

# OPENING THE CAPITAL ACCOUNT OF TRANSITION ECONOMIES: HOW MUCH AND HOW FAST\*

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## ABSTRACT

In the late eighties, many developing countries followed the example of the most advanced countries and opened their capital account (K.A.) in an attempt to reap new gains from increased integration with the world economy. By 2000, after the wave of financial and currency crises that hurt the global economy in the last decade, enthusiasm about K.A. liberalization has much faded. Firstly, the relationship between development and capital account liberalization did not come out to be as solid as initially expected; secondly, greater capital mobility has brought about increased global financial instability. New thinking in international economics calls for proper sequencing in opening the K.A.: liberalization should proceed in step with progress in macroeconomic stability, structural reform and creation of a sound internal financial system. In this paper, we analyze to what extent and at what pace should transition economies carry out the K.A. liberalization process.

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## 1. INTRODUCTION

In the aftermath of the WW2, the world economy underwent a comprehensive process of trade liberalization. The conclusion in 1994 of the Uruguay Round and the creation of the World Trade Organization (WTO) can be interpreted as marking remarkable progress towards the achievement of a global commodity market, where goods can freely circulate across national boundaries. The start of a new round of multilateral trade negotiations at Doha in November 2001 signaled many countries' willingness to widen and deepen commodity trade liberalization.

The process of liberalizing capital flows was much slower to take off. In a way, this is not surprising, for the architects of Bretton Woods arrangements perceived the much-needed international trade integration as being incompatible with the erratic movement of currency exchange rates and cross-border capital flows. Hence, in 1945, both John Maynard Keynes and Harry D. White agreed that the newly created International Monetary Fund (IMF) should require member states to set-up controls on capital flows, such as to prevent a misuse of its credits and to support monetary policy autonomy in the fixed exchange rate environment set up at Bretton Woods. However, under the influence of the liberalization *Zeitgeist* echoed by strong political leaders in the United States and the United Kingdom in the early eighties, by 1990 industrialized countries have lifted most of their control on capital flows and set the basis for a global capital market.

In the European Union, member countries perceived the widening, deepening and integration of their capital markets as a basic precondition for better resource allocation and growth. A unified capital market is also expected to support intra-European cross-border mergers and acquisitions, leading to creation of large pan-European firms able to reap economies of scope and scale and to successfully compete with Asian and American rivals. Efficient management of monetary policy in the Euro zone also required an integrated capital and money market.<sup>1</sup>

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<sup>1</sup> It should be emphasised that competition policy and KA liberalisation are related processes, and that more freedom in the later field was, in Europe, backed by increased vigilance in the former.

Under the influence of main international and financial organizations (IMF, The World Bank, OECD), the US Treasury, etc., many emerging economies embraced this trend and gradually removed restrictions on international capital flows like taxes, administrative restrictions and prohibitions either on transfer of funds or the exchange rate. Two factors have contributed to the growing migration of capital between the developed and the developing world. First of all, a majority of developing countries, decided to develop and open their internal financial systems and break with a lasting period of almost exclusively public financing of large investment projects. Concerning the banking sector, today, most emerging countries have a (more or less) independent central bank and a two-tier banking system. Many emerging countries faced the challenge to build a capital market from scratch. Firms were allowed to issue shares and bonds, and a market for financial assets was set up. Asian and Latin American countries undertook this process in the sixties, while transition economies from Central and Eastern Europe started it only in the early nineties. In general, this process was associated to large privatization programs, which converted former state-owned firms into corporate firms. Simultaneously, as progress with capital market creation and development of the banking sector went on, emerging countries allowed for increasing participation of foreign capital to financing domestic investment projects, via the two channels: through intermediaries like banks or directly through the capital market. Especially in the privatization process, many countries relied heavily on foreign investors.

Nowadays, enthusiasm about capital account liberalization has much faded. After 1994, currency and financial crises occurred one after the other, confounding economists by the new transmission mechanisms at work. While they all agree on the diversity of causes and the important role played by country-specific factors in explaining the crisis, there is also little doubt that the recently increased capital mobility has fostered global financial instability.

