the end of 1994 had elements of a crisis caused by macroeconomic imbalances and one caused by volatile capital flows and financial sector weakness. On the one hand, there were definite signs of macroeconomic imbalances, including an overvalued real exchange rate and a large current account deficit. On the other hand, the Mexican government operated a relatively austere fiscal policy, and not counting foreign interest payments on its debt, the government budget was in surplus, not deficit. Similarly, inflation came down during the early 1990s and reached 7 percent overall in 1994, down from 22.7 percent in 1991. Between 1990 and 1993, Mexico experienced capital inflows of \$91 billion, or an average of about \$23 billion per year, the most of any developing country. The capital inflow was in the form of private portfolio investments (\$61 billion), direct investments (\$16.6 billion), and bank loans (\$13.4 billion).

The administration of President Salinas (1988–1994) actively encouraged large inflows of foreign capital as a way to maintain investment rates far above the level that domestic Mexican savings could support. Recall from Chapter 9 the macroeconomic identity that private savings plus the government budget balance must equal domestic investment plus the current account balance:

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

In 1994, Mexican savings of around 14 percent of gross domestic product (GDP) could not support investment of more than 20 percent of GDP unless there was an inflow of savings from the rest of the world. Mexico ran large current account deficits equal to 5 percent of GDP in 1991 and 6.5 percent in 1992 and 1993. The enormous inflow of foreign goods and services permitted more investment by providing capital goods that Mexico could not make itself and by satisfying consumption through foreign goods and thereby allowing domestic factories to produce investment goods. This was the strategy of the Salinas government, and it seemed to be working. The North American Free Trade Agreement (NAFTA) between Canada, the United States, and Mexico took effect on January 1, 1994, and throughout the year U.S.–Mexican trade expanded by almost one-fourth (23.7 percent). NAFTA inspired confidence in Mexico's institutional stability and guaranteed access to the wealthy U.S. market for any goods made in Mexico.

During 1994, the world capital market began to shift toward a more conservative, risk-averse stance. In February 1994, interest rate movements in the United States and exchange rate movements around the world led to large losses for a number of banks and other investors. Portfolio managers began to reassess their investments and look for ways to reduce their exposure to risk. Political events also prompted investors to reassess their financial positions in Mexico. First, on January 1, 1994, at the moment NAFTA began implementation, subsistence farmers in the poorest Mexican state of Chiapas revolted against the federal government. Second, in March, the leading presidential candidate was assassinated while campaigning for office. While the lead-up to the signing and implementation of NAFTA had encouraged the view that Mexico was a safe, stable, and modernizing country, these events shocked investors into taking a closer look. Financial prudence seemed to call for reducing the level of exposure to Mexico, and many investors inside and outside the country sold their peso-denominated assets.

Less than three weeks after taking office in early December 1994, President Ernesto Zedillo finally agreed that the peso was overvalued and announced a 15 percent devaluation, from around 3.5 to 4 pesos per dollar. Ordinarily this measure might have been interpreted as a cautious and responsible move to address the problem of an overvalued currency. Unfortunately, currency traders and economists had expected a 20 to 30 percent devaluation, and President Zedillo's actions made it appear as if his administration did not understand the severity of the crisis. Consequently, rather than the calming effect he had hoped for, Zedillo's announcement of a 15 percent devaluation sent currency

(continued)

and financial markets into even greater turmoil. More capital fled the country, dollar reserves shrank, and the credibility of Mexico's exchange rate policies came under severe questioning.

Two days after announcing the devaluation, the government of Mexico announced that it would move to a floating exchange rate system. Although this was the right move, the damage had been done, and both foreign and domestic capital continued to leave the country. The currency continued to fall; by late December, it was over 5 pesos per dollar, and by the middle of March 1995, it was over 7 per dollar. This was a loss of more than 50 percent of its value compared to early December 1994 (see Figure 12.1).

Zedillo addressed the short-run problems of the crisis by seeking financial support from the NAFTA partners and the IMF. Relief came in late January 1995, in the form of a line of credit and loans. Within weeks, currency markets were calmed down and the rate of capital flight slowed as the holders of pesodenominated assets began to relax in the knowledge that the government would be able to convert any amount of pesos to dollars. The peso regained some of its lost value, and by the end of April 1995, it was trading at 6 per dollar.

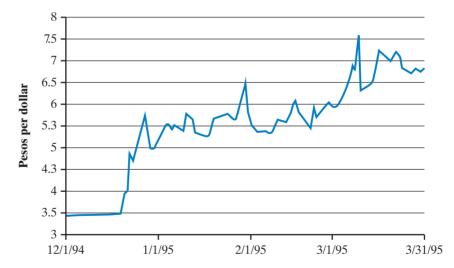


FIGURE 12.1 Pesos per Dollar: December 1, 1994, to March 31, 1995

The peso lost over half its value between December 20, 1994, and March 9, 1995. Source: Data from Federal Reserve Board, © James Gerber.

