

4. Financial globalization and exchange rate arrangements

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The crises of the 1990s fuelled a renewed interest in the causes of speculative attacks. Many claim that these crises were of a different nature than the crises of the 1960s and 1970s, arguing that while the latter had been triggered by fiscal and monetary problems, the crises of the 1990s were caused by weaknesses in the banking sector and overall financial fragility.² It is further asserted that the financial fragility that preceded these crises was sparked by over-borrowing in international capital markets and the concentration of the debt in foreign currency, with Rodrik (1998) and Eichengreen (1999 and 2005) further concluding that unfettered international capital flows were at the core of these problems. These crises also resuscitated old debates (with new clothes) about the role of exchange rate regimes, with many arguing that fixed exchange rate regimes trigger financial excesses and liability dollarization.³ This chapter will review the theoretical debate and the empirical evidence on balance sheet problems and their causes.

4.1 FINANCIAL LIBERALIZATION

The crises of the 1990s have claimed many victims: entire banking systems collapsed around the world, roaring growing economies succumbed to their worst recession in modern times and the booming international capital flows of the early 1990s dwindled to a trickle. This is not all. Perhaps the most important casualty of these crises has been the support for domestic and international financial liberalization.

In the aftermath of the Asian crisis, many concluded that globalization had gone too far and had led to extremely erratic capital markets around the world. For example, Joseph Stiglitz (2000) argues for developing countries to put some limits on capital inflows in order to moderate the 'excessive' boom-bust pattern in financial markets. Similarly, Rodrik (1998) rejects capital market liberalization, arguing that there is no evidence that

countries with free capital mobility grow faster and indicating that international financial liberalization exposes them to the danger of debilitating crises. Even the International Monetary Fund has joined the group, arguing for the postponement of capital account liberalization until countries make progress in strengthening their financial markets and in improving institutions in general.⁴ Moreover, controls on capital outflows, not long ago dismissed as ineffective, are fashionable again. Paul Krugman (1998), for instance, suggests that capital controls may help in managing, at least temporarily, an otherwise disorderly retreat of investors.

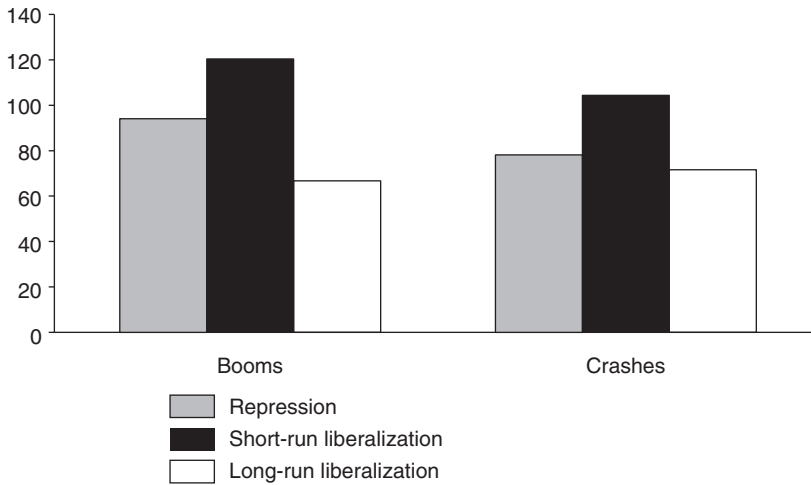
The rationale for restricting international capital flows is grounded in the belief that market failures and distortions pervade capital markets around the world. One of the most frequently cited distortions is that of asymmetric information, which is rampant in international capital markets due to geographical and cultural differences that complicate the task of obtaining information. In addition, imperfections in international markets are magnified by the difficulties in enforcing contracts across borders.⁵ With imperfect information, investors may overreact to shocks, withdrawing massively from countries at the first signs of economic problems, or become euphoric and pour in capital in quantities beyond those justified by 'good' fundamentals.