This paper takes stock of existing literature on this topic to draw some conclusions concerning the optimal capital account liberalization strategy in emerging economies. This is a highly topical issue for transition economies that applied to become a member of the European Union (EU), given that the European Commission asks them for opening of the KA prior to accession. In particular, the study focuses on the problem

of the last in the row to accession transition countries, and puts forward the need for proper sequencing. Although the frontrunner (Poland, Hungary, the Czech Republic, Slovenia, etc) had recently implemented ambitious K.A. liberalization programs, the reading of this study may be interesting, as it points to some major risks that may have been underestimated when such programs were devised.

## **2. GAINS AND RISKS ASSOCIATED TO K. A. LIBERALIZATION**

### **2.1. The long-term view**

Today, when the myth of central planning collapsed almost everywhere, governments throughout the world support the creation of an efficient internal capital market. The very rationale for this trend can be traced back to fundamental work by Irving Fisher (1930), who demonstrated why allowing for capital market to develop and work properly improves the intertemporal allocation of resources and thus enhances social welfare. While all governments in the developing countries that decided to implement a market economy agree on the usefulness of building a financial and banking system, they still have to decide whether and how this financial system should be integrated with the global economy. If they opt for opening their K.A., the question of sequencing becomes essential. By sequencing we understand the design of a contingent plan, where removal of one barrier in the capital market must be conditioned upon fulfillment of appropriate macroeconomic and structural conditions.

In the early 1990s, all emerging countries followed the same commandment as did the developed countries ten year before: “thou shalt open your capital markets as much and as fast as possible” Why so? Because in the elementary neoclassical world where all markets are perfect, the “invisible hand” is expected to drive resources there where they are most productive. Hence, capital should flee from regions where it is abundant and marginal return on investment is low to those regions where capital is in scarce supply and marginal return on investment is high. Owners of capital gain as they obtain a better return. If foreign savings (capital inflows) do not crowd out entirely domestic savings, the process is beneficial to the recipient country: jobs are created if technology implies

complementarity between labor and capital inputs, local worker productivity increases as capital deepens and workers learn the better management and production techniques, the state collects more taxes (or privatization proceeds) and may provide more public goods (infrastructure, health services and education); in general, growth is enhanced and poverty is fought back. In addition, opening the capital account would set additional discipline on the internal capital market, by providing useful benchmarks for different prices and increasing competition in the banking sector. Modern portfolio theory also points at the scope for better diversification in a global capital market.

Real economies depart from the perfect markets postulate. Even if for the time being we leave aside the problem of imperfect information (which is more a short-term issue), many deviations can be put forward: sometimes the goods market in the recipient country is dominated by monopolistic structures, wages are sticky, corruption and rent seeking impose a high tax on the productive sector, and so on. Depending on the strength of these strains, the favorable impact expected from capital account opening may not be at work, or even worse, liberalizing the capital account may bring about a perverse effect. As mentioned by Eichengreen (2001), in developing countries there is a constellation of distortions to free allocation of resources and removing one of them (that is, liberalizing cross-border flows of capital) would not necessarily bring about improved welfare, at least not before some other distortions are removed. This basic idea points at the vital need for appropriate sequencing of liberalization decisions.

Also, remark that if free movements of capital between equally developed countries lead in general to creation of multinational firms owned and managed by residents of the countries involved in the process, when an emerging market opens its K.A., in general many domestic firms will be transferred into the hands of residents from the developed country. By itself, this would pose no major problem if the state is strong enough to monitor and sanction the would-be abuses of market power. Unfortunately, most often in these countries competition policy is weak, and antitrust decisions appear more difficult to enforce face to foreign multinationals.

All in all, if benefits from liberalizing the K.A. exceed related costs, in the long run there should be a visible positive relationship between the degree of K.A. openness and growth rates, and vice-versa. So far, empirical analysis pertaining to emerging

economies does not bring clear-cut support to one view or another (see Rodrick 1998, Quinn, 1997, IMF 1999). Clearly, countries that reduced capital controls during the eighties also recorded higher capital inflows (Edwards 2001). However, evidence about a positive relationship between output growth and capital account opening is, so far, inconclusive (Edison et al. 2002).