The medium- and long-run problems were addressed with a package of austerity measures that cut government spending, increased taxes (T up, G down), and reduced consumption. The large current account deficit at the end of 1994 increased the vulnerability of Mexico's financial system to capital flight and had been partly responsible for the draining of dollar reserves. Expenditure

reduction policies were therefore an appropriate step taken to address the crisis because tax increases and government expenditure cuts would help reduce the current account deficit. Electricity prices and gasoline prices were raised (both were supplied through government-owned enterprises), and credit was restricted through steep increases in interest rates and new limits on bank lending. These measures reduced consumption and boosted saving, provided a greater pool of domestic funds for investment purposes, and decreased the country's dependence on foreign capital inflows. However, the fall in consumption and government expenditures brought a recession; Mexico's GDP fell by 6.2 percent in 1995, and more than 500,000 people lost their jobs.

Analysts are still digesting the lessons of the peso collapse, but a few things stand out. For Mexico, the policy of relying on large foreign inflows of world savings through a large financial account surplus (current account deficit) proved to be unstable. Too much of the foreign capital was invested in short-term portfolios rather than longer-term direct investment. This distribution is not inherently unsafe, but once the peso became overvalued, both foreign and domestic investors feared that a surprise devaluation would destroy the value of their assets, and they began to convert large numbers of pesos into dollars. In addition, the peso crisis demonstrated how hard it is to arrange an orderly devaluation in a crawling peg system. Mexico's 15 percent devaluation was a cautious step in the right direction, but instead of calming market fears, it undermined credibility in the exchange rate system. Since then, many economists have argued in favor of completely fixed exchange rates with no discretionary monetary policy, or a floating exchange rate like the one that Mexico has followed since the crisis.

#### **ISSUES IN CRISIS PREVENTION**

## LO 12.3 List and explain three measures countries can take to reduce their exposure to financial crises.

Not all crises are avoidable. Nevertheless, there are steps that countries can take to try to minimize the likelihood of crises and the damage they cause when they happen. In addition to the need to maintain credible and sustainable fiscal and monetary policies, governments must engage in active supervision and regulation of the financial system and provide timely information about key economic variables such as the central bank's holding of international reserves.

In these areas, the design of effective policies is relatively straightforward, but in other areas there is a wide array of expert opinion, and consensus remains elusive. Should countries bail out their banks if they fail, and what type of penalties should they impose if they do? Should they try to limit foreign capital inflows and outflows? Which type of exchange rate system is most stable? It is possible that in some areas there is no single optimal policy for avoiding a crisis and countries have a variety of equally viable options. In those cases, is it also possible that there are choices that are better for some countries, but not others, depending on the conditions inside the country?

#### **Moral Hazard and Financial Sector Regulation**

When a country's financial sector becomes dysfunctional, problems spread to the rest of the economy. Credit dries up, investment disappears, households worry about their lost savings, consumption falls, and the economy slides into recession. Hence, there is a big incentive to keep the financial sector operational.

This creates a dilemma for policymakers, since the knowledge that you will be bailed out if you fail usually leads people to take greater risks and changes the risk-reward calculation for financial institutions. Riskier investments usually offer greater returns, but if some of the risk is removed because there is the possibility of a bailout if there is a failure, then firms will take on more risk in anticipation of more rewards. This is the problem of **moral hazard**. Examples of moral hazards in everyday life include the financial incentive to avoid giving out information about a used car you are selling or divulging negative information about your health when buying life insurance. In these cases, individuals are able to transfer the risk of owning a bad car or insuring an unhealthy person to someone else who will pay the costs. Similarly, bailouts of financial firms give them the opportunity to transfer their risk to governments or taxpayers.

Moral hazard is a greater problem when financial institutions invest other people's money and not their own. In most financial services, depositors or lenders are the source of most working capital used to fund day-to-day operations. Consequently, many economists argue that one key to eliminating moral hazard in financial institutions is to increase **capital requirements** in order to raise the level of capital available in time of crisis. Capital includes items such as shareholders' equity, retained earnings, and bank reserves. These are the assets owned by the firm and its owners, as opposed to assets borrowed from depositors or lenders. Several international agreements regulating bank capital levels, known collectively as the **Basel Accords**, have been signed, including Basel III, which was signed in 2010. Individual countries also have their own rules for capital holding by banks and other financial firms. Nevertheless, there is not a consensus about the level of capital banks should hold. Estimates range from an amount equal to 4 or 5 percent of assets up to as high as 30 percent. Banks generally are opposed to these rules since they limit their ability to raise borrowed funds.

Moral hazard is one type of problem that occurs when buyers and sellers do not have the same information. One of the principles of microeconomic analysis is that market efficiency depends on both sides of the market having the same information about the good or service transacted. Cases where buyers and sellers have different sets of information are known as the problem of **asymmetric information**. Asymmetric information is particularly a problem in financial markets and is one of the theoretical and practical arguments in favor of strong regulations of the financial services sector. Financial advisors typically know more about the portfolio of investments they offer their clients, about their fee structures, and about the financial incentives they have to offer some products and not others. These differences in the information available to financial services firms and their clients run through the entire edifice of the financial services sector.