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FINANCIAL CRISES, LIQUIDITY, AND THE INTERNATIONAL MONETARY SYSTEM

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Acknowledgments

Giving the sixth Paolo Baffi Lecture on Money and Finance is a great privilege and honor for me. When Albert Ando, on behalf of the scientific committee, Governor Fazio and the Bank of Italy, asked me to give the lecture, I was both thrilled and intimidated by the challenge. The distinguished lists of economists who preceded me and the Bank's long-standing tradition of excellence in economic research (a tradition that Governor Baffi helped setting up and that is certainly alive today) provided both high-powered incentives and anxiety.

I could not have written this lecture without the key input of Bengt Holmström (who co-authored with me a series of papers on aggregate liquidity) and Olivier Blanchard. My discussant, Richard Portes, Ricardo Caballero, Paola Caselli, Mathias Dewatripont, Philippe Martin, Larry Summers, Daniele Terlizzese, and especially Curzio Giannini and Olivier Jeanne gave very detailed and useful reactions to a first draft in the fall of 2000. I also thank three reviewers for helpful comments.

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Introduction

A wide consensus had emerged among economists. Capital account liberalization – allowing capital to flow freely in and out of countries without restrictions – was unambiguously good. Good for the debtor countries, good for the world economy. The two-fold case for capital mobility is relatively straightforward: First, capital mobility creates superior insurance opportunities and promotes an efficient allocation of investment and consumption. Capital mobility allows households and firms to insure against country-specific shocks in worldwide markets; households can thereby smooth their consumption and firms better manage their risks. Business cycles are dampened, improved liquidity management boosts investment and promotes growth. Second, besides insurance, capital mobility also permits the transfer of savings from low- to high-return countries. This transfer raises worldwide growth and further gives a chance to the labor force of low-income countries to live better. In these two respects, the increase in the flow of private capital from industrial to developing countries from $174 billion in the 1980s to $1.3 trillion during the 1990s[1] should be considered good news.

That consensus has been shattered lately. A number of capital account liberalizations have been followed by

[1] Summers (2000).

spectacular foreign exchange and banking crises.[2] The past twenty years have witnessed large scale crises such as those in Latin America (early 1980s), Scandinavia (early 1990s), Mexico (1994), Thailand, Indonesia, and South Korea (1997), Russia (1998), Brazil (1998–9) and Argentina (2001), as well as many smaller episodes. The crises have imposed substantial welfare losses on hundreds of millions of people in those countries.

Economists, as we will discuss later, still strongly favor some form of capital mobility but are currently widely divided about the interpretation of the crises and especially their implications for capital controls and the governance of the international financial system. Are such crises just an undesirable, but unavoidable by-product of an otherwise desirable full capital account liberalization? Should the world evolve either to the corporate model where workouts are a regular non-crisis event or to the municipal bond model where defaults are rare? Would a better sequencing (e.g., liberalization of foreign direct and portfolio investments and the building of stronger institutions for the prudential supervision of financial intermediaries before the liberalization of short-term capital flows) have prevented these episodes? Should temporary or permanent restrictions on short-term capital flows be imposed? How does this all fit with the choice of an exchange rate regime? Were the crises handled properly? And, should our international financial institutions be reformed?

This book was prompted by a questioning of my own understanding of its subject. Several times over recent years I have been swayed by a well-expounded and coherent proposal only to discover, with striking naivety,

[2] 131 of the 181 IMF member countries have experienced banking problems between 1980 and 1995 (IMF 1996).

that I later found an equally eloquent, but inconsistent, argument just as persuasive. While this probably reflected lazy thinking on my part, I also came to wonder how it is that economists whom I respect very highly could agree broadly on the facts and yet disagree strongly on their implications.

I also realized that I was missing a "broad picture". An epitome for this lack of perspective relates to international institutions. I have never had a clear view of what, leaving aside the fight against poverty, the International Monetary Fund (IMF) and other international financial institutions (IFIs) were trying to achieve: avoid financial crises, resolve them in an orderly manner, economize on taxpayers' money, protect foreign investors, respect national sovereignty, limit output volatility, prevent contagion, facilitate a country's access to funds, promote long-term growth, force structural reforms – not to mention the IMF's traditional current account, international reserves and inflation objectives.[3]

This book is to some extent an attempt to go back to first principles and to identify a specific form of market failure, that will guide our thinking about crisis prevention and institutional design. Needless to say, I will be focusing on a particular take on the international financial system, which need not exclude other and complementary approaches. I believe, though, that the specific angle taken here may prove useful in clarifying the issues.

The book is organized as follows. Chapter 1 is a concise overview of recent crises and institutional moves for the reader with limited familiarity with the

[3] For example, the Meltzer Commission, or more precisely the International Financial Institution Advisory Commission, chaired by Alan Meltzer and reporting to the US Congress (2000), views the role of the IMF as limiting the incidence of crises, reducing their severity, duration and spillovers.

topic. Chapter 2 summarizes and offers a critique of economists' views on the subject. Chapter 3 provides a roadmap for our main argument. Basically, I suggest that international financing is similar to standard corporate financing except in two crucial respects, which I name the "dual-agency problem" and the "common-agency problem". Chapter 4 therefore provides the reader with a concise review of those key insights of corporate finance that are relevant for international finance. Chapter 5 describes the market failure. Chapter 6 draws its implications for crisis prevention and management. Chapter 7 investigates the lessons of the analysis for the design of international financial institutions.Finally, Chapter 8 summarizes and discusses routes for future research.

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Contents

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Emerging Markets Crises and Policy Responses

Many excellent books and articles have documented the new breed of "twenty-first century" financial crises.[1] I will therefore content myself with a *short overview* of the main developments. This chapter can be skipped by readers who are familiar with Emerging Markets (EM) crises.

The pre-crisis period

No two crises are identical. At best we can identify a set of features common to most if not all episodes. Let us begin with a list of frequent sources of vulnerability in recent capital-account crises.

Size and nature of capital inflows. The new breed of crises was preceded by financial liberalization and very large capital inflows. In particular the removal of controls on capital outflows (the predominant form of capital control) has led to massive and rapid inflows of capital.

[1] E.g., Bordo et al (2001), Caballero (2000), Corsetti (1999), De Gregorio et al (1999), Dornbusch (1998), Eichengreen (1999a), Fischer (1998a,b), Hunter et al (1999), Kenen (2000), McKinnon–Pill (1990), Mussa et al (1999), Obsfeld–Rogoff (1998), Portes (1999), Rogoff (1999), Sachs–Radelet (1995), Sachs–Warner (1995), Summers (1999, 2000), Woo et al (2000), World Bank (1997, 1998), World Economic Outlook (1998). Some observers establish a finer distinction between the crises of the 1980s and those of the 1990s. Michel Camdessus, former IMF managing director, called the 1994–5 Mexican crisis the first financial crisis of the 21st century. There is little purpose in engaging in such a distinction given the limited purpose of this chapter.

Instead of inducing onshore capital to flow offshore to earn higher returns, these removals have enhanced the appeal of borrowing countries to foreign investors by signaling the governments' willingness to keep the doors unlocked.[2]

At the aggregate level, the net capital flows to developing countries exceeded $240 bn in 1996 ($265 bn if South Korea is included), six times the number at the beginning of the decade, and four times the peak reached during the 1978–82 commercial lending boom.[3] Capital inflows represented a substantial fraction of gross domestic product (GDP) in a number of countries: 9.4 percent for Brazil (1992–5), 25.8 percent for Chile (1989–95), 9.3 percent in Korea (1991–5), 45.8 percent in Malaysia (1989–95), 27.1 percent in Mexico (1989–94) and 51.5 percent in Thailand (1988–95).[4]

This growth in foreign investment has been accompanied by a shift in its nature, a shift in lender composition, and a shift in recipients. Before the 1980s, medium-term loans issued by syndicates of commercial banks to sovereign states and public sector entities accounted for a large share of private capital flows to developing countries, and official flows to these countries were commensurate with private flows.

Today private capital flows dwarf official flows. On the recipient side,[5] borrowing by the public sector has shrunk

[2] For such a signal to be credible, though, a government that is committed to capital-account liberalization must find it less costly to lift controls on capital outflows than a government that is not committed. See Bartolini–Drazen (1997) for a formalization of this idea.

[3] World Bank (1997).

[4] World Bank (1997).

[5] See Gourinchas et al (1999) for evidence on lending booms. Among other things, this paper suggests that lending booms are not damaging to the economy, although they substantially increase the probability of a banking or balance of payment crisis. Also, the proportion of short-term debt rises with investment during the build-up phase.

to less than one-fifth of total private flows.[6] As for the composition of private flows, the share of foreign direct investment (FDI) has grown from 15 percent in 1990 to 40 percent, and that of global portfolio bond and equity flows grew from a negligible level at the beginning of the decade to about 33 percent in 1997. Bank lending has evolved toward short-term, foreign currency denominated debt. Such foreign bank debt, mostly denominated in dollars and with maturity under a year, reached 45 percent of GDP in Thailand, 35 percent in Indonesia and 25 percent in Korea just before the Asian crisis.[7]

There are several reasons for the sharp increase in the capital flows in the last twenty years:[8] the ideological shift to free markets and the privatizations in developing countries; the arrival of supporting infrastructure such as telecommunications and international standards on banking supervision and accounting; the regulatory changes that made it possible for the pension funds,

[6] World Bank (1997).

[7] The Economist (1999).

[8] See De Gregorio et al (1999) and The Economist (1999) for a lengthier discussion of the sharp increase in capital flows from developed countries to developing countries. We should note, though, that despite this sharp increase it is still the case that a small amount of capital flows from rich to poor countries. Kraay et al (2000) present useful evidence on "country portfolios". Based on a sample of 68 countries, accounting for over 90 percent of world production, from 1966 through 1997, they show among other things that countries hold small gross asset positions and that these assets are mainly loans. For example, industrial countries hold about 3.3 percent and 3.9 percent of their wealth in foreign equity assets and liabilities. These proportions are about 11 percent for foreign loan assets and liabilities. Relatedly, it is well known that individuals hardly hedge risks across countries. Over 90 percent of US and Japanese financial portfolios (and 89 percent and 85 percent of French and German portfolios) are invested in domestic assets (French–Poterba 1991), which furthermore are positively correlated with the individuals' non-financial wealth (human capital). It is also well-known that consumption is less correlated across countries than output, in contrast to what portfolio diversification would suggest. See Lewis (1999) for a thorough survey of the home bias in equities and consumption.

banks, mutual funds, and insurance companies of developed countries to invest abroad; the perception of new, high-yield investment opportunities in Emerging-Market economies; and the new expertise associated with the development of the Brady bond market.[9]

Banking fragility. Up to the 1970s, balance of payment crises were largely unrelated to bank failures. The banking industry was highly regulated, and banking activity was much more limited and far less risky than it is now. It operated mostly at the national level and foreign borrowings were strictly constrained by exchange controls. Various regulations, such as licensing restrictions and interest rate ceilings, kept banks from competing against each other. There were also far fewer financial markets and derivative instruments to play with.

The 1970s and 1980s witnessed a trend toward openness and deregulation, but the subsequent expansion in banking activities and exposure in capital markets made banking riskier. In response, the Basle Committee on Banking Supervision in the past several years has been involved in instituting new banking regulations, concerning minimum capital standards for credit risk (the Basle Accord in 1988), and risk management (the 1996 Amendment to the Accord to account for market risk on the banks' trading book), and is proposing some further reforms.

A common feature of the new breed of crises is the fragility of the banking system prior to the crisis.[10]

[9] Calvo (1998, 2000) argues that the securitization of non-performing sovereign debt under the Brady plan forced financial institutions to learn about the economies' fundamentals and made them more willing to buy securities in the corresponding countries.

[10] This fact is well documented by Kaminsky and Reinhart (1999). See also Goldfajn–Valdes (1997) for an analysis of Chile, Finland, Mexico and Sweden.

Often, the relaxation of controls on foreign borrowing took place without adequate supervision. For example, banking problems played a central role in the Latin American crises of the early 1980s.[11] The widespread insolvency of Chilean institutions in 1981–4 resulted in the Chilean government guaranteeing all foreign debts of the Chilean banking system and owning 70 percent of the banking system in 1985. Similarly, the banks of the East Asian countries that suffered crises in 1997 (Thailand, Korea, Indonesia, Malaysia) were very poorly capitalized. [More generally, overleverage was not confined to banks as firms' balance sheets also deteriorated prior to the crises. For example, leverage doubled in Malaysia and Thailand between 1991 and 1996, according to the World Bank (1997).]

Currency and maturity mismatch. Some of the domestic debt and virtually all of the external debt of EM economies is denominated in foreign currency, with very little hedging of exchange rate risk, a phenomenon labeled "liability dollarization" by Calvo (1998). For example, before the Asian Crisis, Thailand, Korea, and Indonesia created incentives to borrow abroad through implicit and explicit guarantees and other policy-induced incentives.[12] To be certain, banking regulations usually mandate currency matching, but such regulations have often been weakly enforced. Furthermore, even if the banks' books are formally matched, they may be subject to a substantial foreign exchange risk through their non-bank borrowers' risk of default. For

[11] See, e.g., Diaz–Alejandro (1985) and Harberger (1985).

[12] For example, Thailand offered tax breaks on offshore foreign borrowing. In contrast, Taiwan had well-capitalized banks with little currency and maturity mismatches. Despite a contagious attack on its currency, which forced officials to float the rate, the Taiwanese economy suffered little from the 1997 crisis.

example, the Indonesian private sector engaged heavily in liability dollarization, and so the banks faced an important "credit risk" (de facto a foreign exchange risk) with those borrowers who had borrowed in foreign currencies.

The second type of mismatch was on the maturity side. For instance, 60 percent of the $380 bn of international bank debt outstanding in Asia at the end of 1997 had maturity of less than one year.[13] Often, the short-term bias has been viewed favorably and even encouraged by policymakers. Mexico increased its resort to de facto short-term (dollar-denominated) government debt, the Tesobonos, before the 1995 crisis. South Korea favored short-term borrowings and discriminated against long-term capital inflows. Thailand mortgaged all of its government reserves on forward markets. As documented by Detragiache–Spilimbergo (2001), short debt maturities increase the probability of debt crises, although the causality may, as they argue, flow in the reverse direction (more fragile countries may be forced to borrow at shorter maturities).

Macroeconomic evolution. Despite attempts at sterilizing capital inflows[14] in many countries, aggregate demand and asset prices grew. Real estate prices went up substantially.

In contrast with earlier crises, which had usually been preceded by large fiscal deficits, the new ones offered

[13] The Economist (1999).

[14] Remember that a non-sterilized intervention is similar to an open market operation except that the assets purchased are foreign assets rather than domestic ones; it therefore impacts the domestic monetary base. To avoid affecting the domestic monetary base, the Central Bank can engage in an offsetting domestic intervention by selling domestic bonds. Thus, in reduced form, a sterilized intervention amounts to purchasing foreign assets by selling domestic ones (or the reverse).