Furthermore, consequences from opening the K.A. may differ drastically for a developing country as compared with a developed country. In an empirical study, Edwards (2001) shows that the effect of capital account opening on growth is the stronger the more developed is the country and, conversely, that in the (very) low GDP countries, this effect might be negative. Edison et al. (2002) also bring some evidence in favor of a positive relationship between growth and K.A. liberalization. They show that less developed countries (non-OECD in their sample) seem to benefit the most from opening their capital account. Such opposite results only point to the fact that more empirical analyses should be carried out before a clear cut conclusion might be drawn.

## **2.2. The short-term view**

In the 1990s, the world witnessed a sharp reversal of fortune in many emerging countries: Mexico (1994), then Thailand, the Philippines, Indonesia, Korea and Malaysia (1996-1997), Bulgaria (1997) and Russia (1998), Turkey (2000), and Argentina (2001-2002). All these currency and financial crises revealed the extreme volatility of investors' beliefs; in most of these crises<sup>2</sup> the shift from undaunted optimism to gloomy pessimism took no more than a few days, followed by an immediate collapse of their currencies and stock markets and a lasting recession accompanied by a reversal of capital flows (net inflows turned into net outflows).

After the Asian crisis, it became evident for everyone that capital flows are “a good servant but a bad master” (Lipschitz et al. 2002, p.3). This remark points to a major risk to be considered. If capital inflows are the counterpart of valuable investment projects, one can only advocate in favor of unrestricted capital inflows. In a perfect

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<sup>2</sup> We say most of these crises for, in Argentina for instance, the collapse was written on the wall owing to increasingly inadequate policies.

world, rational investors are able to assess correctly the net present value of project and invest their money in the best places. However, as put forward by Greenwald, Stiglitz and Weiss (1984) in a well-known theoretical paper, financial markets may be quite unstable given their specific imperfect information structure. Recent advances in economic theory show that bubbles, multiple equilibria and herding behavior may develop against the background of imperfect information, a very probable feature of contemporary financial markets. Furthermore, erratic behavior in asset prices most probably develops during booms. For instance, the technology bubble in the US developed on ground of real technical innovation and productivity gains driven by Internet and new communication technology. When the technological bubble burst in April 2001, it drove the US economy into a not very sharp but persistent downturn. We have here a recent example where ex post capital inflows to the US turn out to be excessive and the dollar overvalued.

In general, the decision to lend funds to someone – firm, government or individual – rests on the investors' subjective estimate of the capacity of the borrower to service its debt given his environment. If investors expect the borrower to face difficulties, they will ask for a positive premium, such as to compensate them for the risk. But the consecutive increase in interest rates can only deteriorate the borrower's position, thus validating the initial pessimistic assessment; this illustrates, also, a poor functioning of credit markets.

Crises that hit the developing world in the 1980s were mainly sovereign debt crises related to official capital flows. Today, with the development of internal capital markets and the opening of capital accounts, the private sector (firms and banks) in emerging countries can act as a borrower on its own in the global capital market. The same logic of self-fulfilling crisis may be at work, but the channel of transmitting shocks is somehow different.<sup>3</sup>

For instance, we know that the signal of the 1996-1997 Asian crisis was the sharp devaluation of their currencies (starting with the Thai Baht). It was immediately followed by massive capital outflows. While in 1996, the 5-big Asian countries received a net inflow of 66 billion US dollars, in 1997, some 20 billions US dollars fled out the region! Growth turned into a severe recession that lasted for two years. Simultaneously, the

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<sup>3</sup> See the discussion in Flood and Marion (1999) and the reference paper by Obstfeld (1986).