The empirical literature on banking crises has also uncovered a link between liberalization of the domestic banking industry and banking crises. For example, Kaminsky and Reinhart (1999) find that the likelihood of banking crises increases by 40 per cent following the deregulation of the domestic banking sector. A variety of models have been proposed to explain this link. For example, Allen and Gale (1999, 2000), Hellman, Murdock and Stiglitz (2000) and Tornell and Westermann (2005), among others, show that financial liberalization leads to risky behaviour by banks. In particular, Hellman et al. (op. cit.) show that financial liberalization fuels competition and reduces bank profits, eroding banks' franchise value, while at the same time allowing banks to take more risk. Since governments cannot commit not to provide bailouts in case of crises, banks have incentives to gamble for resurrection, reaping the benefits in case of success and passing the losses to the government in times of crises. Moreover, Tornell and Westermann (op. cit.) argue that financial liberalization triggers lending boom-bust cycles in economies with credit restrictions and overall imperfections in financial markets. Allen and Gale (2000) further show that these lending booms can feed into stock market bubbles because agency problems generate an incentive for borrowers to use bank loans to buy risky assets, with these bubbles ending up in banking crises and recessions. Overall, these models rest on the idea that market failures and distortions pervade capital markets and are the sources of the boom-bust patterns.

Other authors, in contrast, highlight the benefits of financial liberalization. They claim that financial liberalization allows capital to move to its most attractive destination, increasing productivity and growth and fostering a better functioning of financial markets. For example, Bekaert, Harvey and Lundblad (2005) find that liberalization leads to a one percentage point increase in annual economic growth as well as to a decline in output volatility. Also, Henry (2000a, 2000b) finds that liberalization triggers an increase in the investment rate and a substantial revaluation of equity prices in a large number of countries. Galindo, Micco and Ordóñez (2002) study whether financial liberalization promotes economic growth by analysing its effect on the cost of external financing to firms. In particular, their hypothesis is that the liberalization of domestic and external financial markets reduces the cost of external corporate funding by reducing the impact of problems associated with moral hazard and adverse selection. From this perspective, the impact of financial development differs according to the needs of particular firms for external funds. Firms that rely more on external funds will be more heavily impacted by financial development than those that require little capital. The results suggest that industries that depend on external finance grow almost one percentage point faster (relative to industries with low external financing dependence) in episodes of globalization compared with episodes of repression. Traditional neoclassical models provide the theoretical support for these findings. In these models, financial liberalization reduces the cost of capital and fuels a significant boom in lending and stock market prices, but does not trigger a financial crash.

However, the evidence on the links between financial liberalization and growth is not conclusive. For example, Edison and Warnock (2003), using data from 57 countries from 1980 to 2000, conclude that there is no robustly significant effect of financial integration on economic growth.⁶ Similarly, Kraay (1998), using a sample of 117 countries, finds no effect of financial liberalization on growth or, at best, mixed results.

To reconcile the evidence that globalization is at the heart of financial crises with the hypothesis that international capital markets allow capital to move to its most attractive destination and promote more stable financial markets, Kaminsky and Schmukler (2003) examine the possible time-varying effects of financial liberalization on stock market price cycles. Figure 4.1 reproduces some of the results in that paper. The figure shows the average amplitude of booms and crashes for 14 emerging markets⁷ during periods of repression, in the short run following liberalization, and in the long run following liberalization. The evidence in this figure seems to point to excessive cycles, with larger booms followed by larger crashes in the immediate aftermath of financial liberalization. However, liberalization



Source: Kaminsky and Schmukler (2003).

Figure 4.1 Average amplitude of booms and crashes in stock prices in 14 emerging markets (in per cent)

does not permanently bring about more volatile financial markets. If liberalization persists, stock markets in emerging countries become more stable.

One possible explanation examined in Kaminsky and Schmukler (*ibid.*) (using a variety of measures of law and order) is that financial liberalization triggers institutional reforms that make financial markets function better while governments may have few incentives to promote reforms in countries with repressed financial sectors.⁸ Interestingly, the evidence for the 14 emerging countries indicates that deregulation indeed precedes institutional reforms. This sequence may also be due to the actions of domestic investors who, having access to international capital markets following deregulation, demand better enforcement rules to continue to invest in domestic financial markets. As suggested by Stulz (1999), the liberalization and gradual integration of emerging markets into international financial markets may help strengthen the domestic financial sector as foreign investors generally have better skills and more information and can thus monitor management in ways that local investors cannot. Liberalization also allows firms to access mature capital markets. Firms listed on foreign stock markets are in the jurisdiction of a superior legal system with higher disclosure standards, which promotes more transparency in the management of the firm and can trigger improvements in corporate governance. Mishkin (2003) also argues that financial liberalization promotes

transparency and accountability, reducing adverse selection and moral hazard and alleviating liquidity problems in financial markets.

Loayza and Ranciere (2004) also provide evidence about the time-varying effects of financial liberalization and financial development on growth. These authors estimate transitory and trend effects of financial deepening on growth using a sample of about 80 countries and find that financial deepening, which in general is closely related to financial liberalization, harms growth in the short run but leads to higher growth in the long run. These latest results are closely linked to the results in Kaminsky and Schmukler (2003) and suggest that financial liberalization triggers growth in the long run because it fuels institutional reform.

Gourinchas and Jeanne (2003) also explore this theme and distinguish two classes of benefits of financial globalization. The first category includes benefits in terms of international allocative efficiency, such as consumption smoothing in response to shocks or the possibility of accelerating domestic capital accumulation with the help of foreign capital. The second class of benefits encompasses incentives to implement good policies or reform that are generated by an open capital account. This includes imposing market discipline on domestic macroeconomic policies induced by the threat of capital flight. More broadly, it can also include incentives to reform the domestic economic system in a way that reduces unproductive activities (diversion, rent-seeking) or secures better guarantees of property rights. To examine the relative importance of the benefits of international allocative efficiency, the authors calibrate a simple neoclassical growth model of a small, open, capital-scarce economy with data on post-World War II emerging economies. While they find that financial openness increases domestic welfare by allowing households to smooth consumption and by increasing the possibility of accelerating domestic capital accumulation, they also find that the benefits are not very large when compared with the benefits of alternative policies that reduce domestic distortions or increase domestic productivity.

4.2 EXCHANGE RATE REGIMES

The crises of the 1990s have also stirred the debate on the pros and cons of fixed and flexible exchange rate regimes. While the debate is old, it has acquired a new twist. It does not focus anymore on asymmetric real shocks to determine whether a group of countries belongs to an optimum currency area. The discussion is now centred on the effects of liability dollarization and the moral hazard problem triggered by the exchange rate government guarantees implicit in 'soft' pegs. According to Burnside, Eichenbaum and

Rebelo (2001) and Schneider and Tornell (2004), under fixed exchange rate regimes, firms do not fully internalize their exchange rate risk and will be more likely to engage in balance sheet mismatches than under a floating regime. Even without moral hazard considerations, the exchange rate regime might also affect the currency composition of debt by modifying the relative return volatilities of domestic and foreign currency assets. Ize and Levy Yeyati (2003) show that, in the minimum-variance portfolio equilibrium, financial dollarization is explained by the relative volatilities of inflation and real exchange rates. Since pegs tend to reduce real exchange rate volatility, they also increase dollarization.

Another strand of the literature on exchange rate regimes focuses on the so-called 'fear of floating syndrome'.⁹ This view points out that many countries, while claiming to be floaters, actively engage in exchange rate stabilization operations because of worries about the effects of floating when debts are denominated in foreign currencies.

A number of studies have also focused on the two-way causality between portfolio choices and exchange rate policies. For example, Chamon and Hausmann (2002) examine the optimal monetary policy when domestic firms have a large dollar-denominated debt. They point out that when firms expect a policy of stable exchange rates, they will borrow in foreign currency. In this situation, unexpected changes in the real exchange rate can drive the firms into costly bankruptcy. Naturally, fear of bankrupting the firms will lead the monetary authority to peg the currency, validating their expectations. Hence this model can have more than one equilibrium policy. Chang and Velasco (2004) also build a model of a small open economy with incomplete markets in which domestic residents can only borrow nominal bonds denominated in both home and foreign currency. They also assume sticky wages. In this model, flexible exchange rates can stabilize the labour market – as it is emphasized in the traditional literature – but can exacerbate the volatility of domestic consumption, if domestic residents are long in one currency and short in the other, as it is emphasized in the most recent literature. Again, in this model, currency mismatches affect monetary policy as well as monetary policy affects portfolio choices, with this model also delivering multiple equilibria. Importantly, Chang and Velasco (ibid.) show that social welfare would increase if the monetary authority could pre-commit to floating.

Testing the effect of the exchange rate regime on dollarization is problematic due to the two-way causality between exchange rate regimes and dollarization. Iannariello (2005) is the first to examine the two-way causality between exchange rate regimes and dollarization. She examines these links using data for Argentina, Bolivia, Chile, Colombia, Czech Republic, Ecuador, Egypt, Estonia, Hungary, Indonesia, Korea, Malaysia, Mexico,

Nigeria, Peru, Philippines, Poland, South Africa, Thailand, Turkey, Ukraine and Venezuela for the period 1990–2001. Using panel vector autoregressive (VAR) techniques, she finds that a move from a peg to a crawling peg regime leads to a persistent decrease in financial dollarization close to 4 per cent of GDP. She also finds that fluctuations in the index of exchange rate regimes can explain about 50 per cent of the variance in dollarization, suggesting the relevance of this channel.

More recently, Berkmen and Cavallo (2007) also study the two-way causality between exchange rate regimes and dollarization using a panel of industrial and developing countries. To solve the problem of identification, they use the method of ‘identification through heteroskedasticity’ developed by Rigobon (2003). The study shows that, controlling for endogeneity, countries with aggregate liability dollarization tend to be more actively involved in exchange rate stabilization operations, but it finds mixed results for the reverse causality.¹⁰

There is also a growing empirical literature that focuses on the determinants and effects of currency mismatches using firm-level data. For example, Martínez and Werner (2002) examine the currency composition of corporate debt in Mexico before the 1994 crisis when Mexico had a fixed exchange rate regime and following the crisis when Mexico allowed the exchange rate to float more freely. They study 318 firms listed in the Mexican Stock Exchange from 1992 to 2000. They find that for the median firm, the exposure to the depreciation risk decreases when floating, with the ratio of dollar debt to exports decreasing from 3.9 in 1994 to 1.6 in 2000.

Cowan, Herrera and Hansen (2005) also look at firm-level data for Chile to identify changes in the level and distribution of dollar debt across two distinct policy regimes. Before 1999, Chile had an exchange rate band and therefore an explicit commitment to exchange rate stability. Since 1999, the Central Bank of Chile has allowed the exchange rate to float freely. This study also finds significant drops in the level of currency exposure after the exchange rate was floated in 1999, suggesting that flexible rates reduce currency exposure by eliminating the implicit exchange rate insurance and forcing firms to internalize exchange rate risk correctly.

Kamil (2006) extends the Martínez and Werner (2002) and Cowan et al. (2005) studies to seven Latin American countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Uruguay. This sample includes 2000 firms from 1992 to 2005. Kamil (ibid.) finds that liability dollarization in the less export-oriented firm declines about six percentage points (when compared with a more export-oriented firm) when the domestic currency is floating, again suggesting that floats induce firms to internalize exchange rate risk correctly.

4.3 FINAL REMARKS

The literature on financial integration and the role of exchange rate regimes has continued to increase. To date, there is still lack of agreement on the pros and cons of globalization and the role of the exchange rate regime. Still, the conflictive empirical evidence on financial liberalization has shed some light onto this controversy by pointing to the time-varying effects of integration and to the causal links between integration and the quality of institutions. According to this evidence, financial deregulation strengthens the impetus for institutional reform, which in turn promotes less volatile financial markets and higher growth, but only in the long run. Importantly, these findings also suggest that dollarization may not play such an important role in the future as financial liberalization fuels better institutions, a reduction in distortions and more liquid capital markets.

NOTES

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2. See, for example, Allen et al. (2002).
3. See, for example, Dooley (2000).
4. See, for example, Prasad et al. (2003) and Prasad, Rumbaugh and Wang (2005).
5. For an excellent discussion on the effects of asymmetric information in assets markets, see Eichengreen and Mussa (1998).
6. See Prasad et al. (2003) for a review of the literature on the effects of financial globalization on growth.
7. The 14 emerging economies are Argentina, Brazil, Chile, Colombia, Hong Kong, Indonesia, South Korea, Malaysia, Mexico, Peru, the Philippines, Taiwan, Thailand and Venezuela.
8. Rajan and Zingales (2003a, 2003b) argue that well-established firms (and therefore public officials) may in general oppose reforms that promote financial development because it breeds competition. These firms can even be hurt by financial development and liberalization as they imply better disclosure rules and enforcement (reducing the importance of these firms' collateral and reputation) and permit newcomers to enter and compete away profits. Rajan and Zingales (ibid.) conclude that opposition to reforms may be weaker in more open economies with abundant trade and cross-border flows. In this case, free access to international capital markets allows the largest and best-known domestic firms to tap foreign markets for funds, with their support for the policies that favour financial development and liberalization becoming stronger. Alessandria and Qian (2005) develop a general equilibrium model that endogenizes the efficiency of financial intermediaries after financial liberalization and show that removing restrictions on international capital flows may change the efficiency of intermediaries.
9. See Calvo and Reinhart (2002).
10. While Iannariello (2005) finds that fixed exchange rate regimes trigger dollarization, Berkmen and Cavallo (2007) do not find any significant effect. Since moral hazard problems triggered by exchange rate guarantees implicit in 'soft' pegs tend to be stronger in emerging markets, including both emerging and industrial countries in the sample – as done in Berkmen and Cavallo (ibid.) – may reduce the significance of this effect. In contrast, Iannariello (op. cit.) only includes emerging countries in her study.

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