



The Road Ahead to a Sustainable Global Economic System



Lessons from the Recent Financial Crisis for Reforming National and International Financial Systems: The Road Ahead to a Sustainable Global Economic System

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The recent financial crisis is due to a confluence of many well-known factors and some new ones. It has brought to light many weak elements in national financial architectures, particularly in the treatment of systemic banks and other financial institutions, the assessment of risks and vulnerabilities, and the resolution of financial institutions and claims. The global nature of the financial crisis has shown that financially integrated markets have benefits, but also risks, with real economic consequences. It has shown that the international financial architecture is still far from matching the world's closely integrated financial systems. The crisis has had major financial and economic repercussions for emerging markets and developing countries alike. Countries are benefiting from their improved fundamentals. To tackle the crisis, short-term policy responses, involving more accommodative fiscal and monetary policy and better restructuring frameworks, are being put in place. But the crisis also highlights specific challenges for financial sector reform for emerging markets and developing countries.

This paper draws lessons from the recent financial crisis for reforming national and international financial systems, including short-term policy implications for emerging markets and developing countries. To diagnose the problem, the paper starts with a review of the causes of the current global financial crisis that draws on historical perspectives and discusses its international dimensions. It highlights the multiple causes of the crisis, with a mixture of some elements common to other financial crises and some new elements. It reviews the many channels and mechanisms through which the

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financial crisis propagated and spread globally. And it shows how the ongoing global crisis is leaving a considerable legacy of government interventions and macroeconomic consequences, especially in advanced countries, that will condition future actions and reforms.

The paper then reviews the lessons for national and international financial reforms. The financial crisis has brought to light many weak elements in the financial architecture of nations, particularly regarding the treatment of systemic banks and other financial institutions, the assessment of risks and vulnerabilities, and the framework for resolving financial institutions and claims. The global nature of the financial crisis has shown that financially integrated markets have benefits, but also risks, with large real economic consequences. The crisis highlights that the international financial architecture is still far from matching the world's closely integrated financial systems. Improvement is needed in the areas of surveillance, information sharing, crisis management, and liquidity support. The paper summarizes current thinking on what reforms can best address these issues.

Particular emphasis is then given to the implications and lessons of this crisis for emerging markets and developing countries. In the short run, policy makers in these countries have to deal with the financial and economic consequences of a crisis often not of their making. But many countries are better positioned than in the past to deal with these challenges, given their improved fiscal positions, stronger financial sectors, and improved institutional environments. Still, these countries face numerous challenges highlighted by the financial crisis. The paper concludes with several areas of current debate and areas where more research would be useful to help guide policy makers.

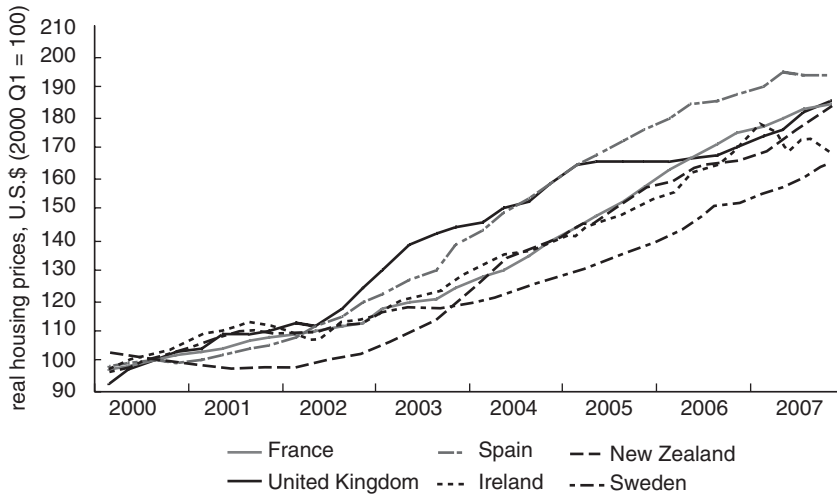
Causes and Evolution of the Crisis and the Current State of Affairs

This section reviews the causes of the financial crisis, including a mixture of some elements common to other financial crises and some new elements. It then reviews the channels and mechanisms through which the financial crisis propagated and spread, showing that, while the crisis emerged in the U.S. housing markets, it quickly broadened to other financial markets in the United States and globally. Finally, it reviews how the crisis has left a considerable legacy of government interventions and macroeconomic consequences, which will condition future actions and reforms.

The 2007–08 Financial Crisis and Other Crises: Similar, Yet Different?

The severe financial crisis that has gripped the global economy reflects a remarkable confluence of factors.¹ Some are reminiscent of past bouts of financial turmoil, but others are new (and surprising). This section identifies both what is common and what is different between the current crisis and previous ones. While ranking the relative contributions of the causes of the crisis is not without controversy, together these elements help to explain the considerable scale and scope of the current

FIGURE 1.
Housing Prices in Select Countries, 2000–07



Sources: Bank for International Settlements and OECD.

episode and the inability of policy actions to get sufficiently ahead of the crisis (for more analysis and discussion, see Calomiris 2009; Gorton 2009; IMF 2009a).

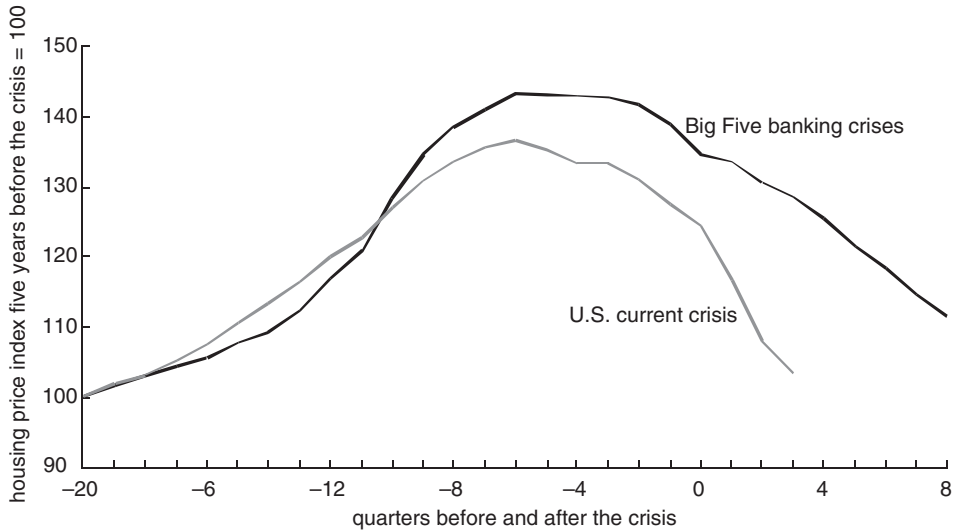
Commonalities with Previous Crises

The crisis shares four features in common with other crises: asset price increases that were not sustainable, credit booms that led to excessive debt burdens, the buildup of marginal loans and systemic risk, and the failure of regulation and supervision to keep up with and get ahead of the crisis when it erupted.

Housing prices rose sharply in the United States and other markets prior to the current crisis (see figure 1). The patterns of asset prices are reminiscent of those in other major financial crises (see figure 2). The overall size of the U.S. housing boom and its dynamics—including a rise in housing prices in excess of 30 percent in the five years preceding the crisis and peaking six quarters prior to the beginning of the crisis—are remarkably similar to the development of housing prices in the previous (Big Five) banking crises in advanced economies (Finland, 1991; Japan, 1992; Norway, 1987; Sweden, 1991; and Spain 1977; see Reinhart and Rogoff 2008).

Such sharp increases in housing prices were also common in other countries hard-hit by the current crisis and were associated with rapid growth in credit aggregates (see figure 3). Housing prices rose rapidly in many countries now caught in the financial turmoil, including the United Kingdom and Iceland. These housing booms were generally fueled by fast-rising credit resulting in sharply higher household leverage.

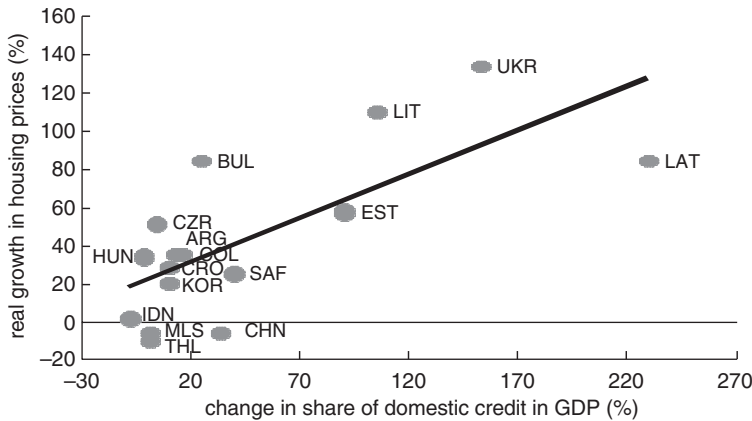
FIGURE 2.
Housing Price Index Preceding and Following the Current and the Big Five Banking Crises



Sources: Bank for International Settlements and Haver Analytics.

Note: Big Five refers to the average of indexes for the five major banking crises. For the current crisis in the United States, the beginning date is assumed to be 2007 Q3.

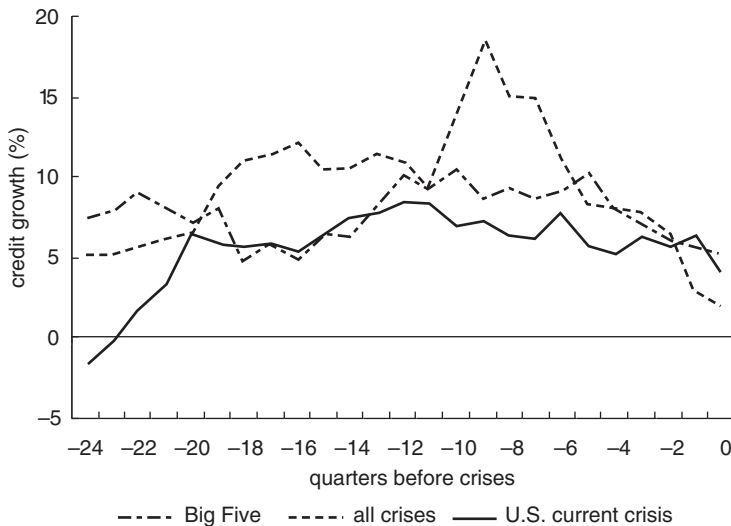
FIGURE 3.
Domestic Credit and Housing Prices in Select Countries, 2004–07



Sources: IMF, International Financial Statistics; Global Property Guide.