capital account deficit turned into a surplus, but due to falling imports, not to rising exports. What happened? Economists rushed to provide for explanations; many pointed at the wrecked banking systems, and many other to the bubblish environment in the assets markets and to the abnormal surge in credits. A review of this interesting literature goes beyond the scope of this paper. We therefore will stick with a multiple equilibria story which in our opinion matches reality the best. This explanation was worked out, inter alia, by Mishkin (1999) and Krugman (2000). Many banks and firms had high levels of dollar denominated debt, while their assets were denominated in the local currency. In the aftermath of the Asian crisis, the share of bad-loans in the region grew from 15% to 35%! When devaluation occurred, firms and banks balance sheets automatically deteriorated, as the debt in local currency edged up, and net worth declined. In this context, firms reduced their investment (banks reduced lending), with adverse consequences on global demand and growth. Some of them also went bankrupt. Faced with reduced profitability, international investors refused to roll over debt, and further aggravated the crisis.

In the context of such a “balance sheet” based financial crisis, the central bank can do little to block it. In order to oppose devaluation, the central bank can buy domestic currency against its foreign exchange reserves. However, in the Asian case, reserves were insignificant as compared with the huge volumes of capital that fled the region during the crisis (hence, calls for an Asian monetary fund, deemed to provide support more effectively than the IMF during a regional crisis). Notice that the more a country has relied on (reversible) foreign capital to develop itself, the higher its exposure to such a risk. In theory, the central bank may also raise interest rates such as to restore attractiveness of domestic assets. In the context of a credit crunch, this solution may also be out of touch. Indeed, by raising interest rates, the balance sheet of indebted firms would further deteriorate, and further aggravate the crisis. Hence, another line of defense against abrupt outflows of capital are capital controls. Faced with massive capital outflows, imposing capital controls may provide the country with buffer relief to align fundamentals with expectations and to restore investors’ confidence, for instance by changing fiscal policy or implementing far-reaching structural reforms. We will dig further on this issue in the next section.



There is increasing empirical evidence supporting the view that the tendency of removing capital movement restrictions has brought about increased financial instability (Eichengreen, Rose and Wyplosz, 1995; Rossi, 1999; Demirgüç-Kunt and Detragiache, 1998). In a recent panel data analysis of 8 developed countries and 19 developing ones in the interval 1977-1999, Wyplosz (2002) found that a standard KA openness index has a significant impact on the exchange market pressure index, which, in his view, is a good proxy for financial instability.<sup>4</sup> Following KA liberalization, the exchange market pressure index indicates a trend towards currency appreciation and fluctuations around this trend. While these fluctuations are not strong enough to be interpreted as a crisis in their own, they may be at the origin of a true crisis.

### **3. IMPLEMENTING K.A. LIBERALIZATION: ELEMENTS OF A DIAGNOSIS**

Leaving aside the general principles, whenever a country decides to implement such a major reform like the liberalization of external capital movements, policy makers should take into account the impact of this measure given a set of well-defined country characteristics. If the main international organizations have agreed for a long time upon this principle, so far, in practice, the tendency to implement “universal” solutions was strong. For the sake of clarity, we gather the essential characteristics for policy design into three groups, but we emphasize that they should be considered as a whole.

#### **3.1. Macroeconomic stability and opening the capital account**

When countries where capital is relatively scarce open their capital account, they should face massive inflows of capital guided by the neo-classical principle of equalizing marginal returns. More precisely, in the industrial countries where capital is abundant, its rate of return has declined over time, as capital per worker has increased. In developing

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<sup>4</sup> Capital inflows would be associated to currency appreciation if the exchange rate regime is flexible, and to increases in the reserves of foreign exchange in a fixed exchange rate regime. To have a uniform measure of external pressure within a country, whatever the exchange rate regime, the EMP indicator sums up variations in the exchange rate and in reserves, weighted by the inverse of their respective standard deviations.

countries, the stock of capital per worker is small and marginal returns on investment should be large.<sup>5</sup> Such potential net inflows of capital should bring about the real appreciation of the currency. In other terms, the capital account surplus net of changes in reserves has as a counterpart the deficit of the trade account (and maybe the public deficit).

