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Financial Crises

Causes, Consequences, and Policy Responses

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INTERNATIONAL MONETARY FUND

Note to Readers

This is an excerpt from *Financial Crises: Causes, Consequences, and Policy Responses*. The 2007–09 economic crisis witnessed colossal disruptions in asset and credit markets, massive erosions of wealth, and unprecedented numbers of bankruptcies. Five years after the crisis began, its lingering effects are still visible in advanced economies and emerging markets alike—this shows a clear need to improve our understanding of financial crises.

Financial Crises fills a critical gap in the rich literature on the subject by providing a broad overview of the current research and bringing together a number of studies on the causes and consequences of crises. It covers a wide range of topics, including the banking, balance-of-payments, and sovereign debt crises. It reviews the typical patterns prior to crises, analyzes the evolution of these episodes, examines various policy responses, and studies the aftermath of these crises. The book features contributions from scholars in the field and researchers at the IMF.

The Table of Contents and Overview are included in this excerpt.

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Edited by Stijn Claessens, M. Ayhan Kose, Luc Laeven, Fabian Valencia
ISBN: 978-1-47554-340-7
Pub. Date: December 2013
Format: Paperback, 6x9 in., Approx. 368 pp.
Price: US$40.00

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Foreword

Financial crises are damaging and contagious, prompting calls for swift policy responses when they happen, and justifying much effort to avoid them. As seen in recent years, crises can result in deep and long-lasting recessions and, in some cases, can trigger sharp current account reversals. Unsustainable macroeconomic policies, excessive credit booms, large capital inflows, and balance sheet fragilities appear prominently as common patterns before financial crises. However, not all crises are preceded by such events. Some crises can be contagious and rapidly spread to other countries with no apparent vulnerabilities.

The quest for knowledge on the best predictors of and the best policy responses to financial crises is ongoing. Extensive research has been conducted on various aspects of crises, including analyses of centuries-old episodes. The IMF has been closely involved in the resolution of crises and in mitigating their macroeconomic impact. In addition, the IMF has pursued a comprehensive research agenda over the years to analyze the causes and consequences of financial crises, to develop best measures to prevent crises, and to formulate strategies for coping with their consequences. Moreover, the IMF has been a major international forum for researchers and policymakers to debate and exchange their views on these issues.

As a result of these collective efforts in academia and policy institutions, much knowledge has been accumulated on the causes, evolution, and resolution of various types of crises. Despite the progress so far, these issues remain topics of intense policy discussions, as ongoing events clearly remind us every day. Therefore, there is much value in having leading researchers in the field of financial crises provide their cutting-edge perspectives on the topic, combining their contributions with those of economists at the IMF, and disseminating these insights broadly. This book exactly serves this purpose.

Prevention is always better than the cure, so the book includes a detailed analysis of the key factors leading up to financial crises. For example, credit booms are a particular characteristic that comes up as one of the most powerful predictors of crises over the decades, as Alan Taylor's contribution makes clear. Increases in leverage and rapid credit growth are seen time and again. The contribution by Carmen Reinhart and Kenneth Rogoff, building on their studies of crises over a very long history, makes this pattern quite evident. In addition, funding fragility shows up prominently, particularly during the 2007–09 crisis, as Hyun Shin's contribution documents.

The book has valuable lessons on how countries can better monitor their economies and financial systems. However, rapid changes in financial systems and growing linkages among economies mean that it is still quite difficult to find robust patterns that can help us to predict crises accurately. Given the developments witnessed during the 2007–09 episodes, the view that only emerging markets are prone to crises is surely wrong. Advanced economies were at the epicenter of the crisis, whereas many emerging markets proved relatively resilient. In his contribution, José de Gregorio provides an elegant perspective on the sources of this resilience in emerging markets in Latin America, and explores the potential lessons for other emerging markets and advanced countries.

In addition to the chapters by these eminent scholars, a number of contributions from researchers at the IMF are presented in the book. These chapters focus on the causes and consequences of financial crises, and on the best policies for their resolution. They reflect that IMF research and policy activities are geared toward improving the institution's crisis prevention and resolution toolkits, encompassing surveillance, technical assistance, policy design, and emergency lending.

Recent work on credit booms and banking crises conducted by IMF researchers confirms academic research on the critical role of rapid credit expansion before crises. This work has found that one in three boom episodes ends up in a crisis. Although it is difficult to differentiate a good credit boom from a bad one beforehand, this research shows that bad booms tend to be longer. Specifically, roughly half of the booms lasting longer than six years end up in a crisis.

Research conducted at the IMF also documents that cross-border financial linkages have intensified and become more complex. Increased linkages promote risk diversification by reducing exposure to local shocks, but global financial networks also transmit shocks and can make the sudden elevation of systemic risk more likely. When such risks materialize and turn into systemic crises, they affect a large number of countries, including "bystanders," that is, those countries with relatively strong fundamentals that are less vulnerable to idiosyncratic crises.

As research advances, we hope to further improve early detection of vulnerabilities. As we learn more about incentives and factors that lead to financial fragility, we will be able to design better policies, including macroprudential ones, and improve the institutional infrastructure and strengthen supervision, thereby reducing the incidence of crises. Having said this, I am realistic enough to realize that there is a long road ahead in having the knowledge and tools, combined with the necessary political will, to prevent all financial crises.

Political economy considerations are often at the core of the challenges policymakers face in preventing and coping with financial crises. In the past they hampered the design of efficient policy responses and they have been present in recent crises. Much needs to be explored to design effective regulatory and supervisory interventions when the signs of excessive risk taking demand strong actions. The flourishing research on macroprudential policies can help provide some answers toward the better design of such interventions.

The findings presented are not just important for crisis prevention, but can also guide the appropriate design of international lending instruments and safety nets, including those of the IMF. For example, to reduce the incidence and scale of crises brought on by contagion, resources should be pooled globally, thus proactively helping to provide the necessary liquidity to avoid self-fulfilling crises and reduce the risk of contagion. In turn, policy space would be provided for innocent bystanders. The IMF has internalized this lesson, quadrupling its resources and revamping its lending toolkit by giving greater emphasis to crisis insurance.

Although further research in this area can help in many dimensions, there are challenges ahead and crises will inevitably happen again. Therefore, the global policy community should also continue to devote efforts to buttressing our understanding of crisis resolution policies. As chapters in this book show, designing a strategy for resolving a crisis and formulating policies to accelerate economic recovery involve many trade-offs. Resolution policies that transfer wealth from savers to borrowers can help restart productive investment, but can create moral hazard. It is clear now that adequate implementation requires arrangements that properly align incentives. Open bank assistance without proper restructuring and recapitalization is not an efficient way to deal with an ailing banking system. Moreover, excessive liquidity support and guarantees cannot substitute for proper restructuring and recapitalization. After all, most crises involve solvency problems, not just liquidity shortfalls.

The book highlights the macroeconomic challenges and consequences of crises. Resolution itself, especially if not properly designed, may result in large fiscal costs. And a weak fiscal position can be a major constraint to implementing the necessary restructuring measures. The book highlights that better outcomes will be achieved, including lower real and fiscal costs, the sooner that restructuring policies are implemented. An aggressive strategy removes residual uncertainties that lead to precautionary contractions in consumption and investment, further exacerbating recessions. Delayed economic recoveries are nevertheless common in financial crises and result in substantial medium-term output losses. These and other challenges emphasize the need for further research on crisis resolution.

The collection of research in this book provides an excellent overview of these critical policy areas. However, because many challenges in the prevention and resolution of crises are yet to be addressed, the topic of financial crises remains a fertile area for future research.

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Acknowledgments

The editors are grateful to Olivier Blanchard and Prakash Loungani for their constant support of this book project. They would also like to thank Sean Culhane, Joanne Johnson, and Patricia Loo of the External Relations department for their help in coordinating the publication of this volume, and Helen Hwang for administrative assistance.

Understanding Financial Crises: Causes, Consequences, and Policy Responses

Stijn Claessens, M. Ayhan Kose, Luc Laeven, and Fabián Valencia

By now, the tectonic damage left by the global financial crisis of 2007–09 has been well documented. Global per capita output, which typically expands by about 2.2 percent annually, contracted by 1.8 percent in 2009, the largest contraction the global economy has experienced since World War II. During the crisis, markets around the world experienced colossal disruptions in asset and credit markets, massive erosions of wealth, and unprecedented numbers of bankruptcies. Five years after the crisis began, its lingering effects are still all too visible in advanced countries and emerging markets alike: the global recession left in its wake a worldwide increase of 30 million people unemployed. These are painful reminders of why the understanding of financial crises needs to be improved. This book serves this purpose by bringing together a number of innovative studies on the causes and consequences of financial crises and policy responses to them.

Although there is a rich literature on financial crises, no publication since the 2007–09 crisis has provided a broad overview of this research and distilled its policy lessons. This book fills this critical gap. It covers a wide range of crises, including banking, balance of payments, and sovereign debt crises. It reviews the typical patterns that precede crises and considers lessons on their antecedents, analyzes the evolution of crises and examines various policy responses—macroeconomic policies, and the restructuring of banks, households, financial institutions, and sovereigns—and studies their aftermath, including short- and medium-term growth impacts, and financial and fiscal consequences. This volume includes contributions from outstanding scholars engaged in research on financial crises and a select set of chapters produced by researchers at the IMF. The book's audience includes researchers, academics, and graduate students working on financial crises. Because it shows that applied research can provide lessons, it is also an excellent reference for policymakers.

SIMILARITIES BETWEEN CRISES ABOUND

As the book documents, lessons from past crises are insightful because many similarities across crisis episodes can be detected, even when the exact triggers for and timing of crises vary. Although the relative importance of the sources of the 2007–09 crisis will be debated for some time, the run-up to this episode shares at least four major features with earlier episodes: rapid increases in asset prices, credit booms, a dramatic expansion in marginal loans, and regulation and supervision that failed to keep up with developments. Combined, these factors sharply increased the risk of a financial crisis, as they had in earlier episodes.

Asset Price Bubbles

Although the specific sector experiencing a boom can vary across crises, asset price booms are common. In the 2007–09 crisis, it was house prices that sharply increased before the meltdown, including in Iceland, Ireland, Spain, the United Kingdom, the United States, and other markets that subsequently ran into problems. The patterns of house price increases are reminiscent of those in earlier major crisis episodes. The overall size of the housing booms and their dynamics—including house prices rising in excess of 30 percent in the five years preceding the crisis and peaking just before the beginning of the crisis—are remarkably similar to developments that preceded previous banking crises in advanced economies, as observed by Reinhart and Rogoff (2008). These booms were generally fueled by quickly rising credit resulting in sharp increases in household leverage. As happened so often before, the rapid house price increases and the buildup in leverage turned out to be a dangerous combination.

Credit Booms

As in most earlier crises, the rapid expansion of credit played a large role in the run-up to the 2007–09 crisis. Credit aggregates grew very fast in Iceland, Ireland, Spain, the United Kingdom, and several Eastern European countries, often fueling real estate booms. Rapid credit growth episodes generally coincide, as they did again this time, with large cyclical fluctuations in economic activity. Although aggregate credit growth was less pronounced, reflecting slower corporate credit expansion, household indebtedness in the United States rose rapidly after 2000, driven largely by increased mortgage financing, along with contributions from historically low interest rates and financial innovation. And in spite of low interest rates, debt service relative to disposable income reached record highs.

Historically, not all credit booms end up in crises, but the probability of a crisis increases with a boom, especially the larger its size and the longer its duration. The mechanisms linking credit booms to crises include increases in the leverage of borrowers and lenders, and a decline in lending standards. In the 2007–09 episode, both channels were at work. Increased leverage, in part attributable to inadequate oversight, left households vulnerable to a decline in house prices, a tightening in credit conditions, and a slowdown in economic activity. Not only did the correction harm consumers as they ran into debt-servicing problems, it also led to systemic risks. And default rates were higher where credit growth had been more rapid; this pattern extended to other countries caught in crises.

Marginal Loans and Systemic Risk

Credit booms or, more generally, rapid growth in financial markets, are often associated with a deterioration in lending standards. They often mean the creation of marginal assets that are viable only as long as favorable economic conditions last. In the United States and elsewhere, a large portion of the mortgage expansion consisted of loans extended to borrowers with limited credit and employment histories, and often on terms poorly suited to the borrowers' conditions. Debt servicing and repayment were vulnerable to economic downturns and changes in credit and monetary conditions. This situation maximized default correlations across loans, generating portfolios highly exposed to declines in house prices—confirmed afterward by the large fraction of nonperforming loans.

In other countries, the same pattern meant large portions of credit denominated in foreign currency. Similar exposures had been common before, for example, in the corporate and financial sectors before the Asian crisis of the late 1990s. In the 2007–09 crisis, large portions of credit (including to households) in several Eastern European economies were denominated in foreign currency (euros, Swiss francs, and yen). Although interest rates lower than those on local currency loans increased affordability, borrowers' ability to service those loans depended on continued exchange rate stability. Again, this meant high default risk correlations across loans and systemic exposure to macroeconomic shocks.

Risky liability structures in financial intermediaries typically add to vulnerabilities. The importance of wholesale bank funding, which in the past often took the form of foreign liabilities, especially in emerging market crises, manifested itself this time in the nonbank financial system, particularly in the United States. Moreover, commercial banks and investment banks in many advanced countries sharply increased their leverage. As the result of buoyant housing and corporate financing markets, favorable conditions spurred the emergence of large-scale derivatives markets, such as those for mortgage-backed securities and collateralized debt obligations with payoffs that depended in complex ways on underlying asset prices. The corporate credit default swap market also expanded dramatically because of favorable spreads and low volatility. The pricing of these instruments was often based on a continuation of increasing or high asset prices.

Poorly Designed Liberalization, Ineffective Regulation and Supervision, and Inadequate Interventions

Crises often follow expansions triggered by badly sequenced regulatory reforms and financial liberalization. Poorly developed domestic financial systems have often been unable to intermediate large capital inflows in the wake of capital account liberalization. Deficiencies in oversight often led to currency and maturity mismatches and to large and concentrated credit risks. In the 2007–09 crisis as well, although perhaps in more subtle forms, regulatory approaches and prudential oversight were insufficient to restrict excessive risk taking.

As in the past, financial institutions, merchant banks, investment banks, and off-balance-sheet vehicles of commercial banks operated—to varying degrees—outside the regulatory perimeter. The shadow banking system was able to grow without much oversight, eventually becoming a systemic risk. Derivatives markets were largely unregulated and poorly overseen, creating the potential for chain reactions leading to systemic risk. The international activities of financial institutions were not monitored properly. Market discipline was not effective in halting the buildup of systemic risks. Markets, rating agencies, and regulators underestimated the conflict s of interest and information problems associated with the originate-to-distribute model.

As happened in earlier episodes, prevention and early intervention mechanisms also proved to be insufficient. Before the crisis, the focus of authorities remained primarily on the liquidity and solvency of individual institutions, rather than on the resilience of the financial system as a whole. This lapse led to an underestimation of the probability and costs of systemic risk. In addition, as has been common in previous episodes, intervention came late in many countries, significantly raising the real and fiscal costs, and hampering the postcrisis recovery. At the international level, insufficient coordination among regulators and supervisors and the absence of clear procedures for the resolution of global financial institutions hindered efforts to prevent the cross-border transmission of the crisis.

DIFFERENCES DO EXIST

Despite the similarities described above, crises continue to occur partly because the economic and financial conditions before each batch of crises have their own unique features, making people think "this time is different" as succinctly described by Carmen Reinhart and Kenneth Rogoff (2009). In addition to presenting a careful study of the similarities, the book also covers the features that distinguish the 2007–09 crisis from earlier episodes. In particular, many chapters in the book consider four major differentiating elements: benign macroeconomic conditions before the crisis, the opaqueness of financial transactions and the large role of nonbank financial institutions, the high degree of international financial integration, and the major roles played by advanced countries.

Remarkably Benign Macroeconomic Conditions

One of the most significant differences was that the buildup of risks around the world occurred within relatively benign macroeconomic conditions in most countries, with solid economic growth, low inflation, and few financial crises. These circumstances created a sense of exuberance in financial markets and a feeling of accomplishment among policymakers. Historically low real interest rates helped foster increased leverage across a wide range of agents—notably financial institutions and households—and markets. The high degree of leverage, however, limited the ability of borrowers and the financial system to absorb even small shocks, leading to a quick erosion of capital buffers, a rapid decline in confidence, and an escalation of counterparty risk early on in the crisis. These weak spots, in turn, triggered a liquidity crisis with global ramifications.

Opaqueness of Financial Transactions and the Role of Nonbanks

Although the originate-to-distribute model in the United States seemed to be a good template for risk allocation, it turned out to undermine incentives for properly assessing risks and led to a buildup of tail risks. The model also caused serious difficulties for assessing the true value of assets as the crisis unraveled. This lack of understanding quickly turned a liquidity crisis into a solvency crisis. Indeed, the financial turmoil began in those countries in which nonbanks (including money market funds, investment banks, and special-purpose vehicles) played important roles in financial intermediation. Because these nonbanks typically did not fall within the formal financial regulatory perimeter, the risk of runs became more likely.

The complex interdependencies between the regulated and unregulated parts of the financial system also made responses more difficult than when the financial system consisted primarily of traditional banks (as in many earlier crises). The restructuring of assets became far more complicated because homeowners in many countries were directly involved. There are no established best practices for dealing with large-scale household defaults and the associated moral hazard problems and equity and distribution issues. Restoring household balance sheets proved to be very complex and prolonged the recovery from the crisis.

High Degree of International Financial Integration

A significant fraction of financial instruments originated in the United States were held in other advanced economies and by the official sector in emerging markets. Large cross-border banks, exceeding many countries' GDP in size, had extensive, complex exposures in and across many markets. International financial integration more generally had increased dramatically in the decades before the crisis, with global finance no longer involving just a few large players, but many from various markets and different countries. Although this structural evolution undoubtedly had many benefits, it quickly turned turmoil in a few, large countries into a global crisis. The cross-border linkages across institutions and markets meant that disturbances spread quickly, made globally coordinated solutions much more difficult to implement, and worsened confidence in many ways.

The Role of Advanced Countries

The 2007–09 episode was concentrated in advanced economies, in contrast to past crises that often took place in emerging markets and developing countries. This concentration led to significant contagion effects from financial institutions in advanced countries to other countries, through both financial and trade channels. After all, the crisis countries were not only home to the main intermediaries of global capital but also the main importers of goods and services. Differences in institutional and economic settings, including the typically larger size of advanced countries' financial systems, required different policy responses, both macroeconomic and financial. Whereas emerging markets, for example, typically tightened monetary policy following a crisis to stem capital outflows, advanced economies were able to resort to expansionary monetary policies to support their financial systems and to boost activity, including through fiscal policy, without considering the implications of these policies for capital flows. This strategy had its benefits, but also had costs, because the necessary restructuring was more easily postponed in the presence of expansionary policies.

SYNOPSIS

The remainder of this introduction presents detailed summaries of the chapters in the book. Part I of the book provides an overview of the various types of crises and introduces a comprehensive database of crises. Part II reviews broad lessons on crisis prevention and management. Part III discusses the short-term economic effects of crises, recessions, and recoveries. Part IV analyzes the medium-term effects of financial crises on economic growth. Part V reviews the use of policy measures to prevent booms, mitigate busts, and avoid crises. Finally, Part VI reviews the policy measures for mitigating the adverse impact of crises and examines how to restructure banks, households, and sovereigns.

Part I: Overview of Financial Crises

The book starts with a review of financial crises, including their origins and macroeconomic consequences, and an overview of the policy responses that countries tend to resort to when dealing with major banking crises. In Chapter 1, Claessens and Kose provide a comprehensive review of the literature on financial crises. They focus on currency crises, sudden stops in capital flows, debt crises, and banking crises. The chapter begins with a general overview of the common elements that precede different types of crises, including asset price bubbles, credit booms, buildups of leverage, and large capital inflows. These can, of course, turn into asset price crashes, credit crunches, deleveraging spirals, sudden capital outflows, or sovereign defaults during financial crises.

They also present a brief discussion of the determinants of crises and document the differences in models developed to explain different types of episodes. Over the years, for example, various generations of models have been developed to explain currency crises, whereas the modeling of systemic banking crises is relatively less advanced. The chapter also reviews the causes identified in empirical work. Despite much overlap, causes can vary depending on the type of crisis. Changes in terms of trade, capital flows, and international interest rates, for example, have been found to be important triggers for currency and foreign debt crises, whereas fundamentals, policy failures, and domestic or external shocks have been shown to be important triggers for banking crises.

The authors discuss the identification of crises in practice, a key challenge for empirical studies. Using existing databases, they show that, although often associated with emerging markets, crises have been universal phenomena. Crises also often overlap and come in waves, indicating the significance of global factors in driving these episodes. In addition, the authors provide a review of the macroeconomic implications of crises. Output losses are almost universal, and consumption, investment, and industrial production follow qualitatively similar declines, although severity and duration vary.

In chapter 2, Laeven and Valencia provide a detailed database of the starting dates of financial crises and of the resolution policies and fiscal costs associated with resolving crises. Their focus is on banking crises, although information on currency crises and sovereign debt crises is also provided. Using the data, they show that countries typically resort to a mix of policies to contain and resolve banking crises, ranging from macroeconomic stabilization to financial sector restructuring policies and institutional reform.

In addition to offering the most comprehensive and up-to-date available database on banking crises, Laeven and Valencia also point out that, despite the numerous commonalities among crisis origins, many attempted crisis-management strategies have met with mixed success. Successful crisis resolutions have been characterized by transparency and steadfastness in resolving insolvent institutions, thereby removing uncertainty surrounding the viability of financial institutions. This strategy requires a triage of strong and weak institutions, with full disclosure of bad assets and recognition of losses, followed by the recapitalization of viable institutions and the removal of bad assets and unviable institutions from the system.

Conventional wisdom would have it that advanced economies, with their stronger macroeconomic frameworks and institutional settings, have an edge in crisis resolution, but the record thus far supports the opposite: advanced economies have been slow to resolve banking crises, with the average crisis lasting about twice as long as in developing and emerging market economies.

Although differences in initial shocks and financial system size surely contribute to these different outcomes, the authors suggest that the greater reliance by advanced economies on macroeconomic policies as crisis-management tools may delay the needed financial restructuring, thereby prolonging the crisis. This is not to say that macroeconomic policies should not be used to support the broader economy during a crisis. Macroeconomic policies can be the first line of defense. They stimulate aggregate demand and sustain asset prices, thus supporting output and employment, and indirectly a country's financial system. This support helps prevent disorderly deleveraging and provides room for balance sheet repair, buying time to address solvency problems head on. However, by masking financial institutions' and borrowers' balance sheet problems, macroeconomic policies may also reduce incentives for financial restructuring, with the risk of dampening growth and prolonging the crisis.

Part II: Lessons on Crisis Prevention and Management

The chapters in the second part of the book provide elegant analyses of the lessons learned about the warning signals ahead of crises and the management of such episodes. These specially commissioned papers were presented at a conference held at the IMF on September 14, 2012. Chapter 3, by Reinhart and Rogoff, is based on the keynote address Carmen Reinhart delivered at the conference. The chapter makes a convincing case that the 2007–09 crisis, which began with the unraveling of the U.S. subprime mortgage market, is far from over and is on a scale that has not been seen in advanced economies since the 1930s and the defaults on World War I debt.

Reinhart and Rogoff draw four thought-provoking lessons from the 2007–09 crisis. First, policymakers have often been better at managing crises than at preventing them, which was also true in the 2007–09 episode. They conjecture that this is unlikely to change anytime soon. Second, they argue that significant differences between advanced countries and emerging economies are not clear with respect to the likelihood of experiencing a crisis. Specifically, they provide a reminder that although crises were the domain of emerging markets in the last half of the 20th century, before 1940, advanced economies were involved in many crises. Third, both the diagnosis and understanding of the scope and depth of the risks and magnitudes of various debts are still incomplete. Observers tend to forget that domestic and external debt are not created equally, that public debt is different from private debt, and that the stock of debt is usually much larger than ever estimated.

Finally, Reinhart and Rogoff show a recurring pattern following global crises, in which governments have resorted to subtly restructuring their debt, rather than defaulting or formally reworking repayment terms. The techniques, part of which they call financial repression, include keeping interest rates low, which lowers debt-servicing costs and liquidates the real value of government debt. Many advanced countries have also used public debt restructurings and conversions of high-yield, short-term debt into low-yield, long-term debt. Other techniques include directed lending to governments by captive domestic savers such as pension funds, regulation of cross-border flows of funds, and a generally tighter relationship between banks and government. The end result is that funds that would otherwise go to nongovernment borrowers are directed to government use, usually at below-market rates. In light of this history, they suggest an increasing likelihood of debt restructurings and conversions to ease sovereign repayments in some of the stressed economies in Europe.

The global financial crisis of 2007–09 caught most economists and policymakers flat-footed, so the search for predictors of such crises has been a major area of research in recent years. Chapters 4, 5, and 6 ask a fundamental question: what are the best warning signals of financial crises?

In Chapter 4, Hyun Song Shin observes that finding a set of early warning indicators that can flag vulnerability to financial turmoil is an extremely challenging task. Shin focuses on three sets of indicators: those based on market prices;

the ratio of credit to GDP—to assess whether credit is expanding excessively; and the behavior of banking sector liabilities, such as monetary aggregates. His results suggest that those indicators based on market prices, such as spreads on credit default swaps, do not give sufficient warning of a crisis. Judging the extent to which the ratio of credit to GDP diverges from its long-term trend is more useful, but determining the long-term trend is difficult until after the crisis. He claims that the behavior of bank liabilities has the most promise, simply because banks must borrow to lend. When credit demand is high, banks tend to exhaust their normal, or core, sources of funds and turn to noncore sources, the defining characteristics of which can vary by institution and financial system. A spike in the ratio of noncore to core liabilities is a good indicator that a boom is under way. However, he also notes that it can be difficult to differentiate between core and noncore liabilities before a crisis.

In past global crises, emerging market economies often suffered more than advanced economies did. The reverse was true in the 2007–09 global financial crisis. Whereas advanced economies suffered—and continue to suffer five years later—emerging market economies, including in Latin America, had shorter recessions and quicker recoveries. In Chapter 5, de Gregorio claims that a number of factors contributed to the better performance of emerging markets in the recent financial crisis. Sound macroeconomic policies before the crisis permitted emerging markets in Latin America to undertake sizable monetary and fiscal stimulus to offset the recession. Countries also allowed their currencies to depreciate sharply, which dampened speculation about further declines.

Financial systems were also generally sound, well capitalized, and regulated, and not prone to accumulating risky financial instruments, such as structured securities, that disabled financial systems in advanced economies. Good luck also helped—commodity prices were high before the crisis and, after a sharp contraction in international trade in 2009, rebounded sharply in 2010. In addition, de Gregorio's chapter documents that countries maintained high levels of international reserves, which served dual roles—as a form of self-insurance to be tapped in case of a sudden cessation of foreign capital inflow and as a bulwark against currency speculation.

Taylor argues in Chapter 6 that unusually high, sustained rates of credit growth, so-called credit booms, tend to be the main precursors to financial crises. Before the global financial crisis of 2007–09, many prominent policymakers and economists focused on the turmoil-producing potential of large current account imbalances, in which some major deficit countries, such as the United States, faced possible "jarring shocks" if surplus countries, such as China, ceased financing their deficits. Although external imbalances can play a role in creating credit booms, his chapter documents that it is the credit boom itself, not its source, that policymakers should watch for as a sign of an impending financial crisis. Although economies can have credit booms fueled by external imbalances, most credit booms are home-grown and unrelated to shifts in the current account.

Together with other contributions in the book, these chapters also provide some lessons for crisis management, notably for advanced countries today and with regard to banking crises. The response during the 2007–09 global financial crisis, dominated by advanced economies, relied heavily on the use of monetary and fiscal policies. Advanced economies were generally well placed to resort to such policies without being overly concerned about the impact on their exchange rates, inflation, or public debt. Advanced economies typically benefit from well-anchored inflation expectations, and their reserve currencies benefit from flight-to-quality effects during financial crises. Emerging market economies, conversely, often do not have the fiscal space or the access to external finance to support accommodative fiscal policy, and excessive monetary expansion quickly translates into inflation and large declines in the value of the currency, further impairing balance sheets in the presence of currency mismatches.

In comparison with past episodes in emerging markets, advanced countries used a much broader range of policy measures, including unconventional asset purchases and guarantees, and significant fiscal stimulus packages. These policies were combined with substantial government guarantees on nondeposit bank liabilities and ample liquidity support for banks, often at concessional penalty rates and with reduced collateral requirements. Liquidity support was particularly large in the euro area, indicating the significant role played by the Eurosystem in managing the crisis, compensating in part for the absence of a common fiscal authority.

The lack of deeper restructuring also reflected the limited nature of the available tools. Initially, countries' responses to the crisis were limited to tools that were on hand and did not require institutional reforms or parliamentary approval. For example, many advanced countries did not have the tools in place to resolve complex financial institutions, including nonbanks, before the crisis. Restructuring often involved budgetary approval for government programs to purchase assets or recapitalize financial institutions, causing delays or inadequate funds. Given the lack of cross-border resolution frameworks and often complex burden-sharing challenges, interventions in ailing institutions with international spillovers were often poor.

Political economy considerations, in addition to economic conditions, can also favor the use of such policies over deep financial restructuring using tools such as bank recapitalization. The latter are generally seen by the public as enriching bankers. Accommodative monetary policy, although less targeted to the underlying problems, is more likely to garner broad-based support: low interest rates will support asset prices for investors and house prices for homeowners, and will lower the debt burden for mortgage holders and other debtors. Taken together, as the chapters stress, these actions mitigated the financial turmoil, contained the crisis, and avoided an even sharper contraction in economic activity. However, they also discouraged more active financial restructuring.

The net result appears to be that much of the cost of the 2007–09 crisis has been transferred to the future, in the form of higher public debt and possibly an anemic economic recovery caused by residual uncertainty about the health of banks and continued high private sector indebtedness. The lingering effects stemming from bad assets and uncertainty about the health of financial institutions risk prolonging the crisis and depressing growth for an extended period. Thus, the broader lesson of this part is that macroeconomic stabilization policies should supplement and support, but not displace or delay, necessary financial restructuring.

Part III: Short-Term Effects: Crises, Recessions, and Recoveries

The next part of the book considers the short-term effects of financial crises as seen in the evolution of macroeconomic and financial variables. The chapters in this part show that recessions associated with financial crises tend to be unusually severe and their recoveries are typically slow (Terrones, Scott, and Kannan, 2009). The recent bout of crises took a particularly heavy toll on the real economy. However, as Claessens, Kose, and Terrones show in Chapter 7, this might not have been a surprising outcome. Recessions associated with financial crises tend to be unusually severe, resulting in much larger declines in real economic activity, and their recoveries tend to be slow. Similarly, globally synchronized recessions are often long and deep, and recoveries from these recessions are generally weak.

These studies also consider the effectiveness of policies during crises. Countercyclical monetary policy can help shorten recessions, but its effectiveness is limited in financial crises. By contrast, expansionary fiscal policy seems particularly effective in shortening recessions associated with financial crises and boosting recoveries. However, its effectiveness is a decreasing function of the level of public debt. These findings suggest that the 2007–09 financial crisis is likely to have unusually long and severe impacts, with the recovery sluggish. However, strong countercyclical policy action, combined with the restoration of confidence in the financial sector, could help move the recovery forward.

Claessens, Kose, and Terrones also present a brief analysis of the similarities and differences between the 2007–09 crisis and previous episodes. They show that the buildup to the crisis had four major features similar to earlier episodes: First, asset prices increased rapidly in a number of countries before the crisis. Second, a number of key economies experienced credit booms ahead of the crisis. Third, there was a dramatic expansion in marginal loans, particularly in the mortgage markets of several advanced economies, which led to a sharp increase in systemic risk. Fourth, the supervision of financial institutions failed to keep up with the development of new financial instruments. These combined factors sharply increased the risk of a financial crisis.

The authors also claim that four new dimensions played important roles in the severity and global scale of the crisis that included surprising disruptions and breakdowns of several markets in fall 2008. First, there was widespread use of complex and opaque financial instruments. Second, the interconnectedness among financial markets, nationally and internationally, with the United States at the core, had increased dramatically in a short time. Third, the degree of leverage of financial institutions accelerated sharply. Fourth, the household sector played a central role. These new elements combined to create unprecedented complications late 2008, ultimately resulting in the global financial crisis.

Part IV: Medium-Term Effects: Economic Growth

This part of the book considers the medium-term effects of financial crises on the real economy. In Chapter 9, Abiad, Balakrishnan, Brooks, Leigh, and Tytell examine the medium-term output performance following 88 banking crises since 1970 across a wide range of economies, as well as the behavior of world output following major financial crises going back to the 19th century. They find that output tends to be depressed substantially and persistently following banking crises, with no rebound, on average, to the precrisis trend in the medium term. However, growth eventually returns to its precrisis rate for most economies. The depressed output path tends to result from long-lasting reductions of roughly equal proportions in the employment rate, the capital-to-labor ratio, and total factor productivity. In the short term, the output loss is mainly accounted for by total factor productivity losses, but, unlike the employment rate and capital-to-labor ratio, the level of total factor productivity recovers somewhat to its precrisis trend in the medium term. In contrast, capital and employment suffer enduring losses relative to trend.

Surprisingly, a large number of recoveries from crises occur in the absence of credit growth, labeled "creditless recoveries" by Abiad, Dell'Ariccia, and Li in Chapter 10. They show that such recoveries are not rare: about one in five recoveries is creditless, but average growth during these episodes is about a third lower than during normal recoveries. Aggregate and sectoral data suggest that impaired financial intermediation is the culprit. Creditless recoveries are more common after banking crises and credit booms. Furthermore, sectors more dependent on external finance grow relatively less, and more financially dependent activities (such as investment) are curtailed more during creditless recoveries.

Part V: Policy Measures to Prevent Booms, Mitigate Busts, and Avoid Crises

This part studies the effectiveness of policies in curbing credit booms and busts, with the aim of preventing or managing financial crises. Chapters 11 (Dell'Ariccia, Igan, Laeven, and Tong) and 12 (Crowe, Dell'Ariccia, Igan, and Rabanal) study the effectiveness of macroeconomic and macroprudential policies in reducing the risks associated with real estate credit booms. Both chapters find that well-targeted macroprudential policies, such as caps on loan-to-value ratios; capital requirements that increase during boom times; and to a lesser extent macroeconomic policies, if properly designed, have some success in curbing excessive credit growth and mitigating the consequences of credit crunches and asset price busts.

Financial sector policies need not be used in isolation to address financial sector problems, but can be complemented with and supported by macroeconomic policies. This is evident in Chapters 13 and 14. Laeven and Valencia (Chapter 13) show that the direct fiscal costs of supporting the financial sector were smaller during the 2007–09 crisis than during earlier crises as a consequence of swift policy actions and significant indirect support from expansionary monetary and fiscal policy, the widespread use of guarantees on liabilities, and direct purchases of assets (such as mortgage securities by central banks). Baldacci, Gupta, and Mulas-Granados (Chapter 14) show that timely countercyclical fiscal measures can contribute to shortening the length of crisis episodes by stimulating aggregate demand, with fiscal expansions that rely mostly on measures to support government consumption proving to be more effective in shortening crisis duration than those based on cuts in public investment or income taxes.

Of course, although these policies reduce the real impact of crises, they concurrently increase the burden of public debt and the size of government contingent liabilities, raising concerns about fiscal sustainability in some countries. In fact, the results in Chapter 14 do not hold for countries with limited fiscal space, where fiscal expansions are prevented by funding constraints. The composition of countercyclical fiscal responses matters as well for output recovery after a crisis, with public investment yielding the strongest impact on growth. These results suggest a potential trade-off between short-term aggregate demand support and medium-term productivity growth objectives in fiscal stimulus packages adopted in times of distress, with the trade-off affected by the depth of financial restructuring.

Part VI: Policy Measures to Mitigate the Impact of Crises; and the Restructuring of Banks and of Household and Sovereign Debt

The final part of the book considers policies for dealing with the restructuring of banks and of debt overhang in the public or private sectors of the economy, specifically the restructuring of household debt and sovereign debt.

In Chapter 15, Landier and Ueda argue that the optimal design of a bank-restructuring program depends on the payoffs and incentives for the various key stakeholders, including shareholders, debt holders, and government; and that the benefits and costs of financial sector interventions should be compared with those of alternative government interventions to support the economy. At the same time, time is of the essence.

Claessens, Pazarbasioglu, Dobler, Valencia, Nedelescu, and Seal, in Chapter 16, compare policy choices in recent and past crises and argue that the overall asset restructuring and balance sheet repair of financial institutions during the 2007–09 crisis are much less advanced than they should be at this stage and that moral hazard has increased. Consequently, vulnerabilities in the global financial system remain considerable and continue to threaten the sustainability of the recovery. They call for more aggressive asset restructuring to complete the much-needed financial sector repair and reform process.

The historically high levels of household debt in many crisis-hit countries heightened demands for government intervention. If unaddressed, household debt distress can be a drain on the economy and even lead to social unrest.

Well-designed and well-executed government interventions may be more efficient than leaving debt restructuring to the marketplace and standard court-based resolution tools. In Chapter 17, Laeven and Laryea make the case for government intervention in household debt restructuring. They propose, in addition to targeted legal reforms, a template for government-supported household debt-restructuring programs designed to reverse nonperforming loans, which could be adapted to individual country circumstances.

The case for household debt restructuring is also made in Chapter 18 by Igan, Leigh, Simon, and Topalova, who show that housing busts and recessions preceded by larger run-ups in household debt tend to be more severe and protracted. These patterns are consistent with the predictions of recent theoretical models. Based on case studies, they show that government policies can help prevent prolonged contractions in economic activity by addressing the problem of excessive household debt. In particular, bold household debt-restructuring programs such as those implemented in the United States in the 1930s and in Iceland in the aftermath of the global crisis can significantly reduce debt-repayment burdens and the number of household defaults and foreclosures. Therefore, such policies can help avert self-reinforcing cycles of household default, further house price declines, and additional contractions in output.

Finally, Das, Papaioannou, and Trebesch provide a comprehensive survey of issues pertinent to sovereign debt restructuring, based on a newly constructed database covering 185 debt exchanges with foreign banks and bondholders since the 1950s, and 447 bilateral debt agreements with the Paris Club. In Chapter 19, they present new stylized facts on the outcome and process of debt restructurings, including the size of haircuts, creditor participation, and the role of legal conditions. They also discuss ongoing debates about crisis resolution mechanisms, credit default swaps, and the role of collective action clauses. Their chapter shows that rapid restructuring can have many benefits.

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Abbreviations

3S	systemic sudden stop
AMC	asset management company
AUC	area under curve
BAC	Bank Advisory Committee
BMA	Bayesian model averaging
CAC	collective action clause
CCF	Correct Classification Frontier
CDS	credit default swap
DTI	debt to income
EM	emerging market
EU	European Union
Fannie Mae	U.S. Federal National Mortgage Association
FDIC	U.S. Federal Deposit Insurance Corporation
Fed	U.S. Federal Reserve
FHA	U.S. Federal Housing Administration
Freddie Mac	U.S. Federal Home Loan Mortgage Corporation
GDP	gross domestic product
GNP	gross national product
GSE	Government-Sponsored Entity
HAMP	Home Affordable Modification Program
HARP	Home Affordable Refinance Program
HIPC	Heavily Indebted Poor Countries
HOLC	Home Owners' Loan Corporation
H-P	Hodrick-Prescott
IFS	*International Financial Statistics*
LIC	low-income country
LTV	loan to value
M2	broad money
MDRI	Multilateral Debt Relief Initiative
MHA	Making Home Affordable
MBS	mortgage-backed security
NPL	nonperforming loan

OECD	Organization for Economic Cooperation and Development
OLS	ordinary least squares
SAR	Special Administrative Region
TARP	Troubled Asset Relief Program
WDI	*World Development Indicators*
WEO	*World Economic Outlook*

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