The prolonged credit expansion in the run-up to the crisis is similar to other episodes (see figure 4). Sustained episodes of rapid credit growth generally coincide with large cyclical fluctuations in economic activity—with real output, consumption, and investment rising above trend during the buildup phase of credit booms and falling below trend in the unwinding phase (Mendoza and Terrones 2008). In the upswing, the current account tends to deteriorate, often accompanied by a surge

FIGURE 4.
Growth of Credit before Select Crises



Sources: IMF, International Financial Statistics; Reinhart and Rogoff 2008.

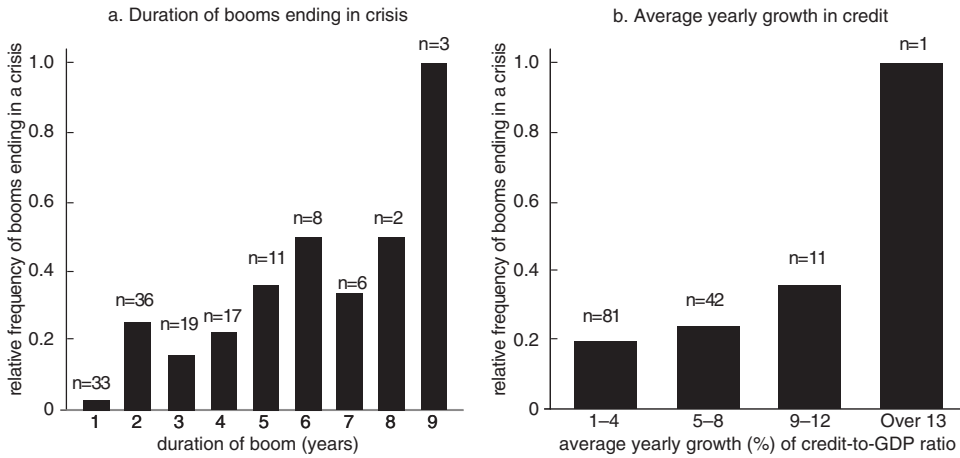
in private capital inflows. Increases in housing prices and the real exchange rate often accompany such credit booms.

While aggregate credit growth in the United States was less pronounced than in previous episodes, reflecting slower expansion of corporate credit, household debt increased sharply. Credit to households rose rapidly after 2000, driven largely by outstanding mortgages, interest rates below historic averages, and financial innovation. And in spite of low interest rates, debt service relative to disposable income reached a historic high. The increased leverage left households vulnerable to a decline in housing prices, a tightening in credit conditions, and a slowdown in economic activity. Similar patterns existed in several crisis countries.

As in other crises, the rapid expansion of credit seems to have played a role in the current crisis. While historically only some credit booms end up in financial crisis, the probability of a crisis increases with a boom (see figure 5; see Dell’Ariccia, Barajas, and Levchenko 2009). Furthermore, the larger are the size and duration of a boom, the greater is the likelihood that it will result in a crisis. The mechanisms linking credit booms to crises include an increase in leverage of borrowers (and lenders) and a decline in lending standards. In the U.S. episode, both channels were at work (see figure 6; see Dell’Ariccia, Igan, and Laeven 2008).

This pattern extended to various extents to other countries caught in the current storm (see figure 7). In the run-up to the crisis, credit aggregates grew very quickly in the United Kingdom, Spain, Iceland, and several Eastern European countries. As in the United States, these credit expansions often fueled real estate booms. Increased international financial integration supported these patterns. For many countries, a clear relationship existed between credit growth and capital inflows (see figure 8).

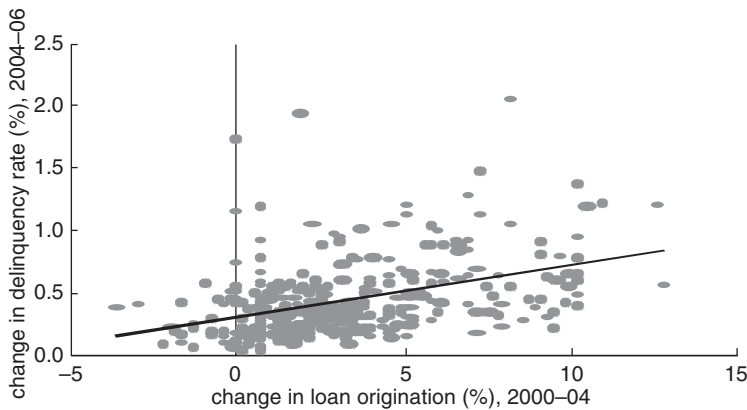
FIGURE 5.
Duration of a Credit Boom and Yearly Growth in the Ratio of Credit to GDP



Source: Dell’Ariccia, Barajas, and Levchenko 2009. The number of financial episodes (135) is based on Caprio and Klingebiel 2003.

Note: Numbers above bars are the absolute number of crises.

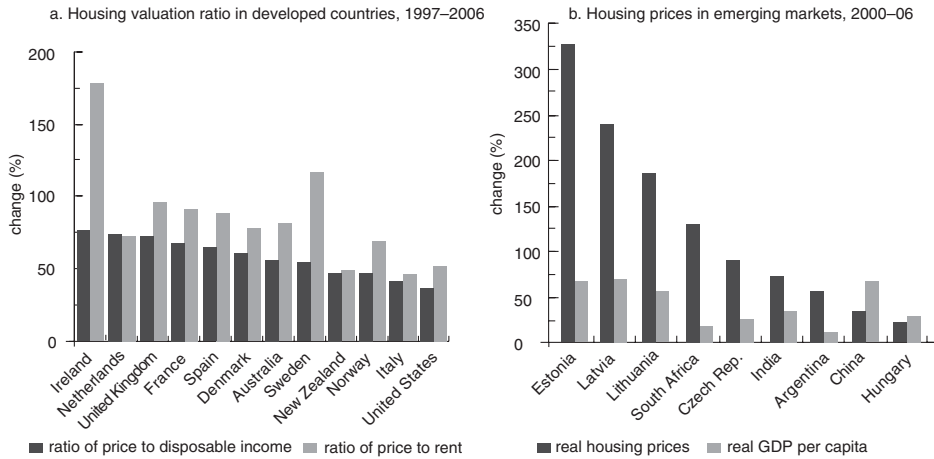
FIGURE 6.
Delinquency and Credit Growth in the United States, by Metropolitan Statistical Area, 2000–06



Source: Dell’Ariccia, Igan, and Laeven 2008.

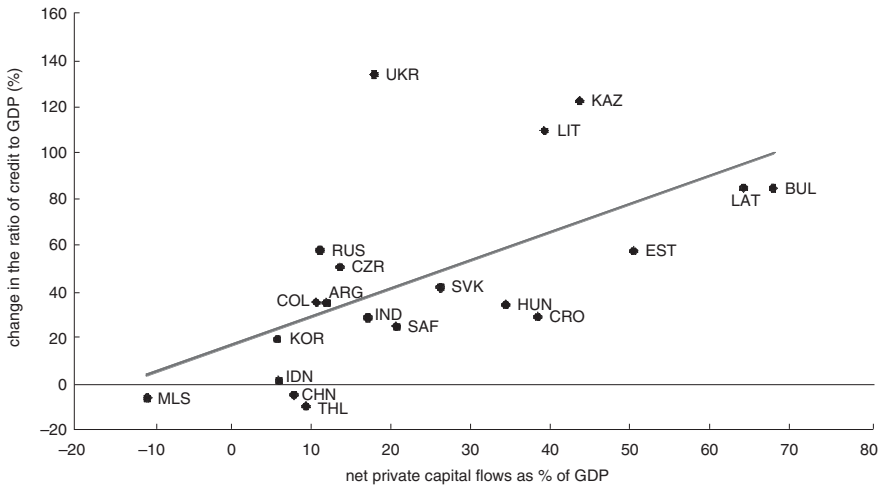
The boom in household credit was associated with the creation of marginal assets whose viability relied on continued favorable macroeconomic conditions. In the United States (and to some extent the United Kingdom), a large portion of the mortgage expansion consisted of loans extended to subprime borrowers with limited credit and employment histories (see figure 9). Debt servicing and repayment were, hence, vulnerable to economic downturns and changes in credit and monetary conditions. This maximized default correlations across loans, generating portfolios

FIGURE 7.
Housing Valuation Ratios in Developed Countries and Housing Prices in Developing Countries, Various Years



Source: OECD; IMF, International Financial Statistics; national sources.

FIGURE 8.
Capital Inflows and Credit Growth in Select Emerging Markets, 2004–07

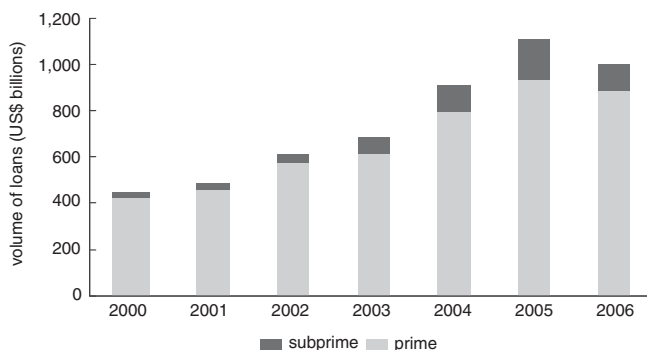


Source: OECD; IMF, International Financial Statistics.

highly exposed to declines in housing prices, confirmed ex post through the large nonperforming loans when house prices declined.

Elsewhere, a similar pattern led to large portions of domestic credit denominated in foreign currency. Large foreign currency exposures in the corporate and financial sectors were common in the Asian crisis. In the current crisis, in several Eastern European economies large portions of domestic credit (including to households) were denominated in foreign currency (euros, Swiss francs, and yen; Árvai, Driessen, and Ötker 2009). While lower interest rates on foreign currency loans relative to local currency loans increased affordability, borrowers' ability to

FIGURE 9.
Prime and Subprime Mortgage Originations in the United States, 2000–06



Source: Home Mortgage Disclosure Act data; IMF staff estimates.

service loans and creditworthiness depended on a stable exchange rate. As with U.S. subprime loans, this meant highly correlated default risks across loans, which exposed the system to macroeconomic shocks.

On the back of buoyant housing and corporate financing markets, many forms of derivatives markets expanded greatly. Favorable conditions spurred the emergence of large-scale derivatives markets, such as mortgage-backed securities and collateralized debt obligations with payoffs that depended in complex ways on underlying asset prices. The pricing of these instruments was often based on a continuation of rising housing prices, which facilitated the refinancing of underlying mortgages. The corporate credit-default swap market also expanded dramatically on the back of favorable spreads and low volatility.

Past crises often followed expansions triggered by financial liberalization not accompanied by necessary regulatory reforms. Imbalances often were the result of badly sequenced regulatory reforms. Poorly developed domestic financial systems were often unable to intermediate large capital inflows in the wake of capital account liberalizations. Poorly designed financial reforms and deficient supervision often led to currency and maturity mismatches and to large, concentrated credit risks.

In this crisis, although perhaps in more subtle forms, regulatory approaches to and prudential oversight of financial innovation were insufficient as well. As in the past, but this time in advanced countries, finance companies, merchant banks, investment banks, and off-balance-sheet vehicles of commercial banks operated—to varying degrees—outside banking regulations. Providing increasingly important avenues for intermediation, this “shadow banking system” grew without adequate oversight, leading to systemic risks. Regulators also underestimated the conflict of interests and information problems associated with the originate-to-distribute model. Not only did this harm consumers of financial services, but it also created the potential for chain reactions leading to systemic risk.

As often before, the focus of authorities remained primarily on the liquidity and insolvency of individual institutions, rather than on the resilience of the whole financial system. This meant an underestimation of the probability and costs of systemic risk. At

the international level, insufficient coordination among regulators and supervisors and the absence of clear procedures for resolving global financial institutions hindered efforts to prevent and contain the impact and transmission of the crisis.

And, in terms of crisis response, as in past events, it has proven difficult to get ahead of a fast-evolving situation to contain the financial turmoil and reduce the impact on the real economy. Ad hoc and piecemeal interventions created further disruptions and loss of confidence among creditors and investors. The chronology of the crisis (Calomiris 2009; Gorton 2008) shows how events and market developments triggered and conditioned subsequent developments and policy responses that, in retrospect at least, made the crisis more severe.

New Dimensions of the Crisis

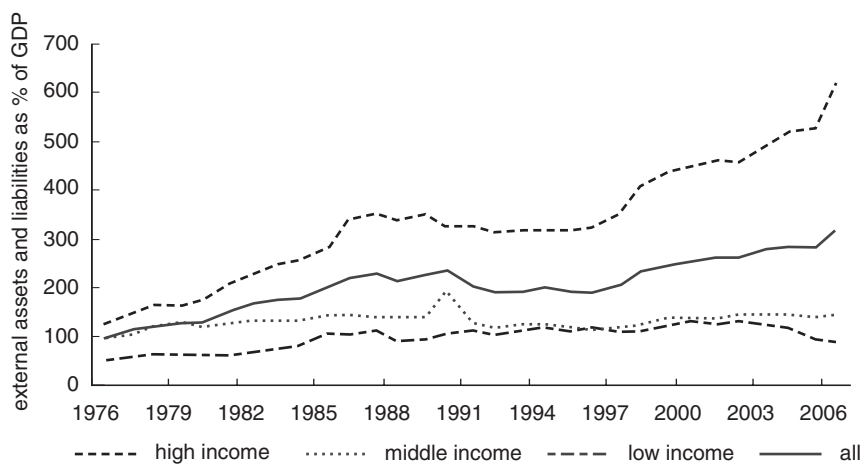
New dimensions played an important role in the severity and global scale of the crisis, particularly with respect to its transmission and amplification. Four key aspects were new: the widespread use of complex and opaque financial instruments; the increased interconnectedness among financial markets, nationally and internationally, with the United States at the core; the high degree of leverage of financial institutions; and the central role of the household sector.

Securitization and innovative (but complex) financial instruments were a critical element of the credit expansion in U.S. securitization. Although securitization has been a long-standing technique for prime loans conforming to the underwriting standards of government-sponsored enterprises, in 2007 more than 70 percent of nonconforming mortgages in the United States were securitized, up from less than 35 percent in 2000 (see Ashcraft and Schuermann 2008; Gorton 2008; Brunnermeier 2009). Other assets were increasingly packaged as well, and cash-flow streams from securities were further separated and tranced into other securities (for example, collateralized debt obligations).

In part by being inadequately regulated, the increased recourse to securitization and the expansion of the originate-and-distribute model exacerbated agency problems. The progressive expansion of more opaque and complex securities and the increasing delinking of borrowers from lenders worsened agency problems. Risk assignments became increasingly unclear, and incentives for due diligence worsened, leading to insufficient monitoring of loan originators and an emphasis on boosting volume to generate fees. The distribution model led to widespread reliance on ratings for the pricing of credit risks, with investors often unable or unwilling to assess underlying values and risks.

Increased balance sheet opaqueness and reliance on wholesale funding increased the fragility of the system. Once U.S. housing prices began to decline and defaults began to rise (affecting the expected value of the assets underlying market-backed securities and collateralized debt obligations), the complexity of instruments undermined price discovery and led to market illiquidity and a freeze on securitization activity. The increased opaqueness of balance sheets (due to the widespread recourse to off-balance-sheet instruments) made it difficult to separate healthy from unhealthy institutions. The resulting adverse selection problems contributed to the freezing of interbank markets and forced further sales of securities to raise funds.

FIGURE 10.
Gross External Assets and Liabilities, by Country Income Group, 1976–2006



Source: Lane and Milesi-Ferretti 2007.

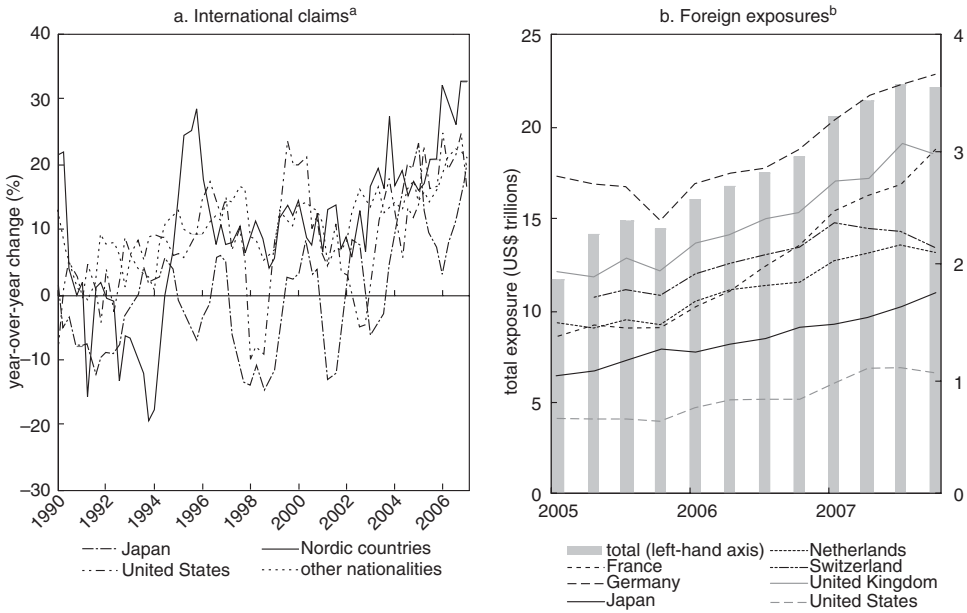
The increased centrality and systemic importance in many countries of highly leveraged, underregulated intermediaries relying on wholesale and short-term funding exacerbated problems.

Financial integration rose dramatically over the past decade, especially among advanced economies. Capital account openness and financial market reforms led to massive increases in cross-border gross positions, especially among high-income countries (see figure 10). The presence of foreign intermediaries also increased in several banking systems (including in many emerging markets). As a result, while international risk sharing, competition, and efficiency increased, so did the risk of transmitting financial shocks across borders.

Increasing interconnectedness of financial institutions and markets (see figure 11) and more highly correlated financial risks intensified cross-border spillovers through many channels, including liquidity pressures, global sell-off in equities (particularly financial stocks), and depletion of bank capital. Mortgage-backed securities were widely held by institutions in the United States, but also in other advanced economies, and by the official sector in several emerging markets. As troubled intermediaries hit by losses and scrambling for liquidity were forced to sell other assets and cut lending, the crisis gradually spread to other markets and institutions through “common lender effects.” Emerging markets—especially those that had relied heavily on external financing and, paradoxically, those with more liquid markets—were affected through capital account and bank funding pressures.

The sheer size of the U.S. financial market and its central role as an investment destination contributed to the spread of the crisis. Any shock to the U.S. financial markets and economy is bound to have global effects. U.S. financial assets repre-

FIGURE 11.
Growth in International Claims and Foreign Exposure, Various Years



Source: Bank for International Settlements.

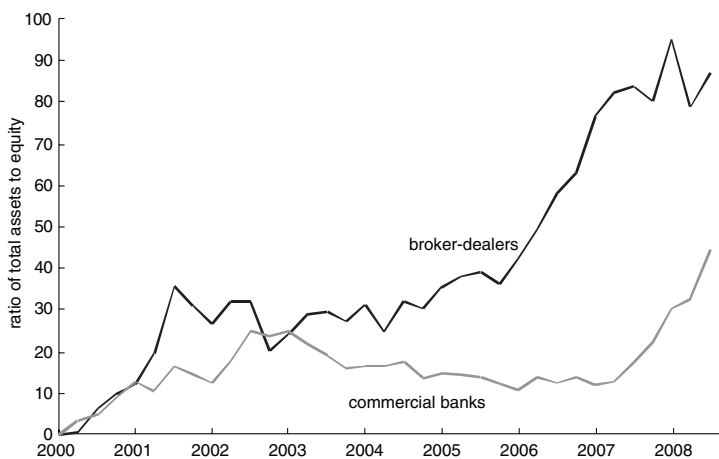
a. Excludes foreign currency claims on home-country residents. Nordic countries include Danish, Finnish, Norwegian, and Swedish banks. Other nationalities include total international claims, excluding those booked by Japanese, Nordic, and U.S. banks.

b. On an ultimate risk basis and excluding interoffice transfers. Foreign claims vis-à-vis entities (banks and non-banks) in advanced economies, booked by banks headquartered in the countries shown. Total is on the left-hand scale; individual countries are on the right-hand scale.

sent about 31 percent of global financial assets, and the U.S. dollar share in reserve currency assets is about 62 percent. In recent years especially, U.S. financial assets were perceived to offer the combination of safety and liquidity attractive to private and public investors alike. More generally, since the United States is a large economy, it has a large effect on global developments. The diversified structure of international financial markets made coordination difficult.

The crisis also triggered the unwinding of imbalances in other countries. Benign financial and macroeconomic conditions—notably, low interest rates and narrow risk spreads—occurred on a global basis, fueling booms in many economies. Housing market vulnerabilities came home to roost in several countries, notably in Europe. In the United Kingdom, with a similar housing boom as in the United States, mortgage lenders came under intense pressure, beginning in fall 2007. Large pressures hit Iceland, Hungary, and the Baltic countries where imbalances were pronounced. The increased connections and simultaneous buildup of systemic risks across multiple countries made the management of shocks more complex, especially

FIGURE 12.
Percent Change in Ratio of Total Assets to Equity in Commercial and Investment Banks in the United States, 2000–08



Source: Bankscope.

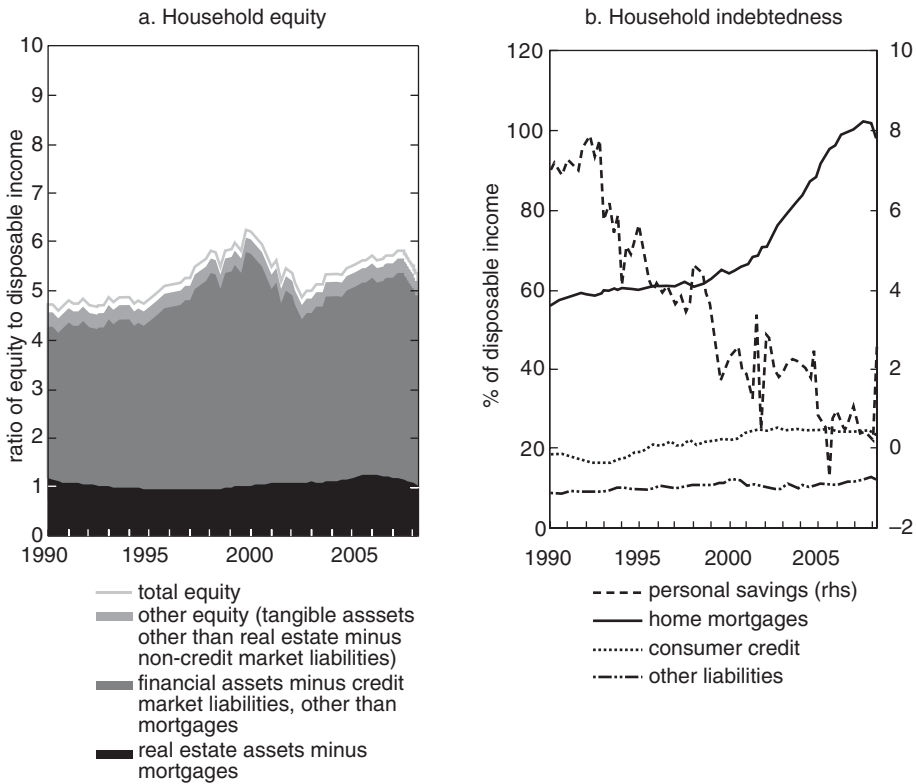
in light of institutional deficiencies in many countries, including the inability to resolve large, cross-border financial institutions quickly.

The buildup of an unusually high degree of leverage of financial institutions and borrowers contributed to the propagation of shocks. Leverage increased sharply in the financial sector, both directly at commercial banks in Europe and indirectly through the shadow banking system and the rising share of investment banks and non-deposit-taking institutions in the United States (see figure 12). This buildup of leverage among households was notably different from the situation in previous crises. In the run-up to Japan's real estate crisis, for example, while the household debt-to-income ratio rose sharply, measures of household leverage (household debt-to-assets ratio) declined, suggesting that Japanese homeowners built equity in their properties as real estate prices soared.

This high leverage limited the system's ability to absorb even small losses and contributed to the rapid decline in confidence and increase in counterparty risk early in the crisis. Loan-to-income values larger than in the past left households highly exposed to shocks, while at the same time high loan-to-value mortgages allowed even moderate declines in housing prices to push many households into negative equity. In the financial sector, initial concerns about liquidity could give way quickly to worries about solvency.

The buildup in leverage (including rising household indebtedness) was not restricted to advanced economies. In some emerging economies, vulnerabilities were related to rising reliance on external financing flows. Amid global deleveraging, heightened investor risk aversion, and repatriation of funds, many emerging economies suddenly found foreign funding sources increasingly scarce and were

FIGURE 13.
Household Equity and Indebtedness in the United States, 1990–2005



Source: Federal Reserve Board of Governors, Flow of Funds.

confronted with sudden stops or reversals of capital flows. In addition, emerging-market corporations faced much higher borrowing costs, limited opportunities to issue equity, and few alternative sources of financing. While official financing filled some of the gaps, emerging markets had to make rapid adjustments, leading to real economic dislocations.

Problems in the household sector have played a more prominent role in this crisis than in previous crises. Most previous episodes of financial distress stemmed from problems in the official sector (for example, Latin America's debt crisis of the 1980s) or the corporate sector (for example, the Asian crisis of the late 1990s). The current crisis, however, largely originated from overextended households, in particular from subprime mortgage loans (see figure 13). This had implications for how the crisis was transmitted from the financial to the real sector and complicates the resolution mechanisms and policy responses.

In the United States, a vicious cycle of rising foreclosures, falling home values, and disappearing securitization markets quickly developed. Vulnerable cohorts of

borrowers became increasingly susceptible to rising interest rates and falling home values and could no longer refinance their mortgages, leading to higher monthly payments, rising delinquencies, and rising default rates. A wave of finance company failures—suddenly no longer able to securitize subprime mortgages—led to a breakdown in mortgage origination and an abrupt adjustment. Adverse feedback loops—rising foreclosures placing additional downward pressures on housing prices—started. With U.S. housing prices declining on a national basis for the first time since the Great Depression, many heavily indebted borrowers confronted with substantial negative home equity faced incentives to “walk away.”

Tightening standards for new mortgages and consumer credit led to a sharp compression in consumer spending that compounded difficulties in the real sector. With households’ savings and net assets at historic lows, financial constraints imposed by financial institutions under stress directly translated into reduced consumer spending, leading to initially localized, but gradually spreading, cycles of lower corporate sector profitability, higher layoffs, higher unemployment, and more foreclosures.

Household balance sheet vulnerabilities also built up in other advanced economies and several emerging markets. Household debt-to-income ratios rose sharply in several Western European countries (most notably in the United Kingdom, Spain, and Ireland). In several emerging markets, household credit expanded rapidly as well, leading to sharp increases in leverage and vulnerabilities. As real estate prices declined, this adversely affected the quality of loan portfolios and put financial intermediaries at risk, especially in markets where values had risen rapidly.

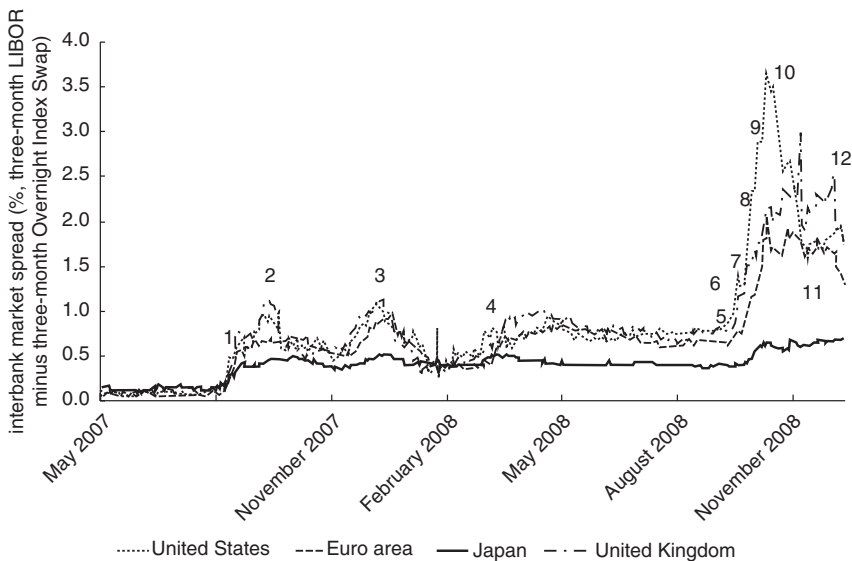
The large number of individuals involved, the limited information available, and the social repercussions associated with household debt restructuring complicated and slowed down the policy response. While corporate debt restructuring is costly and painful, there are well-established international best practices for confronting widespread corporate defaults. In the case of households, moral hazard problems, the sheer number of cases, and equity and distribution issues complicated the picture. In the United States, notwithstanding political support for a relief package for mortgage holders, policy action on this front was slow and erratic, and no effective solution emerged. In Eastern Europe, several countries were confronted with similar problems, but have yet to respond in a systematic manner.

The Channels and Mechanisms in the Turmoil Stage

The crisis was the first global financial crisis since the Great Depression. Through several phases, its spread was unprecedented in scope and ferocity, with many channels of transmission. It called for large government interventions, which have left many legacies for the future.

The crisis was unprecedented in its spillovers. As in any financial crisis, there are catalysts, triggers, and amplification mechanisms. The catalyst of the crisis was the overextended U.S. housing and mortgage markets. The trigger was the turnaround in U.S. housing prices, in part related to a cycle of monetary policy tightening, with the subprime sector as the main initiator of subsequent turmoil. While the crisis emerged

FIGURE 14.
Interbank Market Spreads, 2007–08



Source: Bloomberg.

in the U.S. subprime market, it quickly broadened to the larger housing markets in the United States and spilled over into other U.S. financial markets (for example, other asset-backed securities). Surprising was the degree and speed of global spillovers, which happened in several phases and through various amplification mechanisms (see figure 14 and box 1).

The first phase was through direct exposure. This phase was largely limited to banks with direct exposure to the U.S. market and affected just a few financial markets, sometimes related to liquidity runs (mainly related to excessive funding in wholesale markets). Through direct exposure to subprime-related assets, problems quickly surfaced among European banks, including in Germany (IKB, July 2007) and France (BNP Paribas, August 2007). The U.S. housing market stress also made housing vulnerabilities in several countries apparent, notably in Western Europe, and triggered funding problems in some markets. The United Kingdom saw a bank run on Northern Rock, which had been relatively more reliant on interbank markets rather than on deposits for funds.

In the meantime in the United States, prospects of a deeper housing downturn and rising defaults quickly instigated broader financial turmoil. Worse-than-anticipated credit deterioration in U.S. subprime mortgages prompted surprising multiple-notch downgrades by major rating agencies, which were unable to assess accurately the risks of complex mortgage-related securities and often criticized for being too closely aligned with the issuer. Downgrades led to sharply widening spreads on asset-backed securities and disrupted liquidity in interbank and commercial paper markets. Disruptions were amplified by fundamental uncertainty and

Box 1. Chronology of the Crisis

August 1–17, 2007. German bank IKB is rescued. BNP Paribas halts redemptions on three funds with subprime exposures; European Central Bank (ECB) and other central banks inject overnight liquidity. German bank Sachsen LB receives bailout.

September 14–19, 2007. Bank of England (BOE) provides liquidity support for Northern Rock; U.K. government guarantees its existing deposits.

December 12, 2007. U.S. Federal Reserve (Fed), ECB, Swiss National Bank (SNB), and Bank of Canada jointly announce measures to address short-term funding market pressures; Fed establishes Term Auction Facility (TAF).

March 11–16, 2008. JP Morgan acquires Bear Stearns after Fed provides \$30 billion in non-recourse funding; Fed creates Term Securities Lending Facility (TSLF) and Primary Dealer Credit Facility (PDCF) to expand liquidity provision to wider group of counterparties.

September 7, 2008. U.S. government sponsored entities Fannie Mae and Freddie Mac are placed into conservatorship.

September 15–16, 2008. U.S. investment bank Lehman Brothers files for bankruptcy; U.S. authorities step in to rescue insurance firm AIG.

September 20, 2008. U.S. Treasury announces \$700 billion Troubled Asset Relief Program (TARP).

September 29, 2008. Fed increases currency swap lines; euro area governments inject fund into Fortis; Iceland government buys stake in Glitnir bank.

October 7–8, 2008. Coordinated interest rate cuts by major central banks; Fed creates Commercial Paper Funding Facility (CPFF) to purchase asset-backed and unsecuritized commercial paper directly from highly rated issuers. Iceland government takes control of Glitner and Landsbanki; U.K. government moves to provide capital to U.K. banks and issues debt guarantees.

October 13–14, 2008. Euro area governments announce measures to provide capital to their banks; U.S. government announces Capital Purchase Program (up to \$250 billion) under the TARP.

November 23–25, 2008. U.S. government guarantees \$306 billion of Citigroup's assets and injects \$20 billion in the firm. Fed creates \$200 billion facility to extend loans for securitization of consumer and small business loans.

December 4, 2008. Large joint interest rate cuts in Europe: ECB lowers interest rates by 75 basis points, BOE cuts by 100 basis points, and Sweden's Riskbank cuts by 175 basis points, amid continuing strains in interbank markets.

opacity regarding counterparty risks. As commercial banks decided to absorb (legally separate) vehicles, their balance sheets were strained. Interbank rates spiked, and the issuance of asset-backed commercial paper contracted sharply.

A second phase of international spillovers was transmitted through asset markets. This happened through liquidity shortages, frozen credit markets, and stock market declines, affecting many more markets (U.K. sterling, euro, and Swiss franc). Initial policy responses aimed at addressing liquidity disruptions were large and unprecedented. Major central banks quickly made liquidity available to local commercial banks. While increasingly larger and more flexible—in maturity and especially in scope of collateral accepted—the ability of liquidity injections to calm interbank markets proved short-lived. Furthermore, approaches varied among countries, requiring modifications and rounds of international coordination. Currency swaps between major central banks were also needed to mobilize U.S. dollar funding in overseas markets.

These unprecedented and numerous efforts were unable to remedy the underlying problems that led to a breakdown in market trust and confidence. Unknown viability of institutions, especially affecting internationally active banks, could not be supplanted by central bank liquidity, which increasingly replaced private transactions. The reliability of credit insurance and the integrity of counterparties, particularly in the massive but unregulated market for credit-default swaps, also came into question, notably through the weakening positions of ultimate insurers.

The third phase occurred through large solvency concerns. In October 2008 large solvency concerns affected systemically important global financial institutions, leading to massive sell-offs and risking a financial meltdown. In this phase, liquidity concerns gave way to solvency worries, against the backdrop of highly leveraged financial systems. The buildup of leverage, especially for U.S. investment banks and European commercial banks, made the system vulnerable to a rapid cycle of forced deleveraging and solvency pressures. As financial institutions incurred large losses and wrote down illiquid securities, solvency concerns across markets fueled a process of rapid deleveraging and forced asset sales. Hedge funds—facing financing constraints and redemption pressures—further fueled a rapid unwinding process. This led to further asset price declines, prompting distressed asset sales and rising need for recapitalization and resulting in further loss of confidence.

Compounding the problems, recognition of insolvency problems was delayed, and resolution frameworks proved haphazard in practice. Deficiencies in resolution frameworks in advanced economies allowed problems to intensify. These deficiencies included lack of scope (for example, no coverage of investment banks and insurance corporations), limited coordination (for example, between deposit insurance and lender-of-last-resort facilities), and slow speed (for example, lack of specific frameworks for bank resolution). Weak market confidence and eroded trust required authorities to intervene in some cases, with unprecedented means.

In this phase, global transmission channels were multiple, including through banks and non-bank financial institutions that were rapidly deleveraging. Despite a coordinated cut in policy rates by major central banks and the extension of guarantees in

some countries, market confidence continued to deteriorate, leading to major failures or near-failures. The collapse of Lehman Brothers, with its major interconnections and exposures, shocked market confidence globally. Uncertainties led to deepening turmoil and runs, including on U.S. money market funds, requiring new interventions. Through its substantial exposures in the credit-default swap market, insurance giant AIG nearly collapsed before receiving substantial public rescue funds.

Large Government Interventions

The crisis has required governments to intervene in many ways. As asset prices plunged across markets, the risks of cascading institutional failures and financial meltdown prompted actions by authorities across a wide range of advanced countries in mid-October, marking an overdue transition from concerns about liquidity to concerns about solvency (not unlike previous crisis episodes) and the need for more rapid and substantial recapitalization. The principal forms of intervention were (a) liquidity provision through collateralized lending and other schemes, (b) support for short-term wholesale funding markets, (c) (more extensive) guarantees of retail deposits and other liabilities, (d) purchases or exchanges of non-performing or illiquid assets, and (e) capital injections to banks. Furthermore, monetary and fiscal policy responses became even more accommodative in many countries, but this did not stop the decline. Large external financial support from various sources has been necessary for several emerging markets hit by deleveraging.

The amounts of these interventions have been very large. On the basis of money spent and announced commitments, advanced countries have been most affected, while most emerging-market countries have had less need for capital or other forms of financial sector support (see table 1; see also Claessens 2009a; IMF 2009c). Liquidity provided and guarantees extended were large, amounting to double-digit fractions of gross domestic product (GDP) on average for the group of advanced countries. Capital support has been about 2 percent of GDP. Asset purchases to date have been about the same, 2.5 percent of corresponding GDP. Besides the large direct fiscal costs, which are captured by the figures, there are many contingent costs, which are hard to quantify, such as the insurance schemes for assets or increased deposit insurance limits. Indeed, past experiences suggest that amounts will increase further.

These interventions were necessary, but distortionary. The interventions have generally had the desired effects, namely stabilizing financial systems and regaining some measure of confidence. By nature, however, these measures distort, either directly, as they support financial institutions in nonmarket ways, or indirectly, as they can skew and distort resource allocation. A clear example of the (purposely) distortive nature of financial intermediation is the intervention by central banks, notably the U.S. Federal Reserve, in a number of (short-term) markets, either directly (for example, through the purchase of government bonds) or indirectly (for example, through the various liquidity facilities that aim to support specific financial markets, such as the commercial paper market). Another example is the provision of a guarantee scheme for money market funds in the United

States following large outflows after one fund “broke the buck” (its net asset value fell below \$1). The guarantee led to deposit outflows at commercial banks, which prompted an increase in deposit insurance coverage.

An example of how guarantees can distort the allocation of risks between financial institutions and the government is Ireland’s extension of guarantees to its largest banks. Prior to the extension of guarantees, the credit-default swap spreads for the large Irish commercial banks were very high. After guarantees, bank credit-default swap spreads declined sharply, while the sovereign spread increased. Measures like these, numerous in many advanced countries today, distort asset prices and financial flows.

Distortions are not just direct, but also indirect and medium term. The indirect distortions affecting the real sector are more difficult to document, but there are many suggestive examples. In many countries, programs have been put in place to support more lending to small and medium enterprises. But large firms have also been targeted for public support. In Japan, for example, in April 2009 Parliament passed a law to allow for the recapitalization of (larger) nonfinancial firms using public funds through the purchase of preferred shares by the (state-owned) Development Bank of Japan. In the United States, France, and Italy, car companies are being (indirectly) supported. In several countries, there are (largely informal) requirements for local lending as part of financial sector support. All of this has, directly and indirectly, affected international competition in various markets, both financial and real (that is, inefficient “zombie” firms may be created, driving out efficient firms).

Furthermore, the increase in direct state ownership and the large indirect role of the state in the financial sector both risk distorting financial intermediation in a deeper and potentially longer-lasting way. The perverse (long-term) consequences of state-owned banks are well documented and, while in most countries the institutional environment should prevent the worst effects, distorted outcomes may still arise. In addition, there are many other (sometimes unintended) consequences of the interventions. In the United States, for example, the caps on remuneration are affecting not only the incentives of financial institutions being supported through public funds but also those of others. These types of rules and, more generally, the larger role of the state can affect the quality of financial intermediation.

Distortions have extended to the international level. Interventions have affected international capital flows and financial intermediation. Liquidity support provided the first manifestation. Actions in the United States initially focused on providing domestic support, even though interbank market prices suggested significant dollar funding pressures for European banks and emerging markets. For mature markets, it took several weeks for central banks to act on these stresses. And, even after ad hoc bilateral swap lines between central banks were set up and their scope was gradually expanded, market prices continued to suggest problems. For emerging markets, the response was slower and the amounts provided were more limited. Liquidity shortages were keenly felt by many emerging markets. Large external financial support from various sources became necessary as emerging markets were hit by the deleveraging process, but the real consequences had already been incurred.

TABLE 1. Financial Sector Support and Up-front Government Financing, by Region and Select Countries, as of April 15, 2009
% of 2008 GDP

	Capital injection (A)	Purchase of assets and lending by the treasury (B)	Central bank support provided with treasury backing (C)	Liquidity provision and other support by central bank ^a (D)	Guarantees ^b (E)	Total (A+B+C+D+E)	Up-front government financing ^c
<i>Advanced North America</i>							
Canada	0.0	8.8	0.0	1.6	13.4	23.7	8.8
United States	3.9	1.3	1.1	42.1	31.3	79.6	6.3 ^d
<i>Advanced Europe</i>							
Austria	5.3	0.0	0.0	0.0	30.0	35.3	5.3
Belgium	4.7	0.0	0.0	0.0	26.2	30.9	4.7
France	1.2	1.3	0.0	0.0	16.4	19.0	1.53 ^e
Germany	3.8	0.4	0.0	0.0	18.0	22.2	3.7
Greece	2.1	3.3	0.0	0.0	6.2	11.6	5.4
Ireland	5.3	0.0	0.0	0.0	257.0	263.0	5.3
Italy	1.3	0.0	0.0	2.5	0.0	3.8	1.3 ^f
Netherlands	3.4	2.8	0.0	0.0	33.7	39.8	6.2
Norway	2.0	15.8	0.0	0.0	0.0	17.8	15.8
Portugal	2.4	0.0	0.0	0.0	12.0	14.4	2.4
Spain	0.0	4.6	0.0	0.0	18.3	22.8	4.6
Sweden	2.1	5.3	0.0	15.3	47.3	70.0	5.8 ^g
Switzerland	1.1	0.0	0.0	10.9	0.0	12.1	1.1
United Kingdom	3.9	13.8	12.9	0.0	51.2	81.8	20.2 ^h

<i>Advanced Asia and Pacific</i>							
Australia	0.0	0.7	0.0	0.0	—	0.7	0.7
Japan	2.4	11.3	0.0	1.2	7.3	22.1	0.8 ⁱ
Korea, Rep. of	2.7	5.4	0.0	0.3	13.8	22.2	0.4 ^j
<i>Emerging Economies</i>							
Argentina	0.0	0.9	0.0	0.0	0.0	0.9	0.0 ^k
Brazil	0.0	0.0	0.0	1.5	0.0	1.5	0.0
China	0.5	0.0	0.0	0.0	0.0	0.5	0.0 ^l
India	0.0	0.0	0.0	5.6	0.0	5.6	0.0
Indonesia ^m	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Hungary	1.1	0.0	0.0	4.7	1.1	6.9	1.1
Poland	0.4	0.0	0.0	0.0	3.2	3.6	0.4
Russian Federation	0.3	0.5	3.2	3.2	0.5	7.7	0.8 ⁿ
Saudi Arabia	0.6	0.6	0.0	8.2	—	9.4	1.2
Turkey	0.0	0.0	0.0	0.2	0.0	0.2	0.0
<i>Average (PPP GDP weights)</i>							
G-20	1.9	2.5	1.0	12.4	14.3	32.1	3.4
G-20 European Union	2.7	3.8	3.2	0.5	22.1	32.3	6.7
Advanced economies	2.9	4.0	1.3	18.8	22.8	49.8	5.3
Emerging economies	0.2	0.1	0.4	1.6	0.1	2.4	0.1

Sources: IMF 2009d; IMF, Fiscal Affairs Department Monetary and Capital Markets database on public interventions.

Table continues with notes on p. 262.

TABLE 1. Financial Sector Support and Up-front Government Financing, by Region and Select Countries, as of April 15, 2009 (continued)

- a. This table includes operations of new special facilities designed to address the current crisis and does not include the operations of the regular liquidity facilities provided by central banks. Outstanding amounts under the latter have increased substantially, and their maturity has been lengthened in recent months in many cases.
- b. Excludes deposit insurance provided by deposit insurance agencies.
- c. This includes only those components of columns A, B, and C that require up-front government outlays.
- d. Up-front financing is \$900 billion (6.3 percent of GDP), consisting of the Troubled Asset Relief Program (\$700 billion) and government-sponsored enterprise support (\$200 billion). Guarantees on housing government-sponsored enterprises are excluded. For details, see IMF 2009d, ch. 2.
- e. Support to the country's strategic companies is recorded under column B, of which €14 billion will be financed by a state-owned bank, Caisse des Depots and Consignations, not requiring up-front Treasury financing.
- f. The amount in column D corresponds to the temporary swap of government securities held by the Bank of Italy for assets held by Italian banks. This operation is not related to the conduct of monetary policy, which is the responsibility of the European Central Bank.
- g. A part of the capital injection (SKr 50 billion) will be undertaken by the Stabilization Fund.
- h. Costs to nationalize Northern Rock and Bradford & Bingley recorded under column B, entail no up-front government financing.
- i. Budget provides ¥3,900 billion to support capital injection by a special corporation and lending and purchase of commercial paper by policy-based financing institutions of the Bank of Japan.
- j. W 76.7 trillion support for recapitalization and purchase of assets needs up-front financing of W 3.5 trillion.
- k. Direct lending to the agricultural and manufacturing sectors and consumer loans are likely to be financed through Anses and would not require up-front government financing.
- l. Capital injection is mostly financed by Central Huijin Fund and would not require up-front government financing.
- m. Extensive intervention plans that are difficult to quantify have also been introduced recently.
- n. Asset purchase will be financed from the National Wealth Fund, and the government will inject Rub 200 billion to deposit insurance fund financed from the budget.

Guarantees on deposits and other liabilities issued by individual countries have led to “beggar-thy-neighbor” effects, forcing other countries, starting after Ireland, to follow with similar measures. Some advanced countries, especially those closely integrated (such as the European Union and the European Monetary Union) quickly coordinated policies, such as the adoption of uniform deposit guarantee coverage. The rapid spread of guarantees led to further financial turmoil in other markets. Many emerging markets, not able to match the guarantees, suffered from capital outflows as depositors and other creditors sought safe havens. Distribution of risks sharply changed over time and across circumstances. Furthermore, policy measures to encourage lending often were biased toward local lending, putting international operations at a disadvantage.

Countries were quick to “ring fence” assets in their jurisdictions when cross-border entities showed signs of failing, reflecting the absence of clear burden-sharing mechanisms for banks with international operations. Examples of defensive “asset grabs” were multiple. One was the decision by U.K. supervisors, fearing an imminent collapse of Icelandic bank branches (under the authority of Icelandic supervisors, who did not commit to recompense U.K. bank liabilities), to resort to the Anti-terrorism, Crime, and Security Act to ring fence Icelandic bank assets within the United Kingdom. Another one was the German initiative to freeze Lehman’s assets to assure the

availability of cash to satisfy depositors before they could be claimed by the parent under U.S. bankruptcy proceedings. Such actions constituted anticompetitive behavior in that they tended to favor local interests.

Few actions were internationally coordinated. Most government interventions to date have been at national levels. Although there were some coordinated actions (for example, among Belgium, the Netherlands, and Luxembourg, with some involvement of France, to resolve Dexia and Fortis), these were driven largely by national interests (as suggested by the fact that the intervened entities were often broken up along national markets and in line with support). The main exception was the coordinated (after some serious disruptions) provision of liquidity support. In the euro area, central bank actions are, by design, (nearly) fully coordinated among euro system members.

The Current State of Affairs and the Need to Plan for Exit

The crisis is still evolving. The financial turmoil and rapid economic slowdown in advanced countries continue to affect global markets. This has happened through both financial (cross-border banking, hedge funds) and real economic channels. Starting in late 2008 and intensifying in 2009, the drop in demand in major advanced countries affected many markets, with sharp drops in exports in many emerging markets. With recessions and economic slowdown affecting all countries, the scope for export-led growth sharply diminished, depriving especially those countries with large foreign exchange exposures of a potential channel of recovery. These recessions had adverse effects on financial sectors around the world, raising nonperforming loans and further weakening capital adequacy positions. Cross-border exposures were (and are) large factors behind the weakening of banks in many markets.

Continued turmoil means that extraordinary government interventions will continue, and the (international) rules of the game will remain in flux. The coverage and scope of interventions and other policy measures will evolve depending on their effectiveness, and the conditions and the amount of support will likely increase further. As circumstances evolve, governments will (need to) adjust the rules, such as how to treat shareholders and creditors when restructuring large financial institutions, and this will create further uncertainty. If political support diminishes, support for financial sector restructuring may become (even) more nationally oriented, and distortions will increase further.

Governments need to plan for exit. While serious risks remain, calling for more interventions, it is generally agreed that distortions should be removed as quickly as possible to return to a sustainable system in line with a new financial architecture. As the crisis abates, governments need to plan for exit from guarantees, large deposit insurance, ownership, asset acquisitions, and so forth. They have to do this within their fiscal constraints. These are difficult processes, and many are unprecedented, especially in the context of highly integrated financial systems. They will require some coordination. It is clear, however, that lack of coordination can create (new) distortions. If the unwinding of interventions is not coordinated internationally, it can

aggravate still weak confidence, create new distortions, and potentially be anticompetitive. Especially for the removal of guarantees, governments would do well to coordinate to avoid large capital movements. Yet, while desirable, more coordination will be difficult in practice.

Lessons for Macroeconomic Policy and for National and International Financial Reforms

The crisis has reopened the debate on whether economic policy should be concerned with asset price booms and increases in leverage. It has highlighted, in abundantly clear ways, the deficiencies in national financial regulation and supervision in many advanced and some emerging markets and developing countries. And it has highlighted how the international financial architecture has fallen behind a rapidly integrating international financial system. These are broad reform agendas for the future, which deserve more than the summary of thinking provided here.

Lessons for Macroeconomic Policy

What should be done regarding asset price booms and increases in leverage? Should economic policy be concerned with financial market developments? Should policy be used to dampen booms? And, if so, does this fall under the responsibility of monetary policy? What, if any, should be the role of fiscal policy? This debate has been going on for some time and will continue to occupy economists and policy makers for a while. On the basis of previous research, however, and with the current financial crisis as another input, a few preliminary conclusions can be reached (for a more detailed review, see IMF 2009c).

For one, not all booms are alike. What may matter is not so much the asset price boom in itself, but who holds the assets and the risk, how the boom is financed, and how an eventual bust may affect financial institutions. The degree of leverage associated with the funding of a boom and the degree of involvement of banks and other financial intermediaries will determine the magnitude of balance sheet effects and the dangers to the supply of credit in a bust.

It is also likely that the case for policy intervention depends on how a boom is financed and how risk is held. Asset price booms supported through leveraged financing and involving financial intermediaries should be dealt with, since they entail risks for the supply of credit to the economy; other booms could more likely be left to themselves. This latest boom, financed by banks and through the shadow banking systems, has been much more costly than the Internet bubble of the late 1990s, which was financed largely by equity markets.

One lesson given the risks of a leveraged boom is that the mandate of monetary policy should include macrofinancial stability, not just price stability. To the extent that the buildup of systemic risk can portend a sharp economic downturn, and to the extent that regulation cannot fully prevent such a buildup, it is now clear that

policy makers cannot neglect asset price and credit booms. That said, the crisis also confirms that prudential measures provide a more targeted and less costly policy solution than interest rate changes and should be a central element of an integrated policy response.

Lessons for Fiscal Policy

The crisis also highlights two important lessons for fiscal policy. The first is that in many countries, budget deficits were not reduced sufficiently during the boom years when revenues were high, which limits the fiscal space needed to fight the crisis. The second has to do with the structure of taxation. In most countries, the tax system is biased toward debt financing through deductibility of interest payments. This bias toward higher leverage increases the vulnerability of the private sector to shocks and should be eliminated.

Lessons for National Financial Architecture

Regulatory shortcomings have clearly contributed to the financial crisis (for a more detailed review of needed national financial architecture reforms, see IMF 2009b). The recognition of these failures is driving the current redesign of regulatory and supervisory systems across a large range of countries. Coordinated by the Financial Stability Board (previously named the Financial Stability Forum), national authorities and standard setters are working to address deficiencies in the existing arrangements. This is a broad agenda that will continue for some time. A summary of overall objectives and current thinking is nevertheless useful.

Actions are generally recognized as required in five general areas:

- *Regulatory perimeter.* The regulatory, supervisory, and information perimeter needs to be broadened to ensure that all financial activities that pose systemic risks are adequately captured.
- *Microprudential regulation.* Capital regulation, liquidity management, and risk management need to reflect not only the risks of individual institutions but also their potential to form systemic risk.
- *Macroprudential regulation.* Regulatory approaches need to be designed that better dampen the procyclicality of financial markets.
- *Information and market discipline.* Improved information disclosure and corporate governance practices are needed to enhance market discipline.
- *Organization of regulation and supervision.* Greater coordination is needed within and across countries in both the design of regulation and the monitoring of systemic risk.

The following key principles are recognized as essential guides to these redesigns. First, the perimeter of regulatory and supervisory arrangements should be drawn to address concerns over systemic risk and be compatible across jurisdictions, institutions,

and activities. This means that supervisory authorities need to identify and address gaps in oversight and information since markets and institutions will otherwise seek to exploit them. In that context, supervisory resources should be increased and allocated to the areas posing greatest systemic risk. Supervisory actions should result in prompt intervention whenever excessive risks arise.

Second, regulations need to be incentive compatible while balancing possible adverse impacts on innovation and efficiency. This means that regulation should provide any institution whose distress would have systemic externalities with incentives to internalize such costs in its business planning and risk management.

Third, market discipline and supervision should complement each other. This means allowing for the failure of individual institutions. This should occur within the context of a credible resolution framework for banks and non-bank financial institutions that limits the wider impact of failure and reduces the moral hazard of a bloated public safety net. It also requires improved corporate governance and information disclosure.

Finally, the redesign of financial regulation needs to be aware of and seek to overcome its inherent limitations. Many questions remain about how to best reform the architecture to mitigate systemic risks effectively without imposing too much and inefficient regulation. Many recent rules are still in the process of being implemented. The redesign needs to keep regulatory burdens in mind. At the same time, regulation tends to lag behind financial innovation and is vulnerable to industry capture and political influence. Supervisors may lack the mandate, resources, or independence to contain systemic risk, and enforcement may be poor. These limits on regulation and supervision are especially binding in emerging markets and developing countries. Implementing the new rules will thus remain especially difficult in those countries.

Lessons for International Financial Architecture

Many changes in international financial architecture are needed, including regarding surveillance (for a more detailed review of needed financial reforms, see IMF 2009c). The crisis has revealed the enormous costs of not identifying risks early enough. Private market discipline failed in many respects, while public surveillance identified risks at a broad level but did not drill deep enough to expose the full extent of vulnerabilities or draw specific policy conclusions. Many changes are needed to reduce systemic risks globally. A more effective approach to detect impending dangers to the world economy will require close cooperation among international agencies to bring together the scatter of macrofinancial information and expertise and to identify key risks and vulnerabilities. Only by working across organizations—supported by significant information sharing and drilling down—can one hope to “connect the dots” (across financial institutions, markets, and countries), clearly articulate risks, and propose practical remedies.

Obtaining better information is another essential step. More, and better organized, information is required for markets and policy makers to improve the assessment of systemic risk. The crisis has underlined the importance of going beyond traditional statistical approaches to obtain timely and higher-frequency real and financial indicators,

at least for systemically important countries and financial institutions. This requires enhancing the accessibility and timeliness of existing data, developing new sources of information, and promoting transparency and disclosure more generally. Data need to cover non-bank financial institutions, such as insurance companies and hedge funds, and housing-related statistics, which would allow a better understanding of credit risk transfers. Better information is needed on the financial operations of large nonfinancial corporations that have significant links in national economies and potentially across borders as well.

Better risk assessment means strengthening macrofinancial analysis and work on early-warning systems. More analysis is needed on the linkages between financial sector and macroeconomic performance (for instance, on the relationship between monetary policy and financial risk taking). And new and better operational tools need to be developed for macrofinancial surveillance. Perhaps most critical is recognizing that early-warning exercises are less about “calling” crises—whose exact timing and occurrence are nearly impossible to foretell—than about identifying risks and underlying vulnerabilities and taking remedial policy actions. But even then, it is possible to miss new channels through which identified risks and novel manifestations of risk can spread, especially as financial innovation and integration continue and the complex web of interlinkages grows.

Early-warning and surveillance work by multilateral agencies will need to balance voluntary engagement in assessments with mandatory compliance. Multilateral and bilateral assessments could be used more systematically to examine macroprudential risks and implement multilaterally agreed principles, standards, and actions. It will, however, mean stronger requirements on member regulators and authorities to participate, more streamlined processes, and improved means of dissemination, while recognizing the tension inherent in the function of whistleblower and crisis preventer. More broadly, an overarching challenge in improving early warning will be to convince country authorities to take actions to deal with vulnerabilities, particularly during good times. Change in international financial governance and representations (in both rule-making and decision-making bodies, such as the Financial Stability Board, the Basel Committee on Banking Supervision, the International Monetary Fund, the G-7, the G-9, and the G-20) will be needed to make this effective.

Better cross-border crisis management arrangements are also needed (see Claessens 2009b). As clearly demonstrated by the failures of Lehman Brothers, AIG, and some Icelandic banks, countries cannot deal with large, complex, globally active financial institutions on their own, as these institutions affect many markets and countries. A more universal approach is needed. Closer cooperation and greater coordination among regulators and supervisors could help to address market disruptions as they arise and forestall policy measures that have adverse spillovers. An enhanced role for “colleges of supervisors” with specific mandates and accountability will be an important component to achieve the goal of better monitoring and early interventions. At the same time, this will not be sufficient to cover all sources of systemic risks, as risks can come from other sources, including non-bank financial institutions.

Cross-border banking resolution needs to be improved. Clear and binding rules on burden sharing for weak or failed cross-border financial institutions are needed; otherwise it will be hard to develop a fail-proof system. The best system—a global financial regulator, matching the current, financially closely integrated world and well resourced in staff, powers, budget, and financial resources—is unlikely to materialize soon. Other options, each of which could achieve varying degrees of global financial stability, are a new charter for internationally active banks, greater harmonization of rules and practices, and enhanced coordination. Each of these second-best reforms has its own benefits and costs, which are difficult to rank, especially as they depend on implementation and enforcement.

Better liquidity provision is needed. Improved crisis management will require better provision of international liquidity, to both financial institutions and countries, to prevent spillovers from becoming solvency issues. While the designs and institutional frameworks can build on those for national lender-of-last-resort facilities, much work is needed to obtain better facilities for cross-border banks.² Many of the obstacles are similar or relate to the same underlying factors hindering ex post crisis resolution. For liquidity provision at the country level, the approaches are conceptually also well known and can involve, besides private market solutions (including contingent credit lines and insurance contracts), bilateral or regional swaps among countries, other forms of reserve pooling, and an expanded International Monetary Fund, including a larger allocation of special drawing rights (as agreed in principle at the G-20 meeting of April 2, 2009). But many barriers may exist between principles and practices.

Short-Term Issues and Lessons for Emerging Markets and Developing Countries

The crisis has affected emerging markets and developing countries in many ways through financial and real economic channels. Countries have had to respond, often in new and unorthodox ways, and many still face challenges on multiple fronts. Policy choices are greater today than in the past, since many countries have entered the crisis with better fiscal positions, stronger financial sectors, and improved institutional frameworks. The crisis also provides some lessons on the medium-term financial sector development strategies for emerging markets and developing countries and on how to adapt policies and reforms to their specific circumstances.

Short-Term Issues and Policy Options

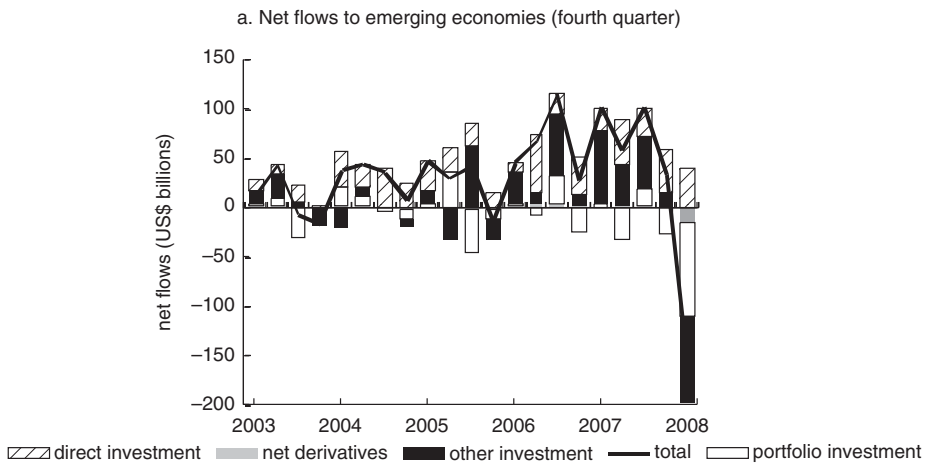
The current financial turmoil is confronting emerging-market economies and developing countries with two shocks: a “sudden stop” of capital inflows driven by global deleveraging (see figure 15) and a collapse in export demand associated with the global slump in trade (see figure 16 and the summary of Ghosh and others 2009). Although some countries were ripe for a homegrown crisis following unsustainable credit booms or fiscal policies and are facing large debt overhangs, the majority were innocent bystanders (see figure 17). Policies to address the current situation and bring about recovery in both groups of countries involve obtaining more external financing, adjusting monetary and

fiscal policies, and being prepared to address the many debt restructurings, all while considering the exit strategy from what are often unorthodox policies.

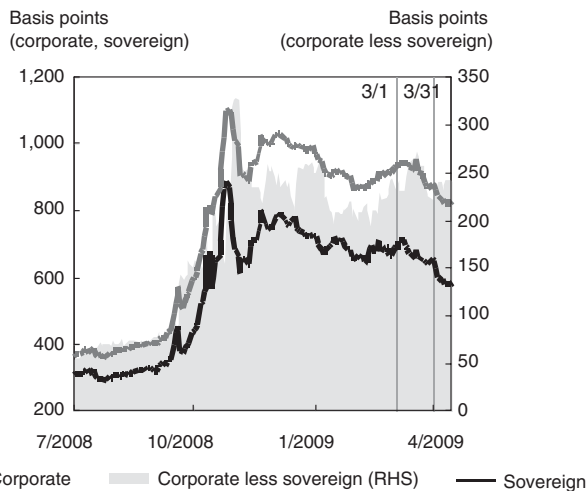
A key ingredient to address these two shocks will be greater official financing. Faced with massively lower inflows, and sometimes outflows, of private capital (see figure 18), countries need official external financing to expand their “policy space.” Such funds could allow emerging markets and developing countries to pursue supportive macroeconomic policies—including, in countries with large debt overhangs, by helping to meet the fiscal outlays (such as costs to recapitalize banks) associated with resolving those overhangs. Another key ingredient will be policies to protect the poor and other vulnerable groups.

For their short-term external financing needs, some countries can seek recourse to swap facilities from major advanced-economy central banks. International financial institutions, including the IMF through its new and existing instruments, can provide

FIGURE 15.
Net Inflows in 2007 and Net Outflows in 2009 for Emerging Economies

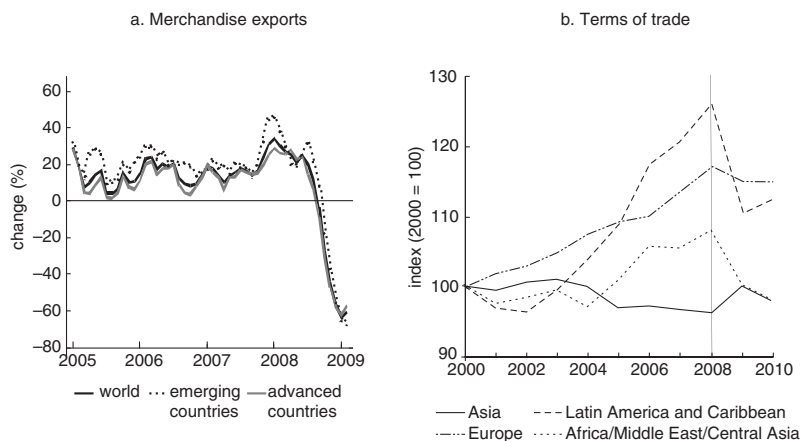


b. Emerging-market sovereign and corporate external spreads



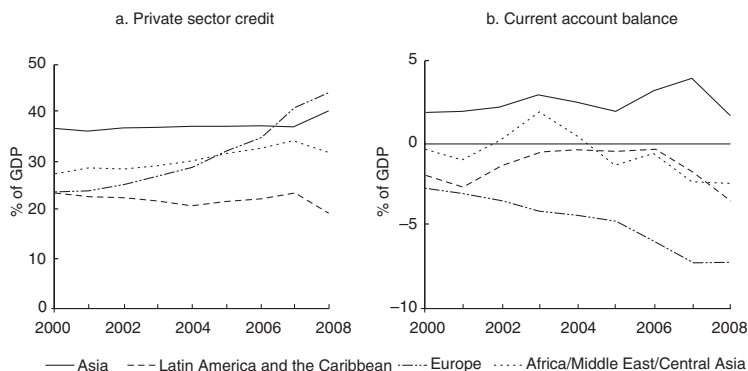
Source: IMF staff estimates.

FIGURE 16.
Merchandise Exports and Terms of Trade, by Region, Various Years



Sources: IMF; Global Data Source; IMF staff estimates.

FIGURE 17.
Private Sector Credit and Current Account Balance, by Region, 2000–08

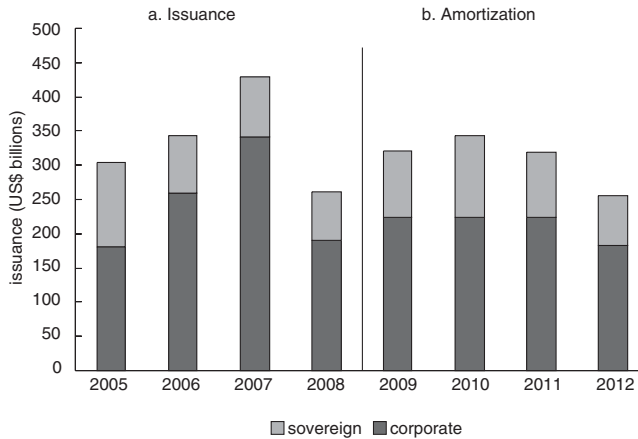


Source: IMF, International Financial Statistics.

some such support as required, both through direct balance-of-payments support and in a contingent fashion through credit lines. Some countries will be able to use lines for trade credit made available by bilateral and multilateral financial institutions, although it is not clear that there are large market failures in the provision of trade finance (see Chauffour and Farole 2009).

Monetary policy can be eased and, for many countries, the exchange rate can adjust. Except where the loss of confidence in the currency precludes it, the basic thrust of monetary policy should be toward easing. The global deflationary pressures and widening interest differentials with respect to advanced countries allow much room for lower interest rates. Quantitative measures may also be appropriate in some cases. However, central banks need to remain mindful of the trade-off between the growth-enhancing effects of looser policy and the negative impact of exchange rate depreciation on unhedged balance sheets.

FIGURE 18.
Issuance and Amortization of Foreign Exchange–Denominated Debt in Emerging Markets, 2005–12



Sources: Dealogic, Bloomberg, and IMF staff estimates.

Countries with flexible exchange rate regimes should allow their exchange rate to absorb much of the pressures (see figure 19). Since many emerging markets have large stocks of foreign exchange reserves, they can use some of these for intervention to avoid disorderly market conditions. Using reserves can prevent excessive depreciation and smooth the impact of interruptions or reversals in capital flows, recognizing that some changes in capital flows may be permanent. In some cases, foreign exchange reserves can also be used to substitute for foreign credit lines to banks, allowing the latter to maintain domestic lending operations. For some whose currency is pegged to the exchange rate, there may be scope to increase the flexibility of the exchange rate regime, while maintaining a credible anchor for monetary policy.

Depending on the available fiscal space, expansionary fiscal policy could also be deployed to support economic activity. With a better fiscal position, many countries can not only allow automatic stabilizers to operate, but also increase discretionary spending (see figure 20). Although the empirical evidence is not conclusive, conventional fiscal multipliers may be relatively small in emerging markets and developing countries, and the impact of fiscal stimulus on activity is more uncertain. This calls for a variety of fiscal measures that could include some less conventional steps such as providing credit guarantees. For countries in crisis, options are more limited, given the potential adverse feedback between debt sustainability and (real) domestic interest rates (see figure 21). For these countries especially, fiscal support should be geared toward maintaining financial sector confidence and solvency.

An important policy step is to prepare for financial turmoil and insolvencies. Governments need to have contingency plans for limiting the risks of bank runs and adopt comprehensive mechanisms to reduce the risks of systemic solvency problems. Many countries need to ensure an adequate framework to facilitate rapid debt workouts. Debt restructuring mechanisms can provide greater scope for monetary easing by reducing

FIGURE 19.
How Much to Depreciate

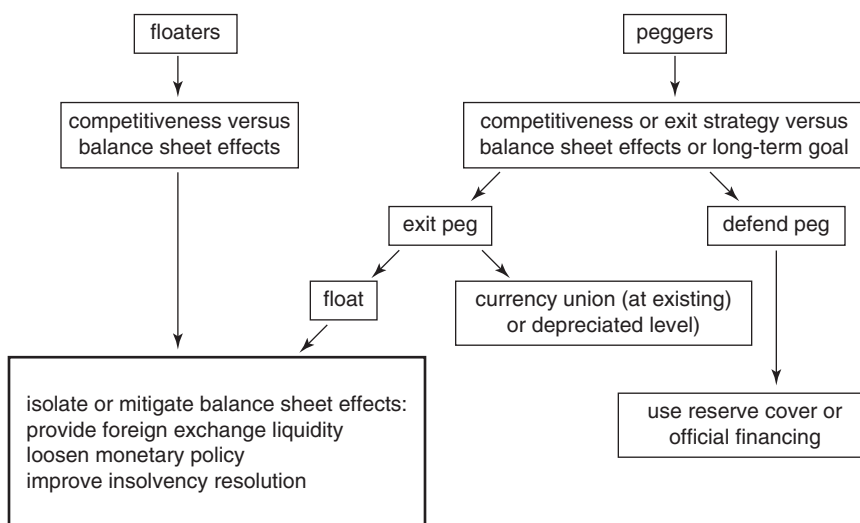
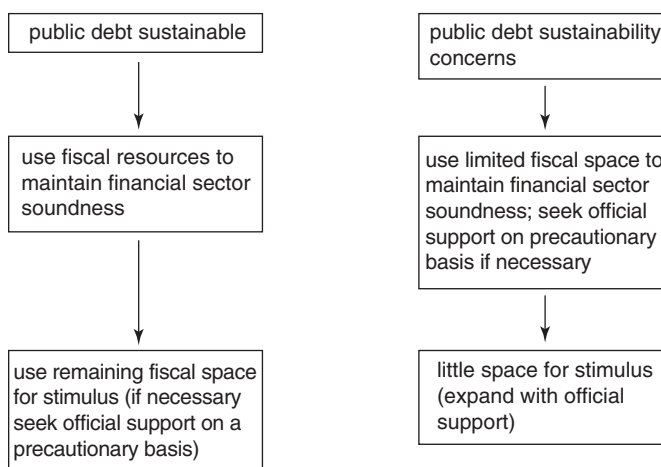


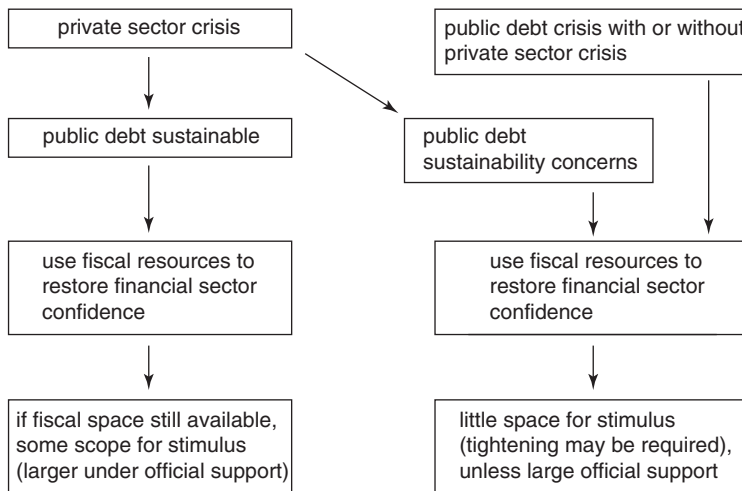
FIGURE 20.
Fiscal Stance for Non-Crisis Countries



the negative repercussions of exchange rate depreciation on unhedged balance sheets. Depending on circumstances, restructuring can be done either *ex post* (recapitalizing banks after they suffer losses) or more proactively. However, the large outlays required to restore banks' solvency may limit the room for conventional fiscal expansion.

It is critical that countries have a credible exit strategy. Monetary policy should not be loosened too quickly, as a rapid reversal would damage credibility. The same holds for fiscal policy interventions, where the stimulus should not be withdrawn too soon. At the same time, stimulus may require a credible exit strategy that places government finances on a long-term sustainable footing. This would help to contain the costs of financing the short-term stimulus and have an additional benefit of strengthening investor confidence and facilitating the resumption of capital inflows in the recovery phase.

FIGURE 21.
Fiscal Stance for Crisis Countries



Conclusions

The financial crisis has brought a number of weaknesses in economic policy and national and international financial architecture into the open. The reform agenda is large, much remains to be done, and new questions have come up for the design of national and international financial systems. Much has been achieved, but the financial sectors in emerging markets and developing countries still face specific challenges.

Notes

1. This section is based on joint work with Giovanni Dell’Ariccia, Deniz Igan, Luc Laeven, and Krishna Srinivasan.
2. See, among others, Schinasi and Teixeira (2006), for a discussion of the complications of establishing a lender of last resort in the European Union.

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