Whenever the capital inflow is triggered by real factors, real appreciation cannot be avoided, whatever the exchange rate mechanism. Under a fixed exchange rate, capital inflows lead to an increase in reserves of foreign exchange, as the central bank is obliged to buy the excess foreign exchange. Then the money stock increases, prices go up and the currency appreciates in real terms. Of course, for some time, the central bank may resort to sterilized interventions in the forex market, but this policy cannot be sustained in the long run (either the central bank runs out of domestic assets or the costs of attracting bank deposits become too high). Under a flexible exchange rate regime, the monetary base is insulated, but capital inflows entail a higher demand for the national currency, which appreciates in nominal terms, thus, for moderate increases in prices, this leads to real appreciation too.

In general, countries that adopted some kind of fixed exchange rate regime found the task of maintaining the parity very difficult when faced with speculative attacks. Most of them kept in force some capital controls as a safeguard against currency attacks.<sup>6</sup> One should however think of why these countries adopted fixed exchange rate regimes in the first place. Some of them (Argentina and Bulgaria first come to mind) were very high inflation countries, which resorted to pegs in order to get a nominal anchor and effectively carry out macro-stabilization programs. One may surmise that Argentina's government was wrong to stick to the super-fixed peg (the currency board) long after inflation was tamed and when it had become clear that it is incapable of withstanding

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<sup>5</sup> In practice, many factors explain why return on capital is not necessarily higher in developing countries: lack of basic skills, lack of education, high transport costs, corruption and economic disorganization, all can be seen as additional costs.

<sup>6</sup> Several economists noticed that countries with pegged exchange rates are less likely to have an open capital account (inter alia : Leblang 1999, Eichengreen 2001).

asymmetric shocks<sup>7</sup>. Some other countries resorted to fixed exchange rates as they considered them more supportive of international trade, and mainly exports. As experience of developed countries shows, this other goal can be achieved as well in the context of flexible exchange rates.

Liberalizing capital flows while inflation is not yet tamed and the central bank commits to defend a fixed parity, is clearly an unsustainable policy. If a country manages to terminate both practices that led to high inflation and inflationary expectations, it can implement a flexible exchange rate regime and regain some autonomy over its monetary policy. That does not imply that all risks associated to capital mobility have vanished. Large fluctuations in the exchange rate still can occur and harm the real sector. Full capital liberalization may only occur if the contribution of foreign capital to total capital is weak, such that a sharp reversal in capital flows does not bring about a major (and self-validating) crisis.

To some extent, fiscal policy may help tempering real appreciation coming with large capital inflows. A tight fiscal policy should put downward pressure on interest rates and thus limit the scope for capital inflows. Official saving may help financing domestic investment, while public deficit requires external funding. It may however be very difficult to adjust fiscal policy rapidly such as to counter a sharp financial crisis. Fiscal policy is merely not flexible enough to be a good instrument to deal with financial crises. Moreover, fiscal austerity may be quite impossible to implement when unemployment is high. However, countries that expect large capital inflows should not liberalize capital market before they set their fiscal stance in good shape. In particular, they should set up efficient tax collection systems and control spending strictly. The higher the public deficit, the higher export crowding out and the offsetting capital inflows.

To sum up, long before a country decides to fully open its capital account, it should have solved two major and sometimes related problems: inflation and large public deficits. There should be a strict monitoring of external indebtedness (public and private) put in place as well. And, even if this may sound trivial, risks associated to K.A.

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<sup>7</sup> Some may transfer the blame on the too rigid labor markets, but where in the world are labor markets so flexible such as to accept massive nominal wage reductions.

liberalization are much lower if foreign capital represents only a small proportion of total physical assets of a given country and vice-versa.

### **3.2. Structural fragility and opening the capital account**

Another important, but often omitted element of analysis, is the systemic strain and disorganization specific to developing and transition countries.<sup>8</sup> One perspective of analyzing this issue is macroeconomic and it focuses on the capacity for quick adjustment (resource reallocation) following dramatic changes in relative prices. Another perspective looks at economic structures and institutions: the juridical and legal basis, and the nexus of economic relationships and norms at work in the given country. Recent intellectual efforts in understanding the consequences of corruption and poorly defined property rights, as well as the weakness of law enforcement, on economic development represent one of the most fruitful paths of research in this field.

In general, developing countries and most of transition economies lack basic mechanisms and related social norms that allow developed countries to function competitively and create wealth. Their goods-producing sector is dominated by a bunch of monopolistic businesses, often supported by the state. Most of the time, the banking sector is organized as an unregulated (or poorly regulated) oligopolistic market. In this context, massive and unregulated flows of foreign capital may do more harm than good. While positive effects can be easily identified, sometimes, lack of experience of the analysts themselves with such “bizarre” economies lead to difficulties in assessing the perverse effects (Stiglitz, 2002).

Let us take a hypothetical example. The most competitive firms in a given developing country would find easy ways to finance their development in the international capital market (issuing shares or through bank credits at the best rates). These firms will grow, to the disadvantage of less competitive rivals, which will be gradually pulled out of the market. Is this “foreign capital hand” the same as Adam Smith’s invisible one? Not necessarily. If at the end of the story this market becomes, or

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<sup>8</sup> What Daianu called *structural strain* (1994, 1997). The term of *disorganisation* was introduced by Blanchard (1997).

gets more, monopolistic (or oligopolistic), with only one (or a few) survivor(s) in place, the initial competitiveness has converted in lasting market power, with adverse consequences for consumer welfare (but large gains for the international capital that oiled this transformation).

Structural fragility has major implications for the liberalization of capital flows. The basic rule is that fragility should prevent early liberalization of such flows. This rule is increasingly hard to respect when foreign ownership of industrial corporations becomes dominant, for it is technically very difficult to control capital movements which flow through form accounts. According to Lamfalussy (2000, p.132), difficulties to control capital movements “increase exponentially if foreign ownership becomes dominant in financial services and, in particular, banks”.

### **3.3. Weak financial systems and opening the capital account**

Quite often, the financial system in developing countries is in an incipient stage of development. Their capital markets are neither liquid nor deep enough, bank prudential regulations and supervision are weak, management practices in the banking sector are unusual, there is a shortage of qualified staff, and so on. Such financial systems are particularly badly equipped to manage risks, and often banks are saddled with bad debts and worthless assets. In this framework, opening the capital account may be quite a risky measure. If during the “optimistic” period, credit expands and private firms can raise large amounts of money easily, the reversal can also be dramatic. In the crisis period, many firms that may be solvent, face bankruptcy given that they do not have the capacity to shift rapidly to new markets or suppliers, when their traditional suppliers or buyers become insolvent, or they face sky-rocketing borrowing costs.

International advisers and policymakers sometimes tend to overlook that a market is not only a place where commodities (including financial assets) are traded. It is also a complex nexus of human relationships, where custom and social norms play an essential role in stabilizing the functioning of the market. What these countries still have to build up is trust and mutual respect between parties. This learning process is slow, as norms cannot emerge instantaneously. Of course, law and institutions can help to shape a

positive behavior, or, to the contrary, may push into the wrong direction, enhancing corruption and impeding development. From this point of view, many emerging countries have to do significant efforts to achieve positive momentum.

Mishkin (1999) claims that a major responsibility for the Asian crisis rests with their weak financial regulation and supervision. He points out that the regulatory/supervisory systems could not limit the excessive risk-taking behavior during the lending boom. In particular, banks were not able to expand their staff qualified in risk monitoring fast enough. Massive capital inflows can only enhance risks, as they allow for an increased volume of credit and direct financing, which at the margin will include more and more risky projects. However, Mishkin does not advocate in favor of genuine capital controls, with the notable exception of those that refer to prudential regulation. For instance, he does not oppose restrictions that limit the growth of credit.

Ishii and Habermeier (2002) also acknowledged that countries that experienced major financial crises in the last twenty years had as a common feature the weakness of their financial system. Financial institutions and firms that rely on foreign capital face an increased number of risks, stemming from currency volatility, contagion effects and foreign investors unpredictable behavior. They point at the Korean experience, which was subject to a major crisis despite its sound macroeconomic fundamentals, due essentially to structural weaknesses in the financial and corporate sectors and, quite likely, to a premature opening of the capital account.

#### **4. CAPITAL CONTROLS DURING TRANSITION TO A MATURE MARKET ECONOMY**

##### **4.1. Basic rationale for capital controls**

After many years of activism, when governments in the developed countries and main international financial institutions pushed toward universal liberalization of the capital account, in the wake of the currency and financial crises of the 1990s, the possibility of maintaining some capital controls on a unilateral basis is no longer dismissed by economists. Paul Krugman, who, in several press articles in 1998,

advocated in favor of selective capital controls, initiated the break with the “orthodox” thinking and joined the group of other critical thinkers like Rodrick (1997) and Bhagwati (1998). An important change took place within the IMF, where many economists agree now upon the idea that countries cannot fully liberalize their capital account before they fulfill some basic requirements in terms of macroeconomics stability and institutional strength (see the special IMF (1999) report on capital controls and the several IMF *Occasional Papers* quoted in this document). Contemporary consensus on capital controls is well summarized by Lipschitz, Lane and Mourmouras (2002): “even though capital controls distort the intertemporal allocation of resources, are subject to evasion, and could be used as a pretext to relax macroeconomic discipline, they could provide emerging market countries a temporary shield from volatile capital flows like interbank lending and portfolio investment”. Another generally accepted policy principle is stated in a study by Barry Johnston: “A comprehensive liberalization of capital transactions and transfers does not signify an abandonment of all rules and regulations connected to foreign exchange transactions. Countries that have opened their capital account have to strengthen their regulations in certain area” (Johnston, 1998, p.5).

According to IMF (1999), during the period 1993-1997, there were 106 instances where new capital controls had been implemented, most of them restricting open positions by banks in transactions with non residents and credit controls. The range of motivations varies from maintaining monetary policy autonomy within a fixed exchange rate regime, industrial policy or limiting volatility in the financial market (this time, in the context of flexible exchange rate regimes).

Various studies have shown that effectiveness of capital controls is limited in time, as private agents find methods of circumventing them (Johnston, 1998). The more developed is the financial system, the easier is for financial intermediaries to by-pass a given control. Peter Garber (1998) documents on the risks for capital and prudential controls avoidance against the background of an ever-growing market for derivatives. He argues that if a uniform tax is placed on all gross inflows, gross transactions will move off-shores and the tax will finally bite only the net inflow. Also, “if differential controls are imposed allowing for equity investment but limiting short-term, fixed interest inflows, the flows will enter through the least restrictive door”.

Quite often, developing countries opted for a fixed exchange rate in order to fight inflation, as they take the currency price as nominal anchor. This policy choice comes with its own risks, which capital controls may help containing. In the specific context of a fixed exchange rate regime, capital controls either intend on improving monetary policy effectiveness or preventing speculative attacks.

#### **4.2. Fixed exchange rates: capital controls and monetary policy autonomy**

In the traditional Mundellian framework, capital controls that limit capital mobility allow the central bank to regain some autonomy over monetary policy in the context of a fixed exchange rate (see also Johnston, 1998; Edison and Reinhart, 2001). The cost of moving capital between the host country and the rest of the world drives a wedge between the home and world interest rates. In particular, during a standard aggregate demand-driven crisis, if restrictions on capital outflows are in place, the central bank may maintain, at least for a while, lower than world interest rates. Conversely, a central banker who wants to limit capital inflows in an overheating economy would restrain (tax) capital inflows, such that it can target a higher interest rate than required by the interest rate parity condition.

#### **4.3. Fixed exchange rates: currency attacks, capital flight and capital controls**

A related but slightly different topic refers to controls aiming at preventing speculative attacks on currency pegs. It is a basic fact that this exchange rate arrangement is highly vulnerable to speculators' attacks. During speculative crises, non-resident investors borrow domestic currency (for a short period) and sell it against the dollar (or other "strong" currency), while selling dollars in the forward market (over the same period). Incentives to attack a currency are huge: if the attack fails and the central bank manages to defend the parity, the speculator loses only the interest rate over the period, in the opposite, if the currency is devaluated, the gain may be quite large.

Such a currency attack may succeed even if there is no misalignment of the exchange rate and economic fundamentals are sound. Of course, if a currency is overvalued, chances that it will be the next target increase. Furthermore, if several major



investors all agree to simultaneously speculate against a currency, chances that many others follow the move are huge. In this context of self-fulfilling prophecies, popular blame of international funds managers who bet against Asian currencies for destabilizing these economies is not without logic. If there is such a thing as an ethic for economic conduct, administrative restrictions on capital outflows are acceptable if they prevent investors from making a mistake by taking their money off the country. If the capital flight is not motivated by a “real” deterioration in the country fundamentals, but to some “irrational” mood, capital controls may be an efficient way to “buy time” for restoring trust.

To contain currency attacks, or to limit the damages in the advent of the attack, governments may set some ceilings on short-term loans by resident banks to non-residents and limit their interventions in the forward market. They may also put some limits on exports of foreign currency. Offshore markets in the domestic currency, which in general escape from supervision of the central bank, should be closed. These are emergency or “desperate” measures, as opposed to “prudential” measures that oppose currency appreciation during normal times (Edison and Reinhart, 2001).

During the Asian crisis, Malaysia faced successive waves of speculative attacks over the ringgit and massive outflows of capital. High annual growth rates (7.7% in 1997) were followed by a sharp contraction in 1998, when GDP declined by 7.5%. It should be noticed that for years Malaysia favored a relatively liberal approach to capital mobility (Malaysian stocks and currency were traded in several offshore centers, the main one being Singapore). In September 1998, Malaysia decided to curb capital outflow by outright regulation. In retrospect, although the nationalistic rhetoric that some policy-makers delivered is as hard to justify today as then, the effectiveness of these measures seems partially validated by the facts. The controls made possible a temporary relaxation in fiscal and monetary policy that might have alleviated the crisis. Controls helped to decouple domestic interest rate from foreign ones (Edison and Reinhart, 2001). The success of the measures seems to have depended to a large extent on their comprehensive nature (blocked all loopholes), quality of implementation and enforcement and sequencing with other macroeconomic measures. (See for further details about the

Malaysian experiment with “emergency” capital controls: Ötger-Robe, 2000 and Zainal-Abidin, 2000).

#### **4.4. Flexible exchange rates and capital controls**

In general, in recent years, many experts have claimed that flexible exchange rates are to be preferred to fixed exchange rates, as the monetary authority regain control over the monetary policy and currency attacks have no reason to exist (forward and future spot prices should be in average the same).<sup>9</sup> However, when the exchange rate is freely determined by market forces, large changes in the exchange rate may occur as a reaction to herd behavior or a sharp change in investors’ expectations (in the context of a multiple equilibria model). In turn, this may lead to large real activity fluctuations, channeled via the balance sheet effect, if banks and/or private firms have large dollar denominated debts. We also know that in absence of capital controls, private businesses tend to recourse extensively dollar denominated debt, as they have to pay lower interest rates. In particular, in the short-period that follows from fixed to flexible exchange rate, private businesses may underestimate the devaluation risk, as they lack of relevant experience. As a corollary, instability may be limited if such foreign denominated debts are restricted in an administrative way.

In general, fluctuations in macroeconomic variables are associated to losses; by imposing some cost on short-term capital inflows and outflows in the context of a flexible exchange rate, one may achieve more stable capital flows. Yet, there are non negligible risks that reduce volatility in flows may bring about increased volatility in asset prices (exchange rate, stocks). Probably, capital controls shift the burden of adjustment from quantity toward prices (Calvo and Rodriguez, 1979; Reinhart, 2000; Edