

CHAPTER 3

Global Waves of Debt: What Goes Up Must Come Down?

The buildup of debt in emerging market and developing economies since 1970 has not followed a linear path. In the past 50 years different countries and regions have experienced surges in debt, often followed by steep declines. Before the current wave of debt that began in 2010, emerging and developing economies experienced three waves of debt accumulation: 1970-89, 1990-2001, and 2002-09. Although each of these waves of debt had some unique features, they all shared the same fate: they ended with financial crises and major output losses.

Introduction

Total (domestic and external) debt of public and private nonfinancial sectors in emerging market and developing economies (EMDEs) has increased dramatically over the past half-century, rising from 47 percent of gross domestic product (GDP) in 1970 to about 170 percent in 2018. Government debt has risen from 26 percent to 50 percent, while private debt has increased sixfold (from 20 percent to roughly 120 percent) during this period. The trajectory of debt accumulation has not, however, been smooth. As documented in detail in chapter 5, individual countries have frequently undergone episodes of rapid debt accumulation by the public sector, the private sector, or both. These episodes sometimes ended in financial crises, which were followed by prolonged periods of deleveraging. Similarly, the characteristics of debt have changed over time, with the importance of external debt waxing and waning and the types of debt instruments used evolving.

Different EMDE regions and sectors have experienced diverse debt developments since 1970. In some regions, there have been waves of debt buildups during which many countries simultaneously saw sharp increases in debt, often followed by crises and steep declines in debt ratios. For example, government debt increased sharply in Latin America and the Caribbean (LAC) and Sub-Saharan Africa (SSA) in the 1970s and 1980s, peaked in the late 1980s in LAC and in the late 1990s in SSA, and subsequently fell. The East Asia and Pacific (EAP) region (excluding China) saw a buildup in private debt in the 1990s, which unwound from 1997 onward. Since the global financial crisis, the EAP region (this time mainly driven by China) has once again seen a rapid accumulation of private debt.

This chapter examines the evolution of debt in EMDEs and identifies “waves” of rising debt—periods in which the increase in debt has been substantial and broad-based across many countries in one or more regions. The construct of waves puts national and regional episodes of rapid debt buildup into a common context that takes into account global developments, provides a comparative perspective across waves, and facilitates a unified analysis of these episodes that takes into account the interaction of global drivers, such as global growth and financial market developments, with country-specific conditions.

The waves of rising debt in EMDEs identified by this study occurred in the periods 1970-89, 1990-2001, 2002-09, and the current period, beginning in 2010. The analysis begins in 1970 because of data limitations for earlier years. The dating of the waves is identified using basic criteria. The end of a wave is broadly defined as the year when the total debt-to-GDP ratio in the region or country group concerned peaks and is followed by two consecutive years of decline. The dating of the end of the waves is also approximately consistent with the timing of policies to resolve the financial crises that the waves engendered. In 1989, for example, Mexico issued the first Brady bonds, marking the beginning of the resolution of the Latin American debt crisis. In 1998-2001, a series of policy programs supported by the International Monetary Fund (IMF) led to debt resolution after the financial crises in East Asia and the Russian Federation. In 2009, many governments implemented large-scale, internationally coordinated policies of fiscal stimulus to combat the adverse effects of the global financial crisis.

In principle, waves could be overlapping (indeed, developments in low-income country [LIC] debt reached across all three historical waves). There are, however, visible surges followed by plateaus or declines in regional EMDE debt. The identification of the waves takes these turning points as convenient start and end points for the episodes.

Using the framework of waves of debt, this chapter answers the following questions in the context of the first three waves of debt buildup since 1970:

- How did the three historical waves of debt evolve?
- What were the similarities between the waves?
- How did the waves differ?

Contributions to the literature. This chapter provides the first in-depth analysis of the similarities and differences among the three historical waves of broad-based debt accumulation in EMDEs since 1970. Each wave contains episodes that have been widely examined in the literature but never put into

a common framework (for example, the Latin American debt crisis and the East Asia debt crisis). Earlier work that has taken a long historical perspective has focused mainly on debt developments in advanced economies, typically based on case studies. As reviewed in chapter 2, for EMDEs, previous studies have often focused on certain periods of debt distress, crises in individual countries, or repeated occurrence of specific types of crises.¹ Other studies have analyzed the evolution of debt instruments over time.²

Main findings. First, the chapter examines the three waves of broad-based and substantial debt buildup by EMDEs before the current wave.

- The *first wave* spanned the 1970s and 1980s, with borrowing primarily accounted for by governments in LAC and LICs, especially LICs in SSA. The combination of low real interest rates in much of the 1970s and a rapidly growing syndicated loan market encouraged EMDE governments to borrow heavily. This debt buildup culminated in a series of crises in the early 1980s. Debt relief and restructuring were prolonged in this wave, ending with the introduction of the Brady plan in the late 1980s mostly for LAC countries, and debt relief in the form of the Heavily Indebted Poor Countries (HIPC) initiative and the Multilateral Debt Relief Initiative (MDRI) in the mid-1990s and early 2000s for LICs, chiefly in SSA.
- The *second wave* ran from 1990 until the early 2000s as financial and capital market liberalization enabled banks and corporations in EAP and governments in Europe and Central Asia (ECA) to borrow heavily; it ended with a series of crises in these regions in 1997-2001.
- The *third wave* was a runup in private sector borrowing in ECA from U.S.- and European Union-headquartered “mega-banks” after regulatory easing. This wave ended when the global financial crisis disrupted bank financing in 2008-09 and tipped several ECA economies into deep (albeit short-lived) recessions.

¹For example, contagion from the Asian crisis has been examined by Baig and Goldfajn (1999); Chiodo and Owyang (2002); Claessens and Forbes (2013); Glick and Rose (1999); Kaminsky and Reinhart (2000, 2001); Kawai, Newfarmer, and Schmukler (2005); Moreno, Pasadilla, and Remolona (1998); and Sachs, Cooper, and Bosworth (1998). De Gregorio and Lee (2004) and Feldstein (2003) compare the crises in Latin America in the 1980s with those of East Asia in the 1990s. For specific types of crises, currency crises have been discussed in Dooley and Frankel (2003) and Edwards and Frankel (2002); Dalio (2018) considers sovereign debt crises.

²Some studies have discussed the evolution of financial instruments, for example, Altunbaş, Gadanez, and Kara (2006) and Borensztein et al. (2004), or specific debt instruments, for example, Arnone and Presbitero (2010) for domestic debt in EMDEs; Cline (1995) for LAC’s experience with syndicated loans and Brady bonds; and Eichengreen et al. (2019) for two millennia of government debt instruments.

Second, the chapter distills similarities among these three waves. They began during prolonged periods of low real interest rates and were facilitated by financial innovations and changes in financial markets that encouraged borrowing. The waves ended with widespread financial crises and coincided with global recessions (1982, 1991, and 2009) or downturns (1998 and 2001). These crises were typically triggered by shocks that resulted in sharp increases in investor risk aversion, risk premiums, or borrowing costs, followed by sudden stops of capital inflows. These financial crises were generally costly and were usually followed by reforms designed to lower financial vulnerabilities and strengthen policy frameworks. In some EMDEs, various combinations of inflation targeting, greater exchange rate flexibility, and fiscal rules were introduced, and financial sector supervision was strengthened.

Third, the chapter points to important differences among the three completed waves. The financial instruments used for borrowing have evolved as new instruments or financial actors have emerged. The nature of EMDE borrowers in international financial markets has changed, with the private sector accounting for a growing share of debt accumulation through the three waves. The severity of the economic damage done by the financial crises that ended the waves varied among them, and across regions. Output losses were particularly large in the wake of the first wave, when most debt accumulation had been by government sectors.

This chapter proceeds as follows: The first three sections examine the three historical waves in detail, following a consistent framework—each section begins with a discussion of the financial market changes that facilitated borrowing and continues with a deep dive into the features of each wave, such as macroeconomic and debt developments, the financial crises, and subsequent debt restructuring. Each section then examines reforms to regulatory policies and macroeconomic policy frameworks in response to the crises in each wave. The subsequent two sections compare the three waves and identify commonalities and differences among them. The chapter concludes with a brief summary.

The first wave, 1970-89: Crises in Latin America and low-income countries

The first wave spanned the 1970s and 1980s as EMDE governments in LAC and LICs, predominantly LICs in SSA, borrowed heavily from commercial banks in syndicated loan markets. In LAC, the debt buildup resulted in a

crisis that coincided with the global recession of 1982 and was marked by widespread debt distress among borrowers in the region. Attempts at resolving the debt crisis were, at first, ineffective. The Brady plan, and issuance of Brady bonds in 1989-90, eventually began the process of effective resolutions.

In LICs, especially in SSA, levels of debt were much lower in nominal terms than in LAC, although they became very high relative to GDP over the same period. Many of these countries also experienced financial difficulty and faced sovereign debt crises in the 1980s; however, debt relief was provided only in the late 1990s to early 2000s under the HIPC initiative and the MDRI, with debt-to-GDP ratios peaking in the mid-1990s at more than 100 percent.

Financial market developments: Rise of the syndicated loan market

Limited availability of debt financing before 1970. In the aftermath of World War II, EMDEs (many of which had only recently gained independence from colonial governments) generally did not have access to foreign private sector creditors. Debt flows were largely accounted for by intergovernmental loans and multilateral institutions (Eichengreen et al. 2019).³ Total debt levels were relatively low, with borrowing mainly by the public sector. The World Bank began lending to non-European countries in the late 1940s, starting with a \$13.5 million loan to Chile in 1948 for a hydroelectric power generation project (World Bank 2016). This period also saw the creation of the International Finance Corporation in 1956 to stimulate private sector lending to EMDEs and of the International Development Association in 1960 to provide concessional lending to lower-income countries unable to access finance because of their high credit risk, although total amounts were relatively modest.⁴

Rise of syndicated loans. The structure and size of EMDE debt markets changed dramatically in the 1970s with the development of the syndicated loan market. Under a syndicated loan, a group of banks would lend to a single borrower, sharing the associated risk (Gadanecz 2004). Although initially developed in Europe to help fund corporations, syndicated loans

³ Access to debt markets for EMDEs had largely ended with the Latin American debt crises of the 1930s (Eichengreen et al. 2019).

⁴ By early 1960, most advanced economies had established their own development agencies—for example, the U.S. Agency for International Development in the United States—partly to counterbalance the influence of the Soviet Union in newly independent states in Africa and Asia (Lancaster 2007).

proved to be an effective way to lend to large borrowers, including sovereigns.⁵ The syndicated loan market for sovereign borrowers was dominated by U.S. banks, which saw the market as an opportunity to offset declining domestic loan demand in the 1970s—lending to large U.S. corporates had fallen as they increasingly accessed the commercial paper market (FDIC 1997). The syndicated loan market expanded dramatically, with new issuance rising from \$7 billion in 1972 to \$133 billion in 1981. Loans were typically offered at variable interest rates pegged to the three- or six-month London Interbank Offered Rate, which proved to be a critical vulnerability when global interest rates increased sharply in the late 1970s (Bertola and Ocampo 2012).

Recycling petrodollars. The syndicated loan market was also boosted by the oil price shocks of the 1970s, which led to large global current account imbalances, with substantial surpluses in oil-exporting countries and corresponding deficits in importers, including EMDEs. Syndicated loans provided a way for the oil exporters' surpluses to be "recycled" to finance the importers' deficits (Altunbaş, Gadanez, and Kara 2006). The growth in lending was also spurred by real low interest rates. Nominal U.S. policy rates averaged about 7 percent between 1970-79, but real rates were much lower, and even negative in several years, as a result of high inflation.

The combination of low interest rates and substantial liquidity provided strong incentives for EMDEs to borrow heavily (Devlin 1990). Although many EMDEs borrowed externally in the 1970s, the buildup in debt was greatest in LAC, which accounted for over half of all debt flows to EMDEs in 1973-81 and formed the center of the subsequent debt crises (Bertola and Ocampo 2012). Some SSA countries were also affected by these developments, with countries including Liberia, Nigeria, Senegal, and Zambia also making use of the syndicated loan market (Krumm 1985). External debt-to-GDP ratios in LICs rose, on average, from 13 percent in 1970 to 46 percent in 1982.

The Latin American debt crisis

Precrisis developments. In the aftermath of the Second World War, most LAC economies adopted industrialization policies based on import

⁵ Syndicated lending initially arose in Europe with the development of the Eurobond market, which allowed investors to access dollar bonds outside the United States and issuers to avoid U.S. listing and disclosure requirements. Eurodollar bonds were initially designed for corporates to fund subsidiaries (Chester 1991).

substitution (Bruton 1998).⁶ This development strategy encouraged the domestic production of goods that were previously imported. In addition to protectionist policies, such as tariffs and exchange rate controls, many governments used external borrowing to finance projects, including infrastructure designed to support specific domestic industries and direct investment in heavy industries (Baer 1972; Bruton 1998; Diaz-Alejandro, Krugman, and Sachs 1984).

As discussed in chapter 2, debt accumulation raises fewer concerns if it is used to finance investment that increases a country's potential output, and therefore its ability to repay loans in the future (World Bank 2017a). The import substitution strategy in LAC, however, focused on establishing domestic manufacturing industries to meet domestic demand, with little consideration for comparative advantage. There was little focus on promoting exports, with protectionist measures acting as a constraint on export growth—in sharp contrast with other EMDEs, notably in EAP, which employed active export promotion policies (Balassa 1982; Sachs 1985). Despite a large increase in the share of manufacturing in GDP among LAC countries, they had only a modest increase in the share of manufactures in total exports, with primary commodities continuing to account for the bulk of exports.

Import protection and the lack of access to external markets meant that domestic industries were not exposed to international competition and were also unable to benefit from economies of scale, which was a particular issue for industries with high fixed costs, such as steel, which typically suffered from underutilization (Scitovsky 1969). Together, these factors meant that rising investment (and debt) did not translate into higher potential growth and, crucially, higher exports. As such, external debt became increasingly unsustainable in LAC (Catão 2002).

Growing debt, robust growth. In the 1970s, borrowing from abroad started to pick up in several LAC countries as the syndicated loan market increased the availability of lending at low rates of interest.⁷ GDP in LAC grew rapidly

⁶The import substitution strategy was a response to the Prebisch-Singer hypothesis that primary resource-exporting countries would face a terminal decline in their terms of trade against advanced economies exporting manufactures (Prebisch 1950; Singer 1950). For an early review of industrialization policies involving import substitution in LAC, see Baer (1972). Rodrik (2000) presents an alternative perspective that emphasizes the role of macroeconomic mismanagement (rather than import substitution) in financial crises in LAC.

⁷Advanced economies experienced negative real interest rates for most of the 1970s. The sharp increase in world oil prices triggered a global recession in 1975 with a substantial pickup in inflation and a significant weakening of growth in a number of countries. This recession marked the beginning of a half-decade of stagflation in many advanced economies (Kose, Sugawara, and Terrones 2020).

in the decade, by 6 percent per year on average, and the level of GDP per capita rose by 50 percent between 1970 and 1980 (figure 3.1). In some LAC countries, governments borrowed to fund public investment, which was reflected in both growing fiscal deficits and a rising share of public investment in GDP. As indicated previously, much of the borrowing financed less productive uses; some was also used to finance government current spending, such as higher public sector wages.

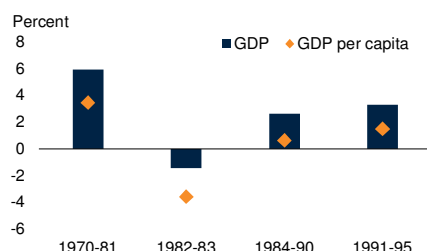
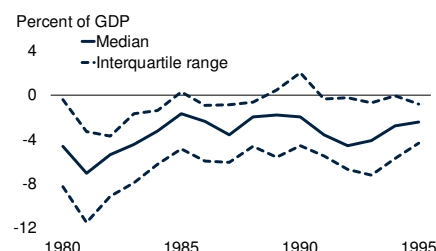
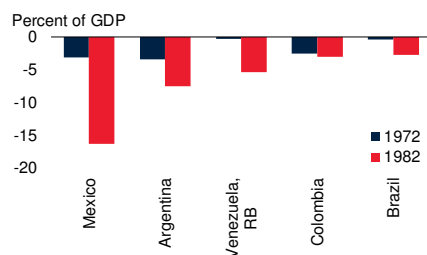
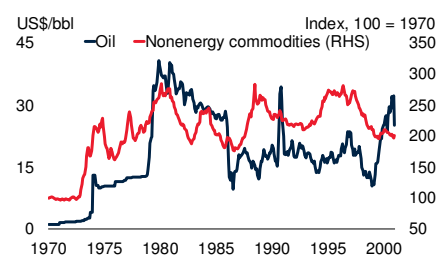
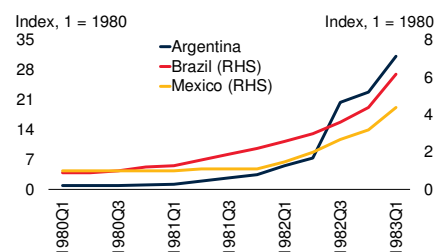
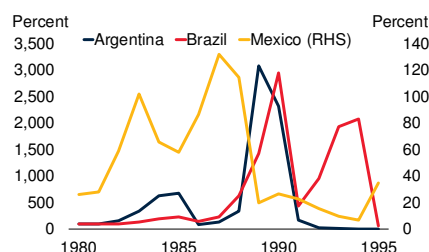
External borrowing, particularly by the public sector, accelerated after the first oil price shock of 1973. Fiscal deficits steadily deteriorated over the next few years, particularly in Mexico. Current account deficits also widened in several countries, partly as a result of higher oil prices, with the median deficit increasing from 1.9 percent of GDP in 1970 to 7.0 percent of GDP in 1981. External debt-to-GDP ratios rose from 23 to 43 percent of GDP between 1975 and 1982, and the share of external debt accounted for by short-term debt rose to about one-fifth (figure 3.2). The rise in external debt varied among LAC countries, with the largest increases in Argentina, Mexico, and República Bolivariana de Venezuela. The increase in external debt was primarily accounted for by the public sector, with its share rising to almost 80 percent of total debt by the early 1980s, from 60 percent in 1970. The importance of the syndicated loan market in funding this increase in sovereign borrowing was reflected in the composition of creditors to LAC: the share of external debt owed to private sector banks increased from 42 percent in 1970 to 75 percent in 1982, with a commensurate fall in funding from the official sector.

Deteriorating debt dynamics. In 1979, a second spike in oil prices followed the Iranian revolution, with prices more than doubling from \$17 per barrel at the start of the year to \$40 per barrel by the end. The rise in prices resulted in weaker growth and a spike in inflation in oil-importing economies. In response to rising domestic inflation, the U.S. Federal Reserve under chairman Paul Volcker raised the federal funds rate from 11 percent in 1979 to a high of 20 percent in June 1980. The associated sharp jump in global interest rates was rapidly transmitted to the cost of borrowing for LAC countries, given their reliance on variable-rate debt, which accounted for more than half of total debt in 1982.

Interest payments on external debt by LAC countries rose sharply, from an average of 1.6 percent of GDP in 1975-79 to 5 percent of GDP by 1982, and interest payments jumped from 15 percent of exports to 33 percent of exports during the same period. The difficulty of LAC countries in servicing their debt was exacerbated by the subsequent slowdown in global growth, because it led to falling commodity prices and weaker demand for exports,

FIGURE 3.1 The first wave: Crisis in Latin America and the Caribbean

The 1970s represented a period of rapid growth for many LAC countries, but vulnerabilities were increasing, with large current account and fiscal deficits. Toward the end of the decade, a spike in oil prices and, especially, a rise in global interest rates resulted in substantial pressure on LAC economies. Many economies experienced currency crises and were forced to repeatedly devalue their currencies, with some seeing episodes of hyperinflation in later years.

A. LAC: Growth**B. LAC: Current account balance****C. Central government fiscal balance in selected countries****D. Commodity prices****E. Exchange rates****F. Inflation rates**

Sources: Haver Analytics; International Monetary Fund; World Bank.

Note: bbl = barrel; LAC = Latin America and the Caribbean.

A. GDP weighted average across 32 LAC countries.

B. Dashed blue lines denote the interquartile range; solid blue line is the median. Sample includes 31 LAC economies.

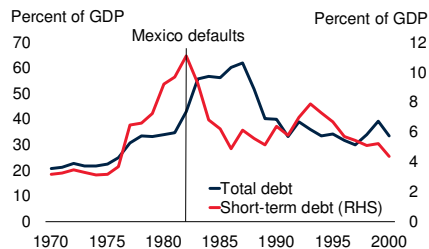
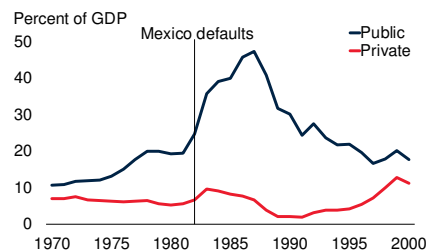
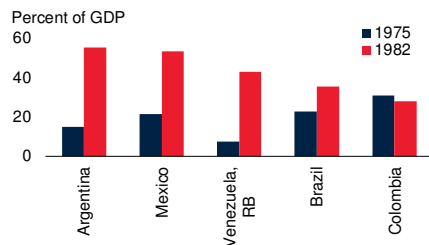
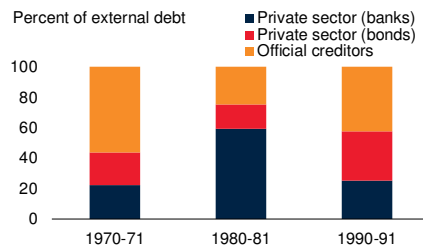
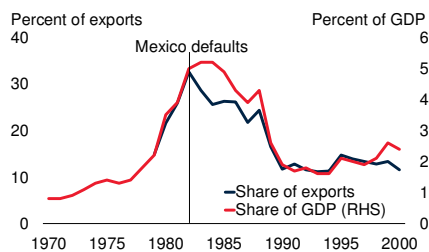
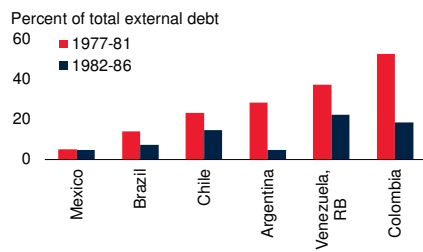
D. Nominal U.S. dollar prices.

E. Defined as local currency per U.S. dollar. An increase is consistent with a depreciation in the currency.

F. Annual average inflation.

FIGURE 3.2 The first wave: Debt developments in LAC

Debt levels in LAC rose during the 1970s, driven by external debt. The growing popularity of syndicated loans resulted in a sharp rise in borrowing from overseas private sector banks. Interest payments relative to GDP and to exports rose rapidly in the buildup to the crisis, whereas international reserve levels fell sharply in several economies amid sustained currency pressures.

A. LAC: Total external debt**B. LAC: Long-term external debt, by sector****C. External debt in selected countries****D. LAC: External debt, by creditor****E. LAC: Interest payments on external debt****F. Foreign exchange reserves in selected economies**

Source: World Bank.

Note: LAC = Latin America and the Caribbean.

A.B.D.E. Sample includes 24 economies.

A. External debt classed as "short-term" when maturities are less than 12 months.

B. "Long-term" external debt has maturity of more than 12 months.

D. Long-term debt only. Private sector (bonds) includes "other" private sector lending.

which resulted in deteriorating terms of trade for LAC countries. Most advanced economies experienced a recession in the early 1980s, with the United States experiencing a double-dip recession in 1980 and 1982.⁸

In addition, interest payments became increasingly difficult to service given the large share of short-term debt that needed to be rolled over at rising interest rates. Debt service payments averaged about 150 percent of exports in 1980-83, ranging from 118 percent in Peru to 215 percent in Argentina (Sachs 1985). As debt levels became increasingly unsustainable, the availability of credit began to dry up, and countries found it more difficult to roll over debt.

Crisis in Latin America. The Latin American debt crisis began in 1982 when Mexico announced that it would not be able to service its debts. The crisis spread rapidly to other LAC countries, and also to EMDEs outside the region, including Algeria, Niger, and Nigeria. In total, 40 countries fell into arrears on their debt payments, and of the 27 that had to restructure their debts, 16 were in LAC (FDIC 1997).

The crisis was compounded by exchange rate arrangements in LAC, with most countries' currencies pegged to a generally appreciating U.S. dollar. Currencies became significantly overvalued as countries maintained their pegs in attempt to control inflation (Díaz-Alejandro, Krugman, and Sachs 1984). Such overvaluation contributed to large-scale capital flight, with Argentina, Mexico, and República Bolivariana de Venezuela collectively experiencing capital flight of \$60 billion, equivalent to 67 percent of their gross capital inflows (World Bank 1985). Most countries in LAC experienced downward pressure on their currencies and were forced to defend their currency pegs with currency reserves. Reserve levels proved insufficient, however, and many countries had to sharply devalue their currencies. Between 1981 and 1983, Argentina devalued its currency by two-fifths, Brazil by one-fifth, and Mexico by one-third against the U.S. dollar.

Debt resolution

Baker plan and rescheduling. The Paris Club group of economies initially viewed the debt distress in Latin America as a liquidity problem, rather than

⁸ The global economy experienced a recession in 1982 that was triggered by several developments, including the second oil price shock, the tightening of monetary policies in advanced economies, and the Latin American debt crisis (Kose and Terrones 2015). The sharp rise in oil prices helped push inflation to new highs in several advanced economies, and in response, monetary policies were tightened significantly, causing sharp declines in activity and significant increases in unemployment in many advanced economies in the early 1980s.

a solvency issue.⁹ They therefore responded by rescheduling debt payments (conditional on an IMF-supported policy program) and by attempting to encourage new loans from commercial banks. When this approach proved unsuccessful, it was followed in 1985 by the Baker plan, which again emphasized new lending, conditional on market-oriented reforms designed to return countries to growth. The Baker plan also failed, in part because it was unable to encourage additional lending from the private sector (the share of private lenders in total external financing fell sharply, from 78 percent in 1980-81 to 56 percent in 1990-91) but also because it did not recognize that countries were, in fact, insolvent.

The counterpart to a falling share of private lenders was a rising share of debt owed to the official sector, with new loans often being used to clear arrears on private sector debt (Sachs 1989). The increase in debt owed to the official sector was accounted for largely by the Paris Club group of creditor countries, and, to a lesser extent, by multilateral institutions (Dicks 1991).¹⁰ The prolonged period of debt rescheduling in part reflected an aversion by advanced economies, particularly the United States, to accept outright debt defaults (Dooley 1994). Policy makers in the United States were worried about the solvency of U.S. banks, given their large exposure to LAC: the nine largest money-center banks in the United States held LAC debt equal to 176 percent of their capital (Sachs 1988; Sachs and Huizinga 1987).¹¹ An official debt restructuring, with its associated haircuts, would have forced banks to realize losses on their investments, which could have resulted in a wave of insolvencies among U.S. banks.

Brady bonds and debt forgiveness. In 1989, the U.S. administration launched the Brady plan as a way of finally resolving the Latin American debt crisis by providing debt relief via the securitization and restructuring of existing loans into bonds. The plan reflected a shift from the previously prevailing view that debtors should pay what they owed, to an acceptance that debtors should pay what they could afford. In part, this shift reflected the problem that a “debt overhang”—high levels of unserviceable debt—would discourage investment and constrain economic growth. Thus, debt

⁹The Paris Club is an informal group of creditor governments originally set up by governments belonging to the Development Assistance Committee of the Organisation for Economic Co-operation and Development, with the purpose of finding solutions for countries facing debt difficulties, typically lower-income countries.

¹⁰The multilateral institutions had preferred creditor status and did not allow rescheduling or debt relief on their loans.

¹¹Money-center banks typically rely on nondeposit funding and lend to sovereigns, corporates, and other banks, as opposed to households.

relief could be beneficial for creditors as well as debtors, because it could boost growth prospects and reduce the ultimate loss for investors (Goldberg and Spiegel 1992). In addition, the seven years that had elapsed since the start of the crisis had provided time for U.S. banks to build up capital and loan-loss provisions, reducing solvency concerns (FDIC 1997).

Mexico was the first country to agree to a Brady plan, in 1989. The scheme was voluntary and gave creditors three options: existing loans could be swapped for 30-year “debt reduction bonds,” with a 35 percent haircut and an interest rate slightly above the London Interbank Offered Rate; loans could be swapped for 30-year bonds at full value, but with a substantially below-market interest rate; or banks could provide new loans equal to 25 percent of their existing exposure over three years (Cline 1995).

The three options allowed creditor banks to set their exposure to Mexico at anywhere between 65 and 125 percent of their pre-Brady level (Unal, Demirgüç-Kunt, and Leung 1993). In exchange for receiving debt relief, Mexico was to purchase U.S. Treasury securities, with substantial financial assistance from international financial institutions including the IMF and World Bank, in order to collateralize both the principal and interest of the new bonds. These bonds became known as “Brady bonds.” Of the about 500 creditor banks to Mexico, 49 percent took the first option of outright debt relief, 41 percent took the second option with full value but lower interest rates, and 10 percent chose the third option of new lending (Vasquez 1996). Of Mexico’s \$47 billion of eligible debt, just over \$14 billion was forgiven, providing debt relief of about 30 percent.

The Mexico debt restructuring set the stage for other countries to negotiate Brady plans, with the largest for Brazil (\$50 billion of eligible debt), Argentina (\$29 billion), and República Bolivariana de Venezuela (\$19 billion). By 1994, 18 countries had agreed to their own (similar) versions of Brady plans, which represented about \$190 billion in debt and resulted in debt forgiveness of \$60 billion—a reduction in face value of just over one-third.¹² The market-oriented nature of the Brady plan helped boost confidence among international creditors and facilitated a rapid return to capital markets by the affected countries (Cline 1995; Dooley, Fernandez-Arias, and Kletzer 1996).

¹² Although economies in LAC accounted for the majority of Brady plan participants, other countries, such as Nigeria, the Philippines, and Poland, also issued Brady bonds—these countries had also experienced sovereign debt crises during the early 1980s (World Bank 2004).

Macroeconomic implications of the LAC crisis: A lost decade. The debt crisis had severe economic consequences for LAC, resulting in a “lost decade” of growth, after which GDP per capita recovered to its precrisis level only in 1993. During the crisis years of 1982-83, per capita GDP in LAC fell by an average of 3.1 percent per year. The crisis resulted in sharp currency depreciations, which exacerbated the deterioration in debt-to-GDP ratios, because most debt was denominated in U.S. dollars. Depreciations also triggered episodes of high or hyperinflation in a number of countries (Sachs 1985). The currency crises and associated reductions in capital inflows required countries to reduce current account deficits, and the median deficit narrowed from 7.0 percent of GDP in 1981 to 1.7 of GDP by 1985. These reductions were achieved, however, by import compression resulting from sharp contractions in domestic demand, especially investment, which had major adverse effects on future growth.

In the subsequent period until the granting of debt relief (1984-90), per capita GDP growth recovered, but at a subdued pace of 0.6 percent per year, on average. Growth strengthened further following debt relief but remained well below its precrisis rates. Investment ratios fell in the most affected countries and remained subdued even after the crisis.

An example of resilience: Colombia. Colombia was the least affected Latin American country during the region’s crisis, avoiding a sovereign debt crisis and restructuring (Laeven and Valencia 2018). Colombia’s resilience was due to stronger macroeconomic fundamentals and better debt dynamics relative to those of its peers (Bagley 1987). In the years before the crisis, Colombia had large fiscal and trade surpluses, reduced its external debt from 31 percent of GDP in 1975 to 22 percent in 1980, and accumulated the largest foreign exchange reserves, relative to debt, among the main LAC countries. These factors allowed Colombia to weather the crisis well, despite contagion in the form of reduced availability of external finance and currency depreciation.

Policy changes

Major shift in economic policy consensus. The crisis in Latin America prompted a shift in economic policy away from import substitution toward programs of adjustment and market-orientated reforms supported by the IMF and World Bank, described by one observer as being in line with a “Washington Consensus” (Williamson 1990). These programs were designed to achieve macroeconomic stability and external viability and to boost output and export growth; they generally included fiscal discipline, competitive exchange rates, privatization of state-owned enterprises, financial

liberalization, and economic deregulation, including the liberalization of trade and inward direct investment (Williamson 2000). Generally, a program of adjustment and reform was required to qualify for financial assistance from international financial institutions and debt relief from the Paris Club.

As a result, many LAC countries liberalized current and capital accounts and strengthened their policy frameworks in the mid-1980s and 1990s (Catão 2002). There was also a substantial shift toward central bank independence: Chile was the first country to implement legislation designed to greatly enhance central bank independence in 1989 and was shortly followed by many other LAC countries (Cukierman, Webb, and Neyapti 1992; Jácome and Vázquez 2008). Central bank independence was introduced in part to restrict monetary financing of fiscal deficits (Carrière-Swallow et al. 2016). Central banks initially aimed to reduce inflation by targeting the exchange rate via crawling pegs. Over time, they gradually adopted flexible exchange rates and inflation targeting mandates.

Some countries in LAC made substantial improvements to their external positions, with a doubling in reserves relative to short-term external debt across the region as a whole between 1981 and 1991. External debt stocks fell from a high of 62 percent of GDP in 1986 to 30 percent in 1997. Current account balances also improved—among the 10 largest economies in the region, current account balances improved by 6 percentage points of GDP between 1982 and 1990.

Low-income country debt crisis and relief

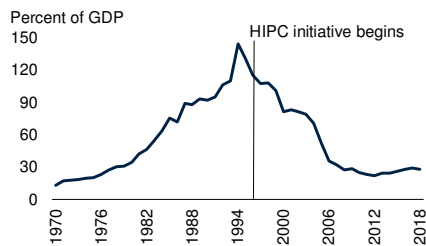
Prolonged debt buildup. Many LICs, particularly in SSA, also borrowed heavily in the 1970s and 1980s. External debt rose from 13 percent of GDP in 1970 to 46 percent in 1982, primarily accounted for by the public sector (figure 3.3).¹³ LICs generally had limited access to private sector lending and relied instead on direct bilateral loans from other governments and their export credit agencies, or private loans that were backed by an export credit agency (Daseking and Powell 1999). Several countries, however, were able to access the syndicated loan market, which contributed to the share of multilateral and bilateral debt in LIC external debt falling from 82 percent in 1970 to 74 percent in 1979.

¹³ Throughout this section, “LICs” refers to countries with a GNI per capita of \$1,005 or less in 2016. From 1987, the World Bank provides income classifications, including for LICs and lower-middle-income countries (LMICs). For previous years, the term LICs is used as in Daseking and Powell (1999).

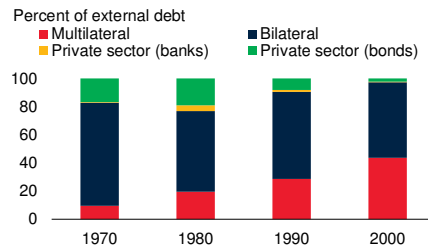
FIGURE 3.3 The first wave: Debt developments in LICs

The debt-to-GDP ratio in LICs rose steadily from the 1970s to the early 1990s. The share of debt held by the official sector rose, whereas that of the private sector shrank. As debt levels and interest payments became unsustainable, many LICs fell into arrears and requested rescheduling. Per capita growth in LICs was negative for many years before debt relief in the late 1990s.

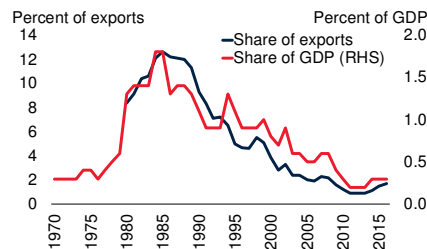
A. LICs: Total external debt



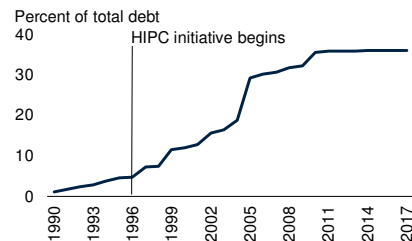
B. LICs: Government debt, by creditor



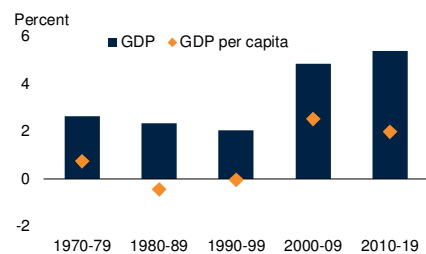
C. LICs: Interest payments on external debt



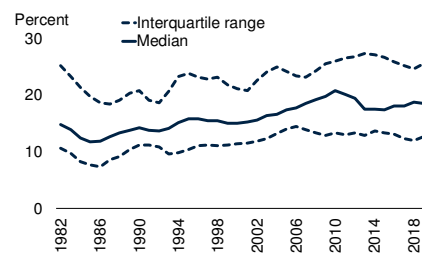
D. Cumulative debt relief in LICs



E. LICs: Growth



F. LICs: Total investment



Sources: International Monetary Fund; World Bank

Note: LICs = low-income countries.

A.-C. Sample includes 29 LICs, defined as countries with a gross national income per capita of \$1,005 or less in 2016.

B. Long-term debt only. Private sector (bonds) includes "other" private sector lending.

D. Cumulative debt relief since 1990, as a share of total debt in 1996, when the Heavily Indebted Poor Countries (HIPC) initiative began.

E.F. Sample includes 25 countries.

LIC governments initiated externally financed projects in the hope that these would spur growth. But as with LAC countries, debt was often used to finance investment in uncompetitive domestic manufacturing, investment in infrastructure of questionable value, and expansion of current spending, rather than to finance productive expenditures that could boost exports or potential output (Greene 1989). Thus, projects financed by debt were often unproductive or economically unviable (Krumm 1985). Debt burdens in several countries in this period were also exacerbated by conflict and civil strife (Cameroon, Democratic Republic of Congo, and Zambia; IMF 1998).

Unsustainable debt levels. Facing many of the same challenges as LAC countries, including rising interest rates and deteriorating terms of trade, LICs found it increasingly difficult in the 1980s to service their debt obligations, with many falling into arrears. Countries that had borrowed on the syndicated loan market at variable rates were particularly affected (Democratic Republic of Congo, Côte d'Ivoire, Malawi, Niger, Senegal, and Zambia; IMF 1998).

Whereas the Latin American crisis was eventually resolved via debt forgiveness and restructuring, the resolution of debt crises in LICs was even more prolonged, with durations of default averaging 13 years and in several cases significantly longer. Multilateral organizations, including the IMF and World Bank, provided financial support for adjustment and reform programs, while the Paris Club official creditors agreed to “flow rescheduling,” under which delays in debt principal and interest payments were allowed during the period of an IMF program.

Despite helping with liquidity issues, these policies resulted in a further steady increase in debt stocks: Average debt of LICs exceeded 100 percent of GDP by 1994 (Daseking and Powell 1999). Many countries had repeated reschedulings in this period, with the average LIC country agreeing to four reschedulings of debt with the Paris Club between 1980 and 1996, highlighting the failure of this approach to provide lasting resolution to the debt issue (Callaghy 2002). New loans from official creditors were often used to pay interest on loans to private creditors, so that by 1996 the share of external LIC debt owed to the private sector had fallen below 10 percent (Easterly 2002; Sachs 1989).

Debt resolution: HIPC initiative and MDRI. In response to the worsening debt crisis in LICs, creditors gradually acknowledged that the debt owed by many of those countries was unlikely to be repaid, and the discussion moved to debt relief (Sachs 1986). Reducing the burden of debt to sustainable levels

would free fiscal resources for socially beneficial spending, improve growth and investment prospects, and enable LICs to return to solvency (Sachs 2002). The Paris Club actively shifted from debt rescheduling to partial debt forgiveness with the “Toronto” and “Naples” menus of debt resolution options agreed in 1988 and 1994 (Easterly 2002). A major development was the announcement by the IMF and World Bank, together with other multilateral and bilateral creditors, of the HIPC initiative in 1996, which aimed to provide comprehensive debt relief to LICs by bringing debt down to “sustainable” levels (defined by the IMF and World Bank).

Under the scheme, countries would adhere to a set of economic policies and reforms agreed with the IMF and World Bank for a period of six years, at the end of which countries would be eligible for debt relief from multilateral institutions, official creditors, and commercial creditors. Debt relief by multilaterals represented a significant change from the previous policy that debt owed to these institutions was nonreschedulable given their preferred creditor status (Cosio-Pascal 2008). Progress under the HIPC initiative was very slow, however, and not all highly indebted countries were eligible to join: only 7 of the 39 HIPCs were participating in the program after three years (Callaghy 2002).

In response to these concerns, the enhanced HIPC initiative, launched in 1999, was designed to provide faster access to debt relief for countries. The program also had substantial conditionality, in particular a greater focus on poverty reduction, with countries required to spend fiscal savings from debt relief on increases in poverty-reducing programs, such as health and education. The enhanced HIPC was followed in 2005 by the MDRI, which provided further resources for debt forgiveness, particularly for countries with per capita annual income below \$380. Only debt held by the multilateral institutions was reduced under this program, with potential debt relief of up to 100 percent on eligible debt (IMF 2006).

A total of 36 countries were granted debt relief under the HIPC initiative and the MDRI between 1996 and 2015, which helped reduce the median public debt-to-GDP ratio among LICs from close to 100 percent of GDP in the early 2000s to a trough of just over 30 percent of GDP in 2013 (table D.1 in appendix D).¹⁴ The total cost of the HIPC program to date has been \$76.9 billion, of which \$14.9 was provided by the International Development Association, \$4.6 billion by the IMF, \$22 billion by Paris

¹⁴Eritrea, Somalia, and Sudan are potentially eligible for debt relief but have not yet started the process.

Club official creditors, and the remainder by other multilateral creditors (World Bank 2017b). Debt relief under the MDRI has totaled \$42.4 billion, of which \$28.9 billion was provided by the International Development Association.

Macroeconomic developments: Anemic growth, followed by rebound. Although GDP growth was robust in the 1970s, it was persistently weak in the subsequent two decades, averaging just 2.2 percent between 1980 and 1999. GDP per capita fell over this period, by 0.2 percent per year, amid rapid population growth. In addition, the ratio of investment to GDP remained low, despite rising debt, and countries ran persistent fiscal and current account deficits. Weak growth may in part have reflected the fact that high debt “overhangs” inhibited investment and growth (Krugman 1988; Sachs 1988). Moreover, heavy official inflows—direct grants or loans—may have contributed to Dutch disease in LICs, in that these inflows encouraged currency overvaluations and undermined export competitiveness, thus damaging longer-term growth (Nkusu 2004; Rajan and Subramanian 2011).

In the decade after debt relief, growth rebounded, investment and social spending rose, and the number of LICs halved. GDP per capita growth in the LICs of 2001 averaged 2.9 percent a year between 2001 and 2011. Almost half of LICs in 2001 had graduated to middle-income country status by 2017, and about one-third of these had received debt relief (World Bank 2019a). Poverty-related expenditure in the HIPC program countries—primarily spending on health care and education—rose by 1.5 percentage points of GDP (cumulatively) between 2001 and 2015 (World Bank 2017b). Besides debt relief, other factors contributed to these developments, including robust global growth in the period before the global financial crisis, the prolonged commodity price boom over the 2000s, and a reduction in conflict and violence in LICs (Essl et al. 2019).

The second wave, 1990-2001: The East Asian financial crisis and its aftermath

Another wave of debt growth began in the early 1990s. This wave was notably different from the first, with private sector debt accumulation playing a greater role. Policy changes affecting financial markets in the 1990s led to a surge in capital flows to EMDEs. Corporates in the EAP region, and sovereigns in ECA (and, to some extent, in LAC), accumulated substantial amounts of short-term, external debt. A decline in global interest rates after the slowdown in advanced economy growth in 1990-91 also encouraged

capital flows to EMDEs.¹⁵ Following a currency crisis in Mexico in 1994, however, contagion spread to some other LAC economies and EMDEs in other regions. In 1997, a sudden stop and reversal of capital flows triggered the East Asian financial crisis, concentrated in the private sector, which ushered in the global downturn of 1998.¹⁶ The crisis also spilled over to other countries, including Argentina, Russia, and Turkey, in the late 1990s and early 2000s (Calvo and Mendoza 2000a, 2000b; Edwards 2000).

Financial market developments: Surging capital inflows

Surging capital inflows. Policies of financial market liberalization and more open capital accounts in several advanced economies in the 1980s and 1990s contributed to a surge in capital flows to EMDEs. Deregulation of banking and securities markets, including in the United Kingdom and the United States, led to substantial consolidation in the banking sector and a shift toward larger banks, with increased international operations, and to an expansion in international finance. These changes, together with financial market and capital account liberalization in EMDEs, particularly the EAP region in the late 1980s and early 1990s, facilitated significant increases in capital flows from advanced economies to EMDEs (Sachs, Cooper, and Bosworth 1998; Schmukler and Kaminsky 2003).

Net capital flows to EMDEs were close to zero in 1989-90 but rose rapidly and averaged 3.3 percent of EMDE GDP between 1991 and 1997. Although about one-third of the capital inflows were foreign direct investment, most were portfolio and other flows, with a large proportion accounted for by debt, often at short maturities. Between 1988 and 1996, the total stock of external debt in EMDEs grew at an average rate of 7 percent per year, while short-term debt grew by 12 percent per year, and the share of short-term debt rose from 12 to 18 percent of total debt.

Emergence of EMDE sovereign bond markets. The 1990s also saw changes in debt markets, with a growing importance of sovereign bonds. The

¹⁵ The global economy experienced a recession in 1991 because of a confluence of factors: a sharp increase in oil prices due to the Gulf War; high inflation and output contractions in many transition economies in Central and Eastern Europe; weakness in credit and housing markets in the United States; severe banking crises in Scandinavian countries; recession and a prolonged period of low growth and near-zero inflation in Japan following the bursting of an asset price bubble; and instability in the European Monetary System's exchange rate mechanism in the European Union (Kose and Terrones 2015).

¹⁶ Private sector debt crises relate to the stance of the balance sheet of corporates affected by both the types and quantity of assets and liabilities. Crises can be triggered by changes in the price of assets relative to debt, through asset or credit bubbles, or through balance sheet mismatches in maturity or currency (Calvo, Izquierdo, and Mejía 2004; Claessens et al. 2014).

conversion of syndicated loans into securitized bonds under the Brady plan of the late 1980s put an end to the dominance of foreign banks in external financing of EMDE governments and helped encourage secondary market activity in EMDE debt. When EMDE sovereigns reentered international credit markets in the 1990s, they did so mainly through bond markets. Bond issuance was increasingly used for general budget financing purposes rather than specific projects. New debt issuance gradually extended maturities and moved from floating-rate to fixed-rate instruments (Borensztein et al. 2004). These developments led to a broadening of the investor base in sovereign debt and contributed to a deepening of financial markets in some EMDEs.

Several factors supported a rapid expansion of the international market for EMDE bonds in the 1990s. By the end of the 1980s, the Eurobond market had become well established with an increasing presence of institutional investors and a liquid secondary market (Chester 1991). Most EMDEs found it difficult to return to syndicated bank loans following the Brady restructuring and turned instead to international bond markets instead. Slowing growth and falling interest rates in the United States in the late 1980s and early 1990s provided incentives for investors to search for higher yields, leading to increased demand for EMDE bonds from U.S. investors. Finally, the implementation of macroeconomic adjustment programs in debtor countries and the collateralized nature of Brady bonds helped build confidence in newly issued sovereign bonds (Eichengreen et al. 2019).

Currency crisis in Mexico

Capital flows reversal. Mexico experienced a currency crisis in 1994 and required assistance from the IMF and others, although it avoided a sovereign debt crisis (Laeven and Valencia 2018). Capital inflows soared after the Brady plan in 1989 and capital account liberalization in the following years. Economic growth recovered, and external debt stocks declined as a share of GDP. Interest payments also fell sharply. By early 1994, however, the economy was increasingly vulnerable, with a growing current account deficit (7 percent of GDP in 1994) and weak growth raising concerns about the international competitiveness of the peso and the fiscal outlook amid procyclically increased spending in an election year. As the government sought to defend the peso, reserves dropped rapidly. In December, the central bank announced a devaluation of the peso of 15 percent.¹⁷

¹⁷ For discussions of the evolution of the 1994 crisis in Mexico, see Boughton (2012), Calvo and Mendoza (1996), and Vegh and Vuletin (2014).

Rather than stabilizing the currency, however, the devaluation resulted in further capital flight, as foreign investors anticipated that the currency weakness would deepen. Pressure on the peso intensified, and stock prices plummeted. The government was unable to roll over dollar-denominated debt and was forced to issue peso debt and convert it into dollars, pushing the government close to default (Lustig 1995). Mexico abandoned its peg in late December 1994, allowing the currency to float, which was followed by a further 15 percent depreciation. GDP in Mexico fell by 6.2 percent in 1995, while inflation rose to 35 percent.

Resolution. A bailout package of about \$50 billion was coordinated by the United States and the IMF in early 1995. The U.S. administration was concerned about the impact on its economy of the economic crisis in its neighbor, through reduced demand for U.S. products; political turmoil; and a potential rise in illegal immigration (Boughton 2012). The bailout package helped contain the crisis and avoided a sovereign debt crisis, but contagion still spread to other countries, notably elsewhere in Latin America. Brazil also experienced a sharp depreciation of its currency, and Argentina tipped into recession, although the impacts were smaller elsewhere. Mexico's recovery from the crisis was relatively fast, with per capita GDP returning to precrisis levels within three years (Kose, Meredith, and Towe 2004).

Financial crisis in East Asia

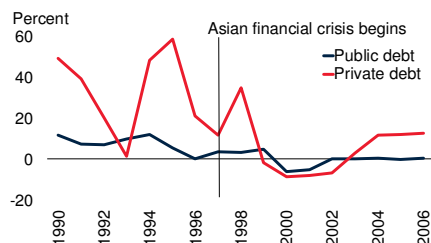
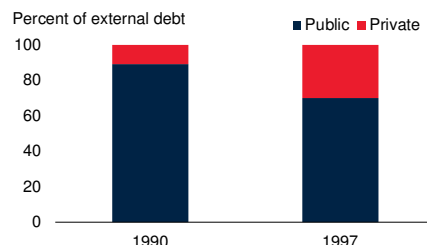
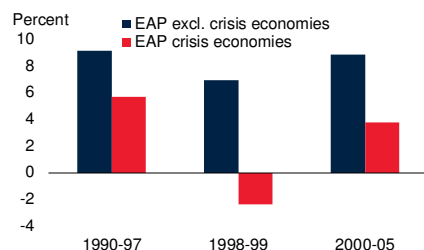
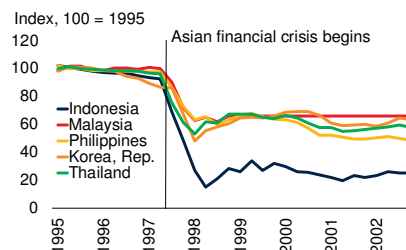
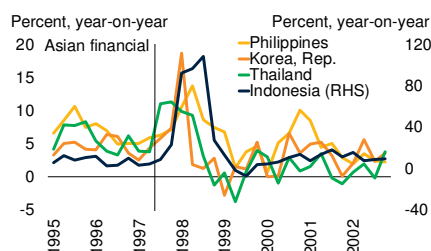
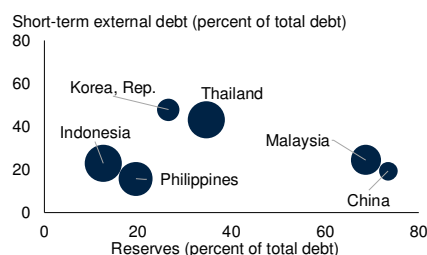
Precrisis buildup in debt. Whereas many EMDEs experienced debt buildups in the 1990s, the EAP region experienced some of the largest, with nominal external debt (primarily denominated in U.S. dollars) growing by 14 percent per year, on average, between 1989 and 1996 (figure 3.4). The buildup of debt was particularly large among the five countries that were subsequently at the center of the Asian financial crisis—Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand.

Despite the speed of the increase in debt, the debt-to-GDP ratio for the region remained broadly flat as GDP also grew rapidly over this period, by 7.5 percent per year on average (World Bank 1993). The relatively flat total debt ratio also masked a sharp rise in private sector debt; government borrowing was contained by generally disciplined fiscal policies, with government debt typically under 30 percent of GDP.¹⁸ Large inflows of short-term capital fueled domestic credit booms in EAP countries, with

¹⁸ A notable exception to low levels of sovereign debt was the Philippines, which had public debt of 60 percent of GDP before the crisis.

FIGURE 3.4 The second wave: Asian financial crisis

Total external debt rose rapidly in EAP in the early to mid-1990s, particularly private sector debt, often at short maturities. During the 1997-98 crisis, currencies plummeted, inflation soared, and output collapsed. Economies with larger short-term debt, as well as smaller reserves, were most affected.

A. EAP: Growth in external debt**B. EAP: External debt, by sector****C. EAP: Per capita output growth****D. Exchange rate in select economies****E. Inflation in select economies****F. Reserves and short-term external debt in selected countries, 1995-96**

Sources: St Louis Federal Reserve; International Monetary Fund; World Bank.

Note: EAP = East Asia and Pacific.

A.B. Includes long-term external debt only.

C. GDP-weighted average. EAP excl. crisis countries contains 7 countries, EAP crisis countries include Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand.

D. Local currency per U.S. dollar. Increase indicates a depreciation relative to the U.S. dollar.

E. Sample based on data availability. Annual average inflation.

F. Size of bubble indicates relative total external debt-to-GDP ratio. Data show average over 1995-96.

rising asset prices and increasing corporate leverage (Kawai, Newfarmer, and Schmukler 2005).

Private debt was primarily financed by commercial banks, with domestic corporations borrowing heavily from abroad, both directly from international lenders and indirectly from domestic financial institutions that in turn accessed international funding. Inadequate bank regulation and supervision, together with implicit government guarantees for banks, encouraged excessive risk taking by the domestic financial sector, allowing already highly leveraged corporates to borrow heavily (Mishkin 1999; Moreno, Pasadilla, and Remolana 1998).¹⁹ The reliance on foreign funding by financial institutions and corporates was exacerbated by exchange rates pegged to the U.S. dollar, which encouraged underestimation of exchange risk.

The counterpart to short-term capital inflows was persistent and widening current account deficits, with the median deficit in EAP averaging about 5 percent of GDP between 1990 and 1996. Whereas capital inflows were used to finance productive investments that might yield export earnings, loans were also invested in nontradable sectors such as commercial real estate (especially in Thailand), and in some cases in inefficient manufacturing enterprises (Krugman 2000; Muchhala 2007). Weak corporate governance, including inadequate oversight of projects and investment decisions and declining profitability, also led to inefficient investment in several EAP countries (Capulong et al. 2000).

The East Asia debt crisis. By 1997, several EAP countries (Indonesia, Korea, Malaysia, the Philippines, and Thailand) had developed excessive reliance on short-term external borrowing and large current account deficits. These vulnerabilities had arisen as a result of several policy failings, including inadequate prudential regulation and supervision, implicit government guarantees for foreign borrowing (including pegged exchange rates), and structural changes in global financial markets. Even though fiscal positions were more soundly based in EAP, these developments made EAP countries increasingly vulnerable to sudden stops—adverse shifts in investor sentiment leading to reversals in capital flows.²⁰ EAP countries eventually suffered

¹⁹ Absent regulation on capital requirements and other restrictions, the amount of risk that a bank undertakes will likely exceed what is socially optimal (Stiglitz 1972).

²⁰ Sudden stops, or balance of payment crises, closely linked to currency crises, are abrupt disruptions in access to external financing (Claessens et al. 2014). The models of sudden stops are linked to the latter models of currency crises in their focus on the currency and maturity mismatches on balance sheets (Calvo, Izquierdo, and Mejía 2004; Mendoza 2010). Many models of sudden stops link these to both domestic factors (or pull factors), such as mismatches on domestic banks' balance sheets, and international factors (or push factors), such as global financing conditions (Forbes and Warnock 2012).

banking and currency crises in 1997-98 (Corsetti, Pesenti, and Roubini 1998; World Bank 1998).

Thailand was particularly susceptible, with one of the highest external debt ratios (63 percent of GDP in 1996) and persistently large current account deficits (8 percent of GDP in 1995-96). In late 1996 and early 1997, investor confidence in Thailand began to drop amid concerns over the sustainability of its external position and exchange rate against a backdrop of slowing export growth and a U.S. dollar that was appreciating against other major currencies, and capital inflows tapered off. The Thai baht came under significant pressure in February 1997, requiring government intervention to support the peg. By July 1997, however, the government was no longer able to support the currency and abandoned the peg, triggering the start of the Asian financial crisis.

The financial stress in Thailand quickly spread elsewhere, with large capital outflows leading to substantial currency pressures in Indonesia, Korea, Malaysia, and the Philippines (table D.2 in appendix D).²¹ Despite substantial intervention by monetary authorities, these countries all experienced sharp currency depreciations (Kawai, Newfarmer, and Schmukler 2005). Corporates were unable to finance their foreign currency debt payments, resulting in large loan losses for banks and triggering banking crises.

Policy programs to resolve the crises were designed and implemented by the countries involved with the support of the IMF, other multilateral organizations, and partner countries. In the short term, tighter monetary policies with increased interest rates were central to efforts to stem and halt currency depreciations. Governments established frameworks to resolve systemic crises in both financial and corporate sectors, with policies including the creation of bad banks, bank recapitalization, and corporate debt restructuring (Mishkin 1999). Ultimately, 21 commercial banks were nationalized in the five affected countries during the crisis (Claessens, Djankov, and Klingebiel 1999; World Bank 1998). Corporate sector debt resolution was slow, however, and nonperforming loans remained elevated for several years after the crisis (Kawai 2002). EAP countries that were less reliant on short-term debt and had larger foreign exchange reserves—notably China, but also Singapore and Vietnam—were less affected.

²¹ Contagion also spread, including to LAC and ECA. For discussions of contagion from the 1994 Mexican and 1997-98 Asian financial crises, see Calvo and Mendoza (2000a); Claessens and Forbes (2013); and Kim, Kose, and Plummer (2001).

Although the fiscal positions of the Asian crisis economies were generally sound as they entered the crisis, government debt rose sharply in the ensuing deep recessions as a result of automatic stabilizers and countercyclical support for demand, as well as support of banks and corporates in distress. Government debt rose by more than 30 percentage points of GDP in Indonesia and Thailand during the late 1990s. Although the Asian financial crisis did not lead to widespread sovereign debt crises as in LAC and SSA, several countries required official financial support during and after the crisis. IMF support included \$23 billion for Indonesia, \$58 billion for Korea, and \$20 billion for Thailand (Fischer 1998; IMF 2000).

Macroeconomic developments. The sharp rise in external borrowing by EAP countries before the crisis was matched by rapid GDP growth, which averaged 7.4 percent a year in per capita terms (9 percent a year in aggregate) between 1988 and 1997. This growth was in contrast to the major advanced economies, which experienced growth slowdowns in the early 1990s with recessions in the United Kingdom and United States, among others. Investment-to-GDP ratios in EAP were also very high over this period. In some instances, however, corporates invested in commercial real estate and inefficient manufacturing, suggesting some of the investment went to projects with low rates of return (Krugman 2000). Although countries generally ran fiscal surpluses, current account deficits deteriorated as private sector financial imbalances widened.

During the crisis, GDP growth in EAP plummeted—per capita GDP growth slowed to 1.8 percent a year, on average, in 1998-99—and investment fell. GDP growth declined even more sharply in the five most affected countries. Large currency depreciations led to sharp spikes in inflation in several countries, although these proved short-lived. Growth quickly rebounded, however, and per capita GDP growth in EAP averaged 7.4 percent a year from 2000 to 2005, the same as its precrisis rate. Five years after the crisis, per capita GDP in the five most affected countries had risen 3 percent above precrisis (1996) levels—although this rise was less than half of the GDP per capita gains of the average EMDE over this period.

The plunge in growth in EAP in 1998 contributed to a broader downturn, with global GDP growth slowing from 4 percent in 1997 to 2.6 percent in 1998 (Kose, Sugawara, and Terrones 2020). Growth in advanced economies softened from 3.2 percent to 2.9 percent. The slowdown in global growth was short-lived, with a strong recovery in 1999-2000, although it weakened in the early 2000s as several advanced economies tipped into recession.

Policy changes. In the aftermath of the Asian financial crisis, the affected countries took actions to improve external positions and strengthen policy institutions and frameworks. Over the next decade, foreign exchange reserves as a share of total debt rose sixfold, from 41 percent at the end of 1997 to 253 percent at the end of 2007. Although this increase was largely accounted for by China, reserves also rose substantially in other EAP economies. Total external debt ratios more than halved, from 33 percent of GDP to 15 percent of GDP over the same period. Countries adopted more flexible exchange rate arrangements, and some introduced capital control measures. The EAP region more broadly moved toward independent monetary policy frameworks, and most countries implemented a range of expenditure and revenue management reforms to improve fiscal positions (World Bank 2017c). These reforms included the introduction of fiscal rules and ceilings on fiscal deficits, diversification of the tax base, and reductions in subsidies.

The Asian financial crisis also led to a reevaluation and growing criticism of the “Washington Consensus” (Williamson 2004). Without the necessary regulatory and oversight frameworks in place to assess and mitigate risks, financial market liberalization had allowed the buildup of vulnerabilities, which subsequently turned into crises (Rodrik 1998).²² There was also increasing discussion after the crisis of the need for bankruptcy reform and bail-in of creditors, as opposed to the bailouts implemented during the crisis. In response, the World Bank, together with other international financial institutions, designed the Insolvency and Creditor Rights Standard to encourage best practices for evaluating and strengthening national insolvency and creditor rights systems (Leroy and Grandolini 2016).

Contagion and crises in other EMDEs

Contagion from the Asian financial crisis contributed to crises in other EMDEs, most notably Russia (1998), Argentina (2001), and Turkey (2001).²³ In contrast to the Asian crisis, these were predominately public debt crises and led to sovereign debt restructuring in Argentina and Russia. Other EMDEs, particularly in LAC, also suffered spillovers from the Asian financial crisis, with currency crises in several cases. However, these countries

²² Some studies examined the implications of financial globalization for growth, volatility and development outcomes in EMDEs (Kose et al. 2009; Kose, Prasad, and Terrones 2003; Obstfeld 2009; Stiglitz 2002). For a discussion of financial crises in EMDEs in the 1990s, see Feldstein (2003).

²³ Shocks that occur elsewhere in the global economy can lead to shifts in access to finance for EMDEs. A globally “anxious” economy, rather than the result of EMDE fundamentals, can result in disruptions to finance for EMDEs (Geanakoplos and Fostel 2008).

(except Argentina) managed to avoid sovereign debt crises, partly reflecting the lessons learned during the earlier Latin American crisis and the protection offered by subsequent policy changes.

Contagion to Russia. Russia experienced a currency, banking, and sovereign debt crisis in 1998, which culminated in sovereign debt restructuring in 2000 (Laeven and Valencia 2018; Pinto and Ulatov 2010). Persistent fiscal deficits in the aftermath of the collapse of the Soviet Union had contributed to a rise in external debt from 18 percent of GDP in 1992 to 33 percent in 1996 (figure 3.5). Contagion from the Asian crisis, together with a sharp fall in commodity prices (in part due to that crisis), led to a deterioration in investor confidence in Russia and capital flight in late 1997 and early 1998. The authorities attempted to defend the currency peg, and reserves fell rapidly, compounded by weaker export receipts as a result of lower oil and metals prices (Chiodo and Owyang 2002). Government bond yields rose sharply, reaching 50 percent in May 1998, while government interest payments rose to 3 percent of GDP (Boughton 2012).

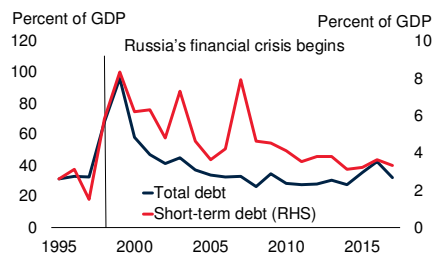
Despite IMF and World Bank assistance, agreed in July 1998, the authorities were unable to maintain the currency peg and were forced to move to a floating exchange rate. By September 1998, the ruble had fallen by two-thirds against the U.S. dollar. The government defaulted on its domestic debt and declared a moratorium on foreign debt payments. Output fell sharply in 1998, by 5.3 percent, but quickly rebounded, with GDP growth reaching 10 percent in 2000. The rebound in growth was aided by a recovery in commodity prices, particularly for oil and gas. Tighter monetary policy helped bring inflation down from almost 100 percent in 1999 to just over 20 percent in 2000 and 2001.

Resilience in LAC despite spillovers. The Russian financial crisis, coming on the heels of the Asian crisis, led to a sharp weakening of risk sentiment in capital markets, which spilled over to many other EMDEs. LAC was particularly affected, with a collapse in capital inflows and a sharp spike in borrowing costs, with interest spreads for the seven largest LAC countries more than tripling from 450 basis points before the Russian crisis to 1,600 basis points within a span of two weeks (Calvo and Talvi 2005; Edwards 2000). Despite the dramatic increase in financing costs and drying up of credit, most LAC countries avoided financial crises, although some, such as Brazil, experienced currency or banking crises. Many countries had taken policy action to build resilience after the previous LAC crisis, including reductions in external debt (particularly short-term debt), increases in

FIGURE 3.5 The second wave: Crises in Argentina, the Russian Federation, and Turkey

During the second wave, Argentina, Russia, and Turkey experienced speculative attacks on their currencies. These led to sovereign debt crises, with defaults by Argentina and Russia.

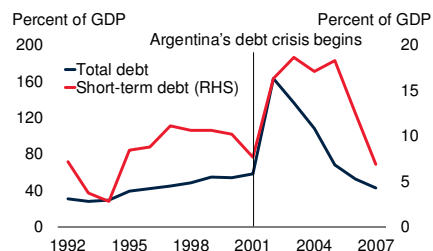
A. Russian Federation: External debt



B. Russian Federation: Exchange rate



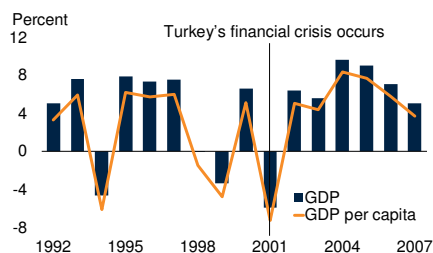
C. Argentina: External debt



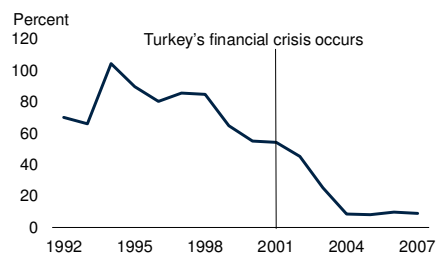
D. Argentina: Growth



E. Turkey: Growth



F. Turkey: Inflation



Sources: Haver Analytics; International Monetary Fund; World Bank.

Note: LCU = local currency unit.

A.C. External debt classed as "short-term" when maturities are less than 12 months.

B. Local currency per U.S. dollar. Increase indicates a depreciation relative to the U.S. dollar

F. Annual average inflation.

international reserves, more flexible currency regimes, and increased central bank independence. They had also made substantial progress in boosting exports, such that ratios of debt to exports were much lower.

Vulnerabilities in Argentina. A notable exception in LAC was Argentina, which suffered a banking, currency, and sovereign debt crisis in 2001-02. This collapse was particularly striking because in the early 1990s Argentina had been regarded as a success story, with a robust reform program and with the implementation of a currency board contributing to lower inflation and a strong recovery in growth (IMF 2004).²⁴ The hyperinflation of the late 1980s had been gradually brought under control, with inflation down to single digits by 1993. Capital inflows had resumed, and GDP per capita grew by 4.6 percent per year, on average, between 1991 and 1998.²⁵

Vulnerabilities had been growing, however. GDP growth had slowed in 1998 and turned negative in 1999 and 2000. The current account deficit had widened in the period up to 1998 and remained large even as growth weakened, while the fiscal deficit had also worsened. Exports remained very low as a share of GDP, limiting the country's ability to earn foreign exchange and service external debt. External debt, which had fallen following the Latin American crisis, began to pick up, rising from 28 percent of GDP in 1993 to nearly 50 percent of GDP in 1998, and interest payments increased, as ratios of both GDP and exports.

Argentina's weak external position amid deteriorating economic growth raised questions about its international competitiveness under the fixed exchange rate arrangement of the currency board. But the economy was highly dollarized, with 80 percent of private debt denominated in dollars, considerably higher than in LAC peers: for example, in Chile, only 38 percent of debt was dollar-denominated (Calvo and Talvi 2005). Thus, any currency depreciation would increase the value of liabilities relative to assets and incomes in the economy and would be very costly (Spiegel and Valderrama 2003). Meanwhile, international reserves were very low relative to total debt.

The crisis began with the slowdown in growth in 1998, triggered partly by external shocks, notably the Asian and Russian crises and falling commodity

²⁴ Even after the Asian financial crisis, Argentina was expected to remain resilient and suffer only a small effect from the crisis (Perry and Lederman 1998).

²⁵ Argentina had fallen into recession in 1995, in part due to spillovers from the Mexico crisis, but swiftly recovered.

prices, and partly by domestic political uncertainty (IMF 2004). Capital inflows came to a sudden stop, and financing costs rose sharply. Argentina had few tools to address the weakness in growth, given its poor fiscal position and the currency board, which ruled out monetary policy actions and currency devaluation (De La Torre, Yeyati, and Schmukler 2003). Exiting the currency board would have triggered a sharp depreciation of the currency, which might have helped with some of Argentina's problems, but it would also have had a major detrimental impact on domestic balance sheets given the currency mismatch arising from the large amount of dollar-denominated debt.

In 2001, Argentina received financial assistance of \$14 billion from the IMF, conditional on reforms, including fiscal adjustments. The package proved insufficient, however, to stabilize either the economy or market sentiment, and Argentina experienced further difficulty in rolling over debt (similar to the Latin American crisis in the 1980s). The IMF agreed to provide further financial support of \$5 billion toward the end of 2001. This support also proved to be insufficient, and by the end of the year, Argentina announced it would default on its sovereign debt (Mussa 2002).

In early 2002, Argentina announced the end of the currency board, triggering an immediate, steep devaluation in the peso. This devaluation resulted in a sharp increase in debt, given the large amount of dollar-denominated external debt, to a peak of 164 percent of GDP in 2002. Argentina suffered a steep recession, with output dropping by 12 percent in 2002. Positive growth returned in 2003, however, and growth averaged almost 7 percent per year in the period up to the global financial crisis, aided by robust global growth and the commodity price boom.

Prolonged crises in Turkey. Turkey experienced banking, currency, and sovereign debt crises in 2000-01. After implementing an agenda of economic reform in the 1980s, GDP growth averaged about 5 percent per year between 1990 and 1997. Annual growth was nonetheless volatile over this period, fluctuating between -4.6 percent and 7.9 percent. Turkey's macroeconomic policy and regulatory framework also had substantial weaknesses. The fiscal deficit reached 8 percent of GDP in 2000, and inflation remained very high. Banking regulation and supervision were poor, and the domestic banking sector was a key creditor to the public sector, creating a feedback loop between the two (Ozatay and Sak 2002). In contrast to Argentina, Turkey ran a broadly balanced external current account, and total external debt remained relatively unchanged as a ratio to GDP between 1992 and 1998.

In 1994, Turkey experienced a currency crisis, which was the result of weak domestic policies rather than of spillovers from international shocks. Amid high net financing requirements, the government sought to reduce interest payments by lowering rates on Treasury bills, which led to a reduction in appetite for Turkish government debt (Celasun 1998). As a result, the government increasingly turned to monetization to finance the fiscal deficit. These policy decisions, together with a downgrade in Turkey's international credit rating, triggered a loss in market confidence, and the central bank was forced to sell foreign exchange reserves to stabilize the exchange rate (Dufour and Orhangazi 2007; Moghadam 2005).

After recovering from the 1994 crisis, Turkey experienced another weakening of growth in 1998-99, partly as a result of spillovers from the Asian and Russian crises, but also as a result of domestic developments, including an earthquake. The IMF and Turkey agreed on a stabilization program in 1998 designed partly to help control inflation, which remained very high. The program included a reduction in fiscal deficits and the adoption of a crawling exchange rate peg, designed to maintain competitiveness in the context of a declining inflation target (IMF 2000).

The slowdown in growth exacerbated existing vulnerabilities in the banking sector and contributed to rising worries about bank solvency, which resulted in a spike in interbank lending rates. A banking crisis began in late 2000, when a Turkish bank was unable to access financing on the market (OECD 2014).²⁶ Amid concern about broader contagion, the Turkish central bank provided substantial liquidity to the banking system.

The currency also came under pressure, with uncertainty about the ability of the central bank to maintain the crawling peg. Turkey's current account deficit had increased sharply in 2000. Furthermore, persistently high inflation had resulted in the peg becoming overvalued. Amid capital flight, foreign exchange reserves fell to 78 percent of total short-term debt in 2000. The IMF provided additional financial assistance to Turkey in December 2000 to stave off worries about insufficient reserves. This support proved inadequate, however, and the Turkish lira came under increasing pressure with further capital outflows. In early 2001, the authorities announced they would let the lira float, resulting in an immediate depreciation against the dollar of about one-third.

²⁶ Because banks typically operate with maturity mismatches, a bank run can rapidly spread to other banks amid growing depositor concerns. Bank runs can turn into a self-fulfilling cycle of deposit withdrawals, liquidity shortages, and credit crunches (Bryant 1980; Diamond and Dybvig 1983).

The combination of the fall in the lira with the costs of recapitalizing many of the failing banks led to a sharp increase in the public debt, from 52 percent of GDP in 2000 to 76 percent of GDP in 2001. Amid growing debt sustainability concerns, Turkey announced a new IMF-supported program in May 2001. The program had three pillars: fiscal and monetary discipline, structural reforms, and substantial external financial support (Ozatay and Sak 2003; Moghadam 2005). In particular, it required a public sector primary surplus of 6.5 percent of GDP from 2002 onward. These policies helped alleviate concerns about debt sustainability, and Turkey returned to growth in 2002 (Acemoglu and Ucer 2015).

Changes in debt resolution

Need for a debt restructuring mechanism. The increasingly apparent difficulty of sovereign debt restructuring—and the economic damage done by protracted debt resolutions—highlighted the need for a new approach and framework (Kletzer 2003; Sachs 2002). The problem had increased with the shift away from lending to EMDEs by relatively small groups of commercial banks toward reliance on financing from the sovereign bond market, with creditors more diffuse and harder to coordinate. Most bonds at the time had a unanimous consent clause, that is, any restructuring required the agreement of all bondholders, regardless of how small individual holdings were (Häselser 2009). This requirement was problematic for several reasons, ranging from the practical issue of locating all bondholders to a free-rider problem, because individual creditors had an incentive to hold out in the hope that restructuring by others would allow the debtor to continue to pay the free-riders. Although collective action problems were also an issue for debt held by commercial banks, or bilaterally through government loans, these creditors were typically not nearly as numerous, diverse, or anonymous as bondholders.

Alternative resolution strategies. In 2002, the IMF proposed the creation of a formal resolution framework, the “Sovereign Debt Restructuring Mechanism” (IMF 2002). The framework failed to receive sufficient support from IMF member countries, however, some of which preferred a market-based solution (Bedford, Penalver, and Salmon 2005; Cosio-Pascal 2008). This preference resulted in a growing interest in the introduction of collective action clauses (CACs) in loan contracts to reduce the cost of debt resolution.²⁷ CACs would enable debt restructuring to take place with the

²⁷ For a discussion of these issues, see Eichengreen, Kletzer, and Mody (2003); Eichengreen and Mody (2000); Haldane and Kruger (2001); and Sturzenegger and Zettelmeyer (2007). The official sector also recommended a shift toward domestic bond markets to lower the exchange rate risks associated with foreign-currency borrowing.

consent of a majority or super-majority of bondholders (typically two-thirds to three-quarters), reducing the likelihood of restructurings being delayed by creditors.

Although CACs had been used in debt contracts agreed under English law for many years, they were rarely used for debt issued under New York law (Drage and Hovaguimian 2004). The broader use of CACs had been promoted in academic circles since 1995, but CACs were unpopular among some creditors, who worried that they would create a bad incentive for debtors by making restructuring easier, thus making defaults more likely (Eichengreen and Portes 1995).²⁸ As a result, sovereign borrowers did not include CACs in their debt issuance, given fears that they would not be able to find buyers for their bonds (Häselser 2009).

In 2003, Mexico was the first EMDE to issue a bond under New York law containing a CAC, and it was shortly followed by Brazil, Korea, and South Africa. Once issued, it became apparent that markets were not penalizing debt issued with CACs, with little to no premium on CAC bonds compared to other bonds (Richards and Gugiatti 2003). CACs quickly became routine for most sovereign debt issuance, with the share of new issuance covered by CACs rising from less than 10 percent in 2000-02 to more than 90 percent in 2004-06 (Bradley, Fox, and Gulati 2008). Several studies, both theoretical and empirical, have shown that the use of CACs leads to better outcomes for both creditors and debtors.²⁹ By removing the likelihood of holdout creditors, CACs should accelerate restructuring processes, which in turn could result in faster resolutions of debt, and quicker returns to economic growth, by reducing debt overhangs.

The third wave, 2002-09: The global financial crisis and crisis in the ECA region

The key feature of the third wave of growth in debt, before the global financial crisis, was a sharp increase in borrowing by EMDEs on international debt markets, primarily from banks headquartered in the

²⁸ Early models of sovereign debt default were based on cost-benefit analyses: governments choose to default if the benefits of not servicing their obligations outweigh the costs (for example, reputational loss or a threat of cutoff from international markets; Bulow and Rogoff 1989; Eaton and Gersovitz 1981). The default decision therefore hinges on the willingness—rather than only on the ability—of governments to repay their debt, leading to the concept of “serial default” (Reinhart, Rogoff, and Savastano 2003).

²⁹ For details, see Eichengreen, Kletzer, and Mody (2003); Ghosal and Thampanishvong (2007); and Weinschelbaum and Wynne (2005).

United States and European Union (EU). Global interest rates were low at the start of this wave, as in the previous two waves. The buildup in debt was greatest in the ECA region and was primarily accounted for by the private sector, particularly households. The subsequent sharp reduction in cross-border lending to EMDEs, in the aftermath of the global financial crisis of 2008 and the global recession of 2009, led to severe credit crunches and economic downturns in the most exposed ECA economies, which relied heavily on cross-border loans from EU banks.

Financial market developments

Global banking. As the economies affected by the Asian financial crisis recovered, global borrowing resumed at a fast pace. This increased borrowing coincided with a period of rapid expansion of U.S.- and EU-headquartered banks following deregulation (Arteta and Kasyanenko 2020). In 1999, the United States repealed the Glass-Steagall Act to remove barriers between commercial and investment banking, opening the way for the formation of “mega-banks” and encouraging the rapid growth of corporate bond markets (Kroszner and Strahan 2014; Sherman 2009).

In the EU the Financial Services Action Plan in 1999 encouraged cross-border connections between banks as well as their rapid expansion (Goddard, Molyneux, and Wilson 2015). For example, in the United Kingdom, bank assets rose from 300 percent of GDP in 2000 to 550 percent of GDP in 2008, and the banking system became highly concentrated, with the three largest U.K. banks each having assets in excess of 100 percent of GDP (Davies et al. 2010). Total assets of the banking systems in Belgium, Denmark, France, Ireland, and the Netherlands all exceeded 200 percent of GDP in 2008 (Demirgüç-Kunt and Huizinga 2013).

The emerging mega-banks fueled a steep increase in direct cross-border lending, lending through subsidiaries, and investment in EMDE debt markets. Between 2000 and 2007, foreign claims by banks reporting to the Bank for International Settlements rose by 220 percent—about three times the pace of global nominal output growth. The ECA region in particular was a major recipient of these bank flows (Balakrishnan et al. 2011; Takáts 2010). Between 2000 and 2007, foreign bank claims on EMDEs in ECA grew by 9 percentage points of GDP to 18 percent of GDP in 2007. Some countries received much larger bank flows: for example, by 2007, foreign bank claims accounted for 70 percent of GDP in Croatia and 66 percent of GDP in Hungary.

Development of domestic bond markets. Low inflation and fiscal stabilization in many EMDEs helped boost the credibility of domestic macroeconomic policies (Kose and Ohnsorge 2020). This, together with growing domestic investor bases and rapidly growing bank balance sheets, supported domestic bond market development (Hawkins 2002; Mihaljek, Scatigna, and Villar 2002; Turner 2002). Whereas sovereign borrowers increasingly turned to domestic bond markets, corporate issuers increasingly accessed international markets. The increase in corporate bond issuance in part reflected strong demand for funds from commodity-producing companies and improving corporate credit ratings. The amount of debt issued in bond markets by EMDEs almost tripled between 1997 and 2007, to \$190 billion. Commercial banks, however, remained the most important source of finance for EMDE corporates, accounting for more than 80 percent of total external debt in 2007.

The global financial crisis

Near-collapse of the U.S. financial system. Triggered by defaults in the U.S. subprime mortgage market, the U.S. financial system came under increasingly severe stress in the second half of 2007 and 2008, culminating in a major crisis in late 2008. This crisis exposed the fragility of banks that were dependent on short-term wholesale funding, which had been essential to the rapid growth of securitization, and also reflected inadequate regulatory oversight (Claessens et al. 2014; Duffie 2019). Meanwhile, the buildup of macrofinancial links between countries had resulted in key vulnerabilities in the global economy (Claessens and Kose 2018). These vulnerabilities became apparent to policy makers only when the crisis erupted. Many banks withdrew from cross-border activities, and liquidity and funding dried up.

The initial shock of the global financial crisis was followed by a severe U.S. recession in which U.S. output contracted more than in any other U.S. recession since the Great Depression.³⁰ Overall, advanced economy GDP growth dropped from 2.6 percent in 2007 to -3.4 percent in 2009 in a broad-based global recession. Global per capita GDP contracted by 3 percent in 2009—more than in any other global recession over the past 70 years.

The shock to U.S.- and EU-headquartered banks also reverberated through EMDE financial systems. Syndicated lending and other cross-border lending

³⁰ Claessens, Kose, and Terrones (2014) discuss the origins and implications of the global financial crisis. For descriptions of the crisis, see Bernanke (2013), Blinder (2013), Gorton and Metrick (2012), Lewis (2010), Paulson (2010), Sorkin (2010), Turner (2012), and Wessel (2010). Lo (2012) presents a review of 21 books on the global financial crisis.

by foreign banks, and domestic lending by foreign-owned banks contracted sharply (Cetorelli and Goldberg 2011; De Haas and van Horen 2012). Both domestically and foreign-owned banks in EMDEs that relied on funding from external capital markets cut back their lending (figure 3.6).³¹ EMDE bond markets suffered liquidation sales, and bond and equity flows to EMDEs reversed.

Although most EMDEs proved resilient to the crisis, those that had relied heavily on borrowing from EU and U.S. financial institutions suffered severe recessions (BIS 2009; Frank and Hesse 2009). The deterioration in financial conditions was especially pronounced in the ECA region, as the withdrawal of Western European banks caused a severe credit crunch.³²

Crisis in the ECA region

Rising external debt, rapid growth. External debt rose sharply in the ECA region between 2000 and 2007. Overall external debt-to-GDP ratios were mostly unchanged, however, with rapid growth in private sector external debt offset by slower growth in public sector external debt. The growth of external debt was particularly large in the household sector: its external debt, relative to GDP, doubled from 10 to 20 percent in the period. Private sector debt rose to 65 percent of total debt in 2007 from 25 percent in 2000. The precrisis buildup of debt in the ECA region was matched by rapid rates of GDP growth, aided by many countries' growing ties with the EU, which a number of countries in the region joined in 2004. GDP per capita grew by 6.7 percent per year, on average, between 2000 and 2007, and investment-to-GDP ratios increased (figure 3.7). Rapid economic growth was accompanied by rising inflation, high wage growth, and large current account deficits, although fiscal balances improved.

When the crisis hit, the deterioration in financial conditions resulted in sharp recessions in ECA. Output contracted by 5.1 percent in 2009 (following a 7.3 percent expansion in 2007) and per capita GDP fell by 6.4 percent. Growth fell most sharply in countries with the weakest macroeconomic fundamentals, fixed exchange rates, and the greatest reliance

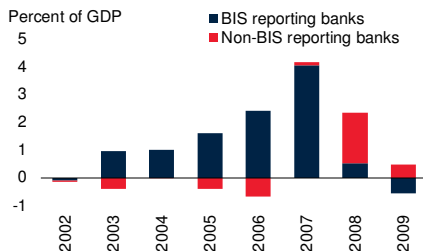
³¹ The financial sector can act as a propagator and amplifier of crises though its impact of other sectors of the economy and the real economy (Claessens and Kose 2018). This can be via the “financial accelerator” effect which propagates and amplifies small shocks as changes to access to finance occur (Bernanke and Gertler 1989). Propagation can also occur through the supply side, including the provision of loans (Adrian and Shin 2008; Brunnermeier and Pedersen 2009).

³² For details on the evolution of the crisis in the region, see Binici and Yörükoğlu (2011); Ranciere, Tornell, and Vamvakidis (2010); and Tong and Wei (2009).

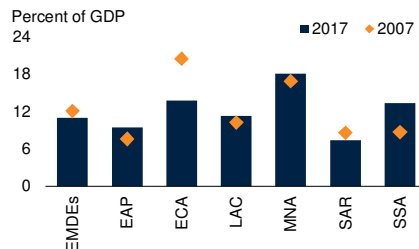
FIGURE 3.6 Global financial crisis: Debt developments

Benign financing conditions and deregulation of the financial sector in advanced economies fueled cross-border lending before the crisis, particularly in Europe and Central Asia. Although total debt was flat, private sector debt grew sharply, and its share of total external debt rose. During the crisis, economies with smaller international reserves and greater reliance on short-term borrowing were more affected by the ensuing credit crunch.

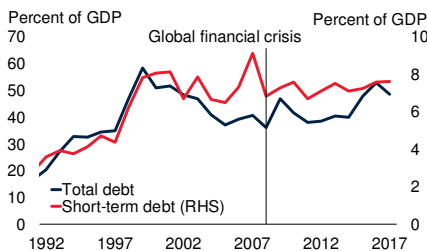
A. Cross-border lending to EMDEs



B. Cross-border claims on EMDEs, by region



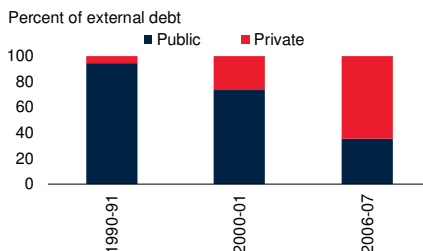
C. ECA: External debt



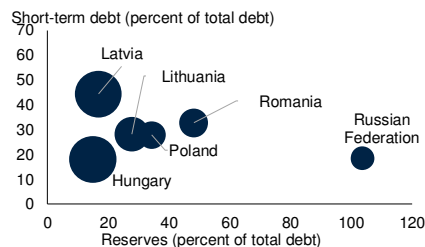
D. ECA: Growth in external debt



E. ECA: External debt, by sector



F. Reserves and short-term external debt in selected countries, 2006-07



Sources: Bank for International Settlements (BIS); Institute of International Finance; International Monetary Fund (IMF); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa.

A.B. Offshore financial centers are excluded.

A. Based on data for 86 EMDEs excluding China. BIS data are from the BIS locational banking statistics and represents changes in stock of claims on EMDEs. Lending by non-BIS banks is calculated as total bank loans and deposits from the IMF Balance of Payment Statistics minus cross-border lending by BIS reporting banks. Cross-border lending flows as a percentage of GDP are shown as total for all economies in the sample divided by their aggregate nominal GDP.

B. Sample includes 140 EMDEs; ratios are shown as total claims on the region divided by regional nominal GDP aggregates. Claims include loans and security holds.

D. Annual percent change in nominal level of external debt (in U.S. dollars).

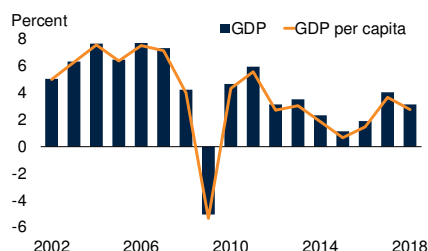
E. Includes long-term debt only (maturity of more than 12 months).

F. Size of bubble indicates relative total external debt-to-GDP ratios. Data are 2006-07 averages.

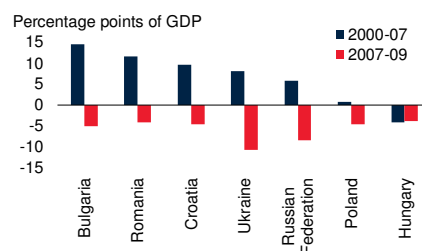
FIGURE 3.7 Global financial crisis: Macroeconomic developments in ECA

In the 2000s, Europe and Central Asia benefitted from robust economic growth, and investment-to-GDP ratios rose. Most countries had persistent and deteriorating current account deficits, whereas fiscal balances improved. During the crisis, most economies experienced devaluations, which led to some temporary increases in inflation rates.

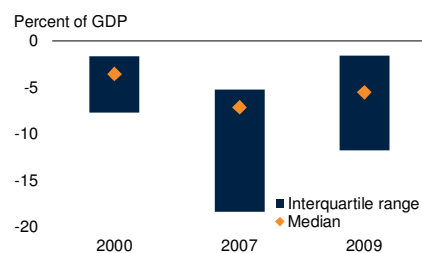
A. ECA: Growth



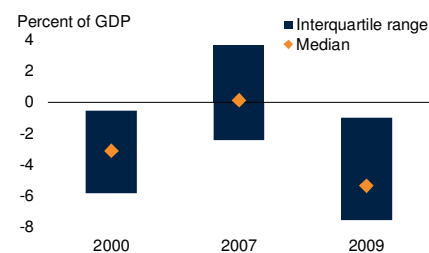
B. Change in investment-to-GDP ratio



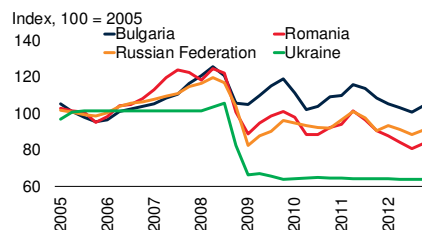
C. ECA: Current account balance



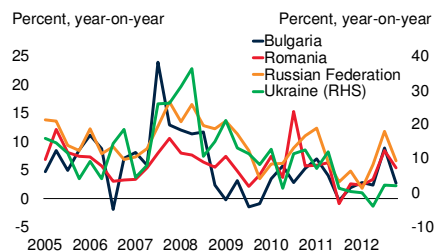
D. ECA: Fiscal balance



E. Exchange rates in selected countries



F. Inflation rates in selected countries



Sources: International Monetary Fund; World Bank.

Note: ECA = Europe and Central Asia.

A.C.D. Based on a sample of 24 ECA economies. U.S. dollar GDP weighted values.

C.D. Diamonds indicate the median value and blue bars denote the interquartile range.

E. U.S. dollars per local currency. An increase denotes an appreciation.

F. Annual average inflation.

on wholesale funding (Frank and Hesse 2009). Some countries in the region experienced large currency depreciations, although pass-throughs to inflation were relatively modest. The deterioration in the real economy resulted in rising nonperforming loans, primarily attributable to households, rather than to corporates as in the Asian crisis.

Economic contractions were particularly severe in Bulgaria, Croatia, Romania, and Ukraine: in each case, output fell by more than 10 percentage points between 2007 and 2009. Ukraine, which registered the largest output decline, of 14.8 percent in 2009, saw a collapse in exports (by 22 percent) and sharp capital flow reversals; cross-border claims on Ukraine fell by 8.7 percentage points of GDP in 2009. Meanwhile, Bulgaria, Croatia, and Romania were exposed to large currency and maturity mismatches in the banking sector (Ranciere, Tornell, and Vamvakidis 2010). The IMF provided support to many countries through flexible credit lines and standby arrangements, and three ECA countries adopted IMF-supported programs in the face of currency or fiscal pressures (Latvia, Hungary, and Romania; Aslund 2010).

Swift crisis resolution. The crisis in ECA was short-lived, partly thanks to the coordinated response by the G20 (Group of Twenty) to the global financial crisis, with the major advanced economies and EMDEs implementing unprecedented monetary and fiscal stimulus in 2009 and 2010. In part because of the European Bank Coordination Initiative (“Vienna Initiative”) in 2009, the major foreign banking groups maintained support for their subsidiaries in ECA countries, which also helped to contain the region’s financial crisis and to limit the damage caused in the region by the retrenchment of global liquidity and capital flows (Berglof et al. 2009; Pistor 2011).

Aggregate debt levels in general were still modest, despite rapid growth in the run-up to the crisis. Although bank profitability declined, ECA banks were not subject to the concerns about insolvency that afflicted banks in Western Europe, which had weaker capitalization and suffered widespread outright defaults on mortgages (Marer 2010). ECA economies quickly rebounded, such that by 2010 GDP per capita in the region had returned to precrisis (2007) levels. The crisis was primarily a liquidity issue, rather than a solvency problem. During 2010–19, GDP growth averaged 2.6 percent per year.

Impact on other EMDEs and policy responses

Limited contagion to other EMDEs. In contrast to advanced economies and the ECA region, most EMDEs proved remarkably resilient to the global

financial crisis (Didier, Hevia, and Schmukler 2012). In part, this was because many had limited vulnerabilities to the shocks of the time (Didier et al. 2015; Kose and Prasad 2010). Furthermore, many countries had implemented fiscal and monetary policy reforms and had accumulated policy buffers during the precrisis period (Koh and Yu 2020). For example, average fiscal balances in EMDEs improved from a deficit of 3 percent of GDP in 2002 to a surplus of 1.4 percent of GDP in 2007, and government debt, on average, declined sharply from 78 percent of GDP in 2002 to 45 percent of GDP in 2007. Foreign exchange reserves rose from 28 percent of external debt in 2000 to 114 percent of external debt in 2008. Many EMDEs had also improved debt management, supporting reductions in currency, interest rate, and maturity risks (Anderson, Silva, and Velandia-Rubiano 2010; Arteta and Kasyanenko 2020).

Robust policy response. Furthermore, as a result of the buildup of policy buffers prior to the crises, many EMDEs were able to implement substantial countercyclical fiscal and monetary policies during the crisis (Koh and Yu 2020). In addition, EMDE central banks used a variety of tools to ease or absorb foreign exchange market pressures. About one-fifth of EMDEs intervened in foreign exchange markets in 2009, on average using 15 percent of their international reserves. Such operations included selling foreign currency in the spot market (for example, Brazil, India, and Mexico) and swap market auctions (Brazil, Hungary, and Poland). Other measures included setting up repo facilities (Argentina, Brazil, and the Philippines), providing guarantees on foreign currency deposits (India, Malaysia, and Turkey), and changing regulations to facilitate foreign borrowing (Chile and India). In the fourth quarter of 2008, the U.S. Federal Reserve extended swap lines to Brazil, Korea, Mexico, and Singapore; and the European Central Bank and the Swiss National Bank provided support to Hungary and Poland through swaps and repurchase agreements (Arteta and Kasyanenko 2020).

EMDEs relied primarily on macroeconomic policies to manage capital flow volatility. Adjustments to external shocks were facilitated by exchange rate flexibility (especially in EMDEs where currencies were initially overvalued, such as Brazil, Indonesia, the Philippines, Russia, South Africa, and Turkey), foreign exchange market interventions, and monetary and fiscal policy adjustments. Several EMDEs tightened capital flow management measures during stress episodes (Belarus, Nigeria, and Ukraine), or when financial stability was threatened by macroeconomic rebalancing (China), global shocks (Russia), significant exposures in foreign currency (Peru), or financial contagion risks (North Macedonia).

As these economies implemented macroeconomic adjustment programs, in some cases involving the resolution of failed financial institutions, some capital flow management measures (CFMs) were subsequently eased or removed. Several EMDEs also used CFMs to reduce the heavy capital inflows in 2009-12 triggered by the unprecedented monetary policy accommodation, including quantitative easing in major advanced economies (Fratzscher, Lo Duca, and Straub 2017). Most of these measures were either removed or eased when the inflow surge abated (IMF 2018).

Policy changes. The global financial crisis led to some major changes in the design and implementation of policies.³³ First, in light of persistent low inflation and weak growth, advanced economy central banks have implemented a range of unconventional monetary policy measures. Second, because powerful adverse feedback loops between the real economy and the financial sector pushed many countries into recessions during 2007-09, strengthened regulation, supervision, and monitoring of financial institutions and markets have become a more integral part of macroeconomic and financial sector surveillance and policy design (Claessens and Kose 2018).

The crisis also vividly illustrated how cycles in housing markets and credit tend to amplify each other. This recognition has translated into stricter rules and standards for mortgage lending as well as larger countercyclical buffers to moderate fluctuations in banks' capital positions (Adrian 2017; Claessens 2015; World Bank 2019b). In addition, there has been broader acceptance of the need to strengthen the global aspects of financial regulation and surveillance policies because domestic financial cycles are often highly synchronized internationally (Kose and Ohnsorge 2020).

Similarities between waves

The three waves of broad-based debt accumulation featured several similarities, including changes in financial markets, their macroeconomic effects, and resulting policy changes. In part as a result of these policy changes, countries weathered subsequent crises better.

Beginning of the waves. The initial debt buildup in each wave was associated with low or falling global interest rates and major changes in financial markets, often in response to deregulation. These changes enabled many previously credit-constrained borrowers to access international

³³ Akerlof et al. (2014), Blanchard et al. (2012, 2016), and Blanchard and Summers (2019) discuss changes in economic policies and new approaches since the global financial crisis.

financial markets and accumulate debt. Shortcomings in domestic policy frameworks often contributed to substantial debt buildups and exacerbated the severity of crises.

- *Low or falling global interest rates.* The beginning of each of the three waves was associated with low, or falling, global real interest rates, which encouraged borrowing (figure 3.8). In the first wave, during 1970-79, the U.S. real policy rate averaged about 0.6 percent and was negative for several years. During the second wave, the U.S. real policy rate declined from a high of 5 percent in 1989 to a low of 0.5 percent in 1993 as the Federal Reserve cut policy rates in response to the 1991 global recession. Similarly, the U.S. real policy rate fell into negative territory at the beginning of the third wave, following the 2001 recession in the United States.
- *Financial innovations.* The emergence of the syndicated loan markets in the 1970s set the stage for the first wave. The introduction of Brady bonds in the early 1990s spurred the development of sovereign bond markets that underpinned the rapid growth of sovereign borrowing in the second wave, and capital account liberalization in many EMDEs in the 1990s, especially in EAP, facilitated private sector borrowing. The third wave in the 2000s largely consisted of cross-border flows via international banks in advanced economies after deregulation in the United States allowed deposit banks into investment banking activities and the EU loosened rules on cross-border lending. The latter change helped countries in ECA to borrow extensively.
- *Economic upturns.* The beginning of each debt wave was typically accompanied by an economic upturn. The early stages of the first and second waves coincided with recoveries from global recessions (1975, 1991)—which was also true for the fourth wave, beginning in 2010—and the beginning of the third wave coincided with the recovery from the global downturn of 2001 (Kose and Terrones 2015).

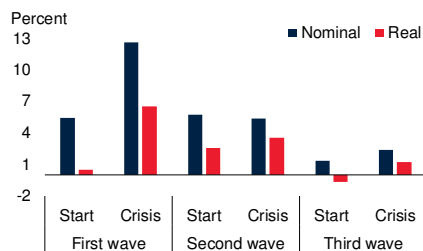
During the waves. Borrower country policies often encouraged debt accumulation or exacerbated the risks associated with it. Fixed exchange rate regimes and weak prudential frameworks encouraged risk taking; weak fiscal frameworks encouraged unfunded government spending; and government spending priorities or weak prudential supervision often directed funding to inefficient uses.

- *Fixed exchange rate regimes.* During the first and second waves, especially, exchange rate pegs in EAP, ECA, and LAC encouraged capital inflows

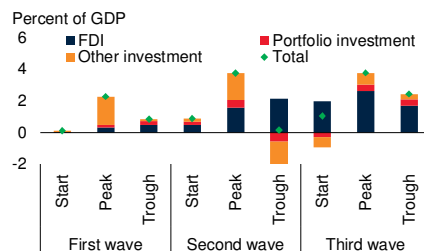
FIGURE 3.8 Comparison of the first three waves

The start of each debt wave generally coincided with a period of low, or falling, interest rates. There has been a secular decline in nominal and real interest rates since the 1970s. Financial crises and their aftermaths were typically associated with a sharp slowdown in capital inflows to EMDEs. Debt episodes that ended in banking crises typically resulted in large increases in government debt. The region and sector accounting for the buildup of debt varied among the waves, but there has been an ongoing shift in the share of debt from the public to the private sector.

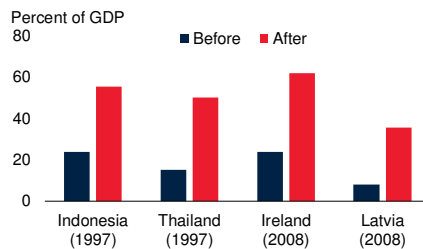
A. U.S. policy interest rates



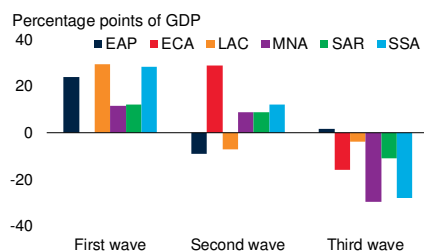
B. Capital flows to EMDEs



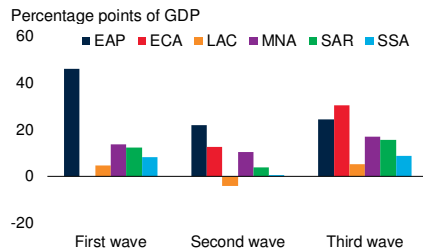
C. Government debt during past banking crises



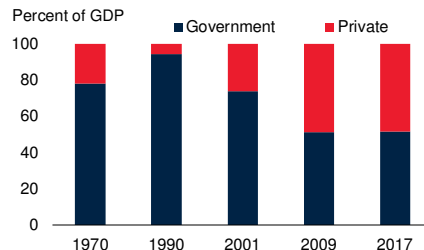
D. Change in government EMDE debt, by region



E. Change in private EMDE debt, by region



F. Composition of external debt in EMDEs



Sources: Haver Analytics; International Monetary Fund; Laeven and Valencia (2018); World Bank.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; FDI = foreign direct investment; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa.

A. Start of a wave defined as the first three years of the wave. Crisis defined as the year before, and year of, widespread crises. First wave: 1970-72 and 1981-82; second wave: 1990-92 and 1996-97; third wave: 2002-04, and 2008-09. Real interest rates are deflated by the GDP deflator.

B. Net capital inflows to EMDEs. The start of each wave is the first year, the peak is the year of peak capital inflows before the start of crisis, and the trough is the year of lowest capital inflows after the crisis. First wave: 1970, 1978, and 1988; second wave: 1990, 1995, and 2000; third wave: 2002, 2007, and 2009.

C. "Before" and "after" denote, respectively, one year before and after the onset of banking crisis (defined as in Laeven and Valencia 2018). Indonesia refers to central government debt only.

D.E. Sample of 142 EMDEs.

F. Long-term external debt only.

by leading lenders and borrowers to underestimate exchange rate risks. With interest rates on foreign currency loans below those for domestic currency loans, and the peg interpreted as an implicit exchange rate guarantee, borrowers readily took on foreign currency debt and domestic banks offered dollarized or euro-ized accounts on a large scale to local clients (Impavido, Rudolph, and Ruggerone 2013; Magud, Reinhart, and Rogoff 2011; Spiegel and Valderrama 2003). Reliance on dollar-denominated debt often ended with rising debt-to-GDP ratios when EMDE currencies eventually depreciated against the U.S. dollar.

- *Weak prudential frameworks.* Structural changes in financial markets were typically not accompanied by appropriate reforms to prudential regulatory or supervisory frameworks, which allowed excessive risk taking and often culminated in currency and banking crises. In the second wave, for example, rapid liberalization of capital markets encouraged EAP banks to borrow heavily from international markets (Furman et al. 1998). In the third wave, the risks posed by growing cross-border lending and macrofinancial links were underappreciated by financial supervisors (Claessens and Kose 2018).
- *Weak fiscal frameworks.* In episodes of government debt buildup—in LAC and SSA in the first wave, and in ECA in the second wave—many countries ran persistent fiscal deficits, often financed with external debt.
- *Inefficient use of debt.* Rising external debt is less of a concern if it is used to finance growth-enhancing investments, particularly if they boost exports and therefore the foreign currency revenues to repay loans in the future (World Bank 2017a). Although debt flows were often used to finance productive investment, in some cases debt was used for domestic-facing investments, such as the import-substitution industrialization that eroded international competitiveness in LAC in the first wave or construction and property booms that did not raise export revenues in EAP and ECA in the second and third waves. Weak corporate governance, including inadequate oversight of projects and investment decisions as well as declining profitability, also led to inefficient investment in several EAP countries.

End of waves. Although debt accumulation tended initially to support growth, it was subsequently associated with financial crises in many cases.

- *Triggers.* Financial crises have often been triggered by shocks that resulted in a sharp increase in investor risk aversion, risk premiums, and

borrowing costs, followed by a sudden stop of capital flows.³⁴ Growth slowdowns have also been important triggers, because they tend to have adverse effects on public finances, the capacity to service debt, and bank profitability (Easterly 2002). In the first wave, around the global recession of 1982, these factors restricted access to new borrowing in LAC and SSA. In the second wave, capital flows to EMDEs stalled or reversed in the global slowdown of 1998 amid a loss of investor confidence following the Asian and Russian crises (Kaminsky 2008; Kaminsky and Reinhart 2001). In the third wave, banking system liquidity dried up during the 2007-09 global financial crisis, interrupting cross-border lending especially to ECA. Domestic political events have also contributed to some crises, for example in Argentina and Turkey in the third wave (IMF 2004; Ozatay and Sak 2002).

- *Types of financial crises.* Many crises began with sharp currency depreciations and capital outflows, which were occasionally the precursor to sovereign debt crises. Large depreciations increased service costs on dollar-denominated debt and led to surges in inflation, requiring monetary policy to be tightened. Sudden stops or reversals in capital flows complicated debt rollovers. In all three waves, countries that slid into crises had sizable vulnerabilities, such as large external, short-term, foreign currency-denominated or variable-rate debt; uncompetitive pegged exchange rates; low international reserves; and weak monetary, fiscal, and prudential policy frameworks.
- *Pockets of resilience.* In the first three waves, there were examples of countries that weathered crises and contagion better than others, for example, Colombia and Indonesia in the first wave, India and Brazil in the second, and Poland and Chile in the third (Blanchard et al. 2010). These countries generally had had more moderate debt increases and enjoyed levels of reserves.
- *Macroeconomic effects.* Debt buildup in the first three waves was associated with crises or stagnation in many cases, especially when the debt buildup consisted predominantly of sovereign debt. Currency depreciations were often large, especially during the first and second waves, triggering sharp spikes in inflation and deteriorating debt-to-GDP ratios when debt was denominated in dollars. That said, there were considerable differences in the severity of macroeconomic outcomes between the waves, as discussed in the next section.

³⁴ For the sources of financial crises, see Claessens and Kose (2014), Frankel and Rose (1996), Kaminsky and Reinhart (2000), and Summers (2001).

- *Fiscal effects.* Financial crises were often fiscally costly. In the first wave, defaulting governments in LAC lost access to international capital markets for many years. In the second and third waves, governments had to support ailing banks in recognition of implicit guarantees for financial systems. Ninety percent of banking crises have required bank restructuring, and roughly 60 percent have led to the nationalization of one or more banks. On average, the fiscal cost of these bailouts during the second and third waves amounted to 12 percent of GDP in affected countries—a multiple of the typical sovereign guarantee.³⁵ Bank rescue operations can thereby impair the sustainability of public finances in a negative feedback loop (Acharya, Drechsler, and Schnabl 2014).
- *Policy responses.* In all three waves, the countries suffering crises implemented policy responses that were aimed not only at resolving the crises and addressing their repercussions, but also at building resilience to future crises. In the first two waves, LAC and EAP governments took measures to increase reserves and limit future buildups of external debt. Many moved toward inflation targeting and flexible exchange rates. In the second and third waves, EAP and ECA governments eventually strengthened bank supervision, corporate bankruptcy laws, and fiscal frameworks. Progress has varied across countries, however, with some remaining more vulnerable to shocks than others.

Differences across waves

The three waves differed in the most active borrowing sectors and regions, the financial instruments involved, the speed of resolution of crises, and their macroeconomic impact.

Borrowing sectors and regions. In the first wave, the increase in borrowing was primarily accounted for by the public sector in LAC and SSA.³⁶ In these two regions, governments ran persistent fiscal deficits, which were used to

³⁵ For a global sample, the average cost of government intervention in the financial sector during crises in 1990–2014 amounted to 9.7 percent of GDP, with a maximum of 55 percent of GDP (IMF 2016). The average cost of government intervention in public sector enterprises during 1990–2014 amounted to about 3 percent of GDP, and the average cost of the realization of contingent liabilities from public-private partnerships was 1.2 percent of GDP (Bova et al 2016). Government-guaranteed long-term external debt amounted to less than 1 percent of EMDE GDP at end-2017 (based on data available for 40 EMDEs).

³⁶ The first and third waves were global in the sense that total EMDE debt rose whereas the second had a narrower regional focus in Asia. During the first wave, EMDE government debt rose sharply; during the third, EMDE private debt rose sharply, in each case driving up EMDE total debt. In contrast, during the second wave, EMDE government debt declined while EMDE private debt rose, resulting in a limited overall increase in total EMDE debt.

fund current expenditures in some cases as well as investment. In the second wave, both the private sector (in EAP) and the public sector (in ECA and LAC) played a role. In the third wave—which had a smaller number of EMDEs with large debt runups than in the previous two waves—the private sector in ECA was the primary borrower. Governments in EAP (second wave) and ECA (third wave) typically had sound fiscal positions in the run-up to their crises. As a result of these shifts, the share of the public sector in external borrowing fell from a high of 95 percent in 1989 to 53 percent in 2018.

Financial instruments. The sources of credit in each wave also evolved. In the first wave, sovereigns were able to borrow from the official sector, bilaterally and multilaterally, as well as from commercial banks via the syndicated loan market: lending from commercial banks accounted for around one-third of total external public debt in EMDEs by 1980-81. The introduction of Brady bonds in the early 1990s spurred the development of sovereign bond markets, and financial market liberalization enabled the private sector to access international borrowing. In the 2000s, local bond markets deepened, allowing governments to obtain long-term finance, including from foreign investors. In the ECA region, borrowing was mainly cross-border lending from banks headquartered in advanced European economies, including through local subsidiaries and branches.

These developments contributed to the gradual shift in the composition of debt from public sector to private sector borrowers over the waves. There has also been a shift from international debt to domestic debt and a move toward debt securities, including local currency bonds. These changes have been driven by policy changes, global macroeconomic trends, and improvements in debt management capacity.

Debt resolution. The speed of resolution has largely depended on whether the debtors were in the public or private sector. The difficulty of debt restructuring led to gradual progress in debt resolution and restructuring mechanisms.

- *Slow sovereign debt restructuring.* In the first wave, the resolution of widespread sovereign debt defaults in LAC and SSA was slow, given Paris Club concerns about advanced economy bank solvency and the lack of a well-defined restructuring mechanism.³⁷ In the second wave,

³⁷ Borensztein and Panizza (2009) find that the reputational and economic costs of sovereign defaults is significant but short-lived, in part because crises precede defaults and defaults tend to happen at the trough of recessions.

debt resolution was again prolonged for sovereign debt crises in Argentina, which required IMF assistance, and Turkey. Restructuring after Argentina's 2001 debt default was not completed until many years later.³⁸

- *Faster private debt resolution.* In the second wave, private sector debt in EAP was resolved quite quickly, with speedy support from the public sector through bank recapitalization and other support schemes, often with IMF assistance. Nonfinancial corporate sector debt resolution, particularly among larger conglomerates, was much slower than for the financial sector, and nonperforming loans remained elevated for several years after the crisis (Kawai 2002). In the third wave, globally accommodative policies, IMF assistance, the European Bank Coordination ("Vienna") Initiative in 2009, and other banking system support together helped stem currency and banking crises.
- *New resolution mechanisms.* At the start of the first wave, the prevailing view was that countries should repay debt, with little consideration for their ability to service their debt. Over time, creditors gradually moved toward acceptance of some debt reduction, which paved the way for the issuance of Brady bonds for commercial debt, and later the HIPC initiative and MDRI for official debt. CACs were introduced to facilitate debt restructuring in situations with multiple bondholders. For private debt, the Insolvency and Creditor Rights Standard developed best practices for national insolvency and creditor rights systems (Leroy and Grandolini 2016). Insolvency protections have improved substantially over the course of the three waves (World Bank 2019c).

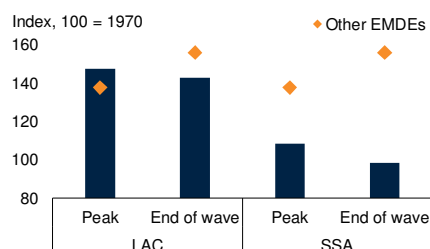
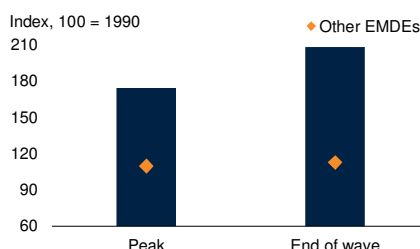
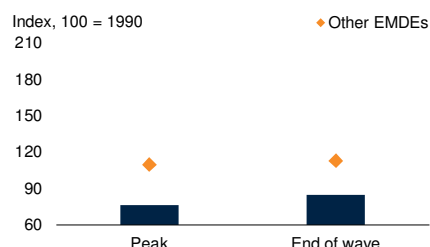
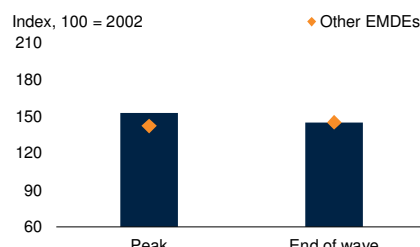
Macroeconomic impact. In all three waves, financial crises resulted in substantial economic damage, but the severity varied between the waves and across regions (figure 3.9).

- *Output cost.* In the first wave, LAC suffered a lost decade of no per capita income growth following the 1982 crisis. Per capita income levels in LICs in SSA fared even worse, with GDP per capita declining for many years. Sovereign debt crises in Russia and Turkey during the second wave also generated severe output losses. In contrast, in the second wave, EAP countries with predominantly private debt buildups experienced

³⁸ Argentina arranged a first restructuring of its debt in 2005, which was accepted by about three-quarters of bond holders (Hornbeck 2013). A second restructuring was agreed in 2010, when two-thirds of the remaining bondholders accepted. The remaining 7 percent of bondholders were "holdout" creditors, who eventually reached a settlement in 2016.

FIGURE 3.9 GDP per capita in EMDEs during the first three waves

In the first wave of debt, countries in LAC and SSA saw prolonged stagnation in per capita growth after debt crises erupted. In the second wave, rapid growth in EAP was interrupted by the Asian financial crisis in 1998 but growth soon recovered. In the third wave, growth in ECA was robust throughout the period but fell in the final year when the crisis hit. In the most recent wave, growth has been high in EAP and SAR but flat in LAC and SSA.

A. First wave**B. Second wave: EAP****C. Second wave: ECA****D. Third wave: ECA**

Source: World Bank.

Note: Data are per capita GDP level (at 2010 prices and exchange rates) in each region at the precrisis peak and the end of the wave in each region, indexed to the start of the wave. For LAC and SSA in the first wave, the peak was in 1980; in EAP and ECA in the second wave it was in 1997; and in ECA in the third wave it was in 2008. The orange diamonds in panels A-D show the average for all EMDEs excluding the highlighted regions in each chart, for the corresponding years. EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; SSA = Sub-Saharan Africa.

only short-lived slowdowns in the wake of the Asian crisis. In the third wave, ECA countries with largely private debt buildups saw large but short-lived declines in output. In contrast to those economies in the ECA region, most EMDEs weathered the global financial crisis relatively well (Kose and Ohnsorge 2020). They used the ample policy buffers that they had accumulated before the crisis and put their reformed frameworks of monetary, fiscal, and financial policies to good use (Koh and Yu 2020).

- *Currency depreciations.* Depreciations were substantially larger and more common in the first and second waves, when exchange rates had been

mostly fixed or attached to crawling pegs and often had to be abandoned in the face of speculative attacks (Bolivia, Brazil, and Mexico in the first wave; Argentina, Indonesia, Russia, and Thailand in the second wave). By the third wave, more countries had flexible exchange rates, reducing the likelihood of currencies becoming substantially overvalued to begin with.

- *Inflation.* Increases in inflation following crises were greatest in the first wave, although they were also substantial in some cases in the second (Indonesia). Inflation outcomes have generally reflected the magnitude of currency depreciations. The smaller rise in inflation in the third wave also reflected improved monetary policy frameworks—the move toward inflation-targeting and independent central banks, which helped anchor inflation expectations (Ha, Kose, and Ohnsorge 2019).

Conclusion

EMDEs experienced three waves of broad-based debt accumulation over the period 1970-2009. During these waves, multiple countries in one or more regions experienced a broad-based buildup of debt. These buildups were often triggered by a combination of financial market deregulation and innovation alongside very low interest rates. Over time—across the waves—borrowing has shifted from the public to the private sector, and the importance of bond issuance has risen, particularly for the public sector.

Each wave ended with widespread financial crises, which had severe macroeconomic repercussions. The crises in LAC and SSA in the first wave were particularly damaging, leading to a lost decade of weak or no growth in LAC and almost two decades of negative per capita income growth in SSA. Debt resolution in the first wave took much longer to implement than in the subsequent waves. Policy reforms implemented in the aftermath of crises have generally led to stronger monetary, fiscal, and prudential policy frameworks, contributing to greater resilience in EMDEs.

EMDEs are currently undergoing the fourth wave of broad-based accumulation of debt. It is critical to understand the sources, evolution, and likely consequences of the current wave to inform policies and enable policy makers to undertake the necessary measures to ensure that the current wave does not follow its predecessors and end in crisis. Chapter 4 presents a detailed discussion of the current wave of debt accumulation in EMDEs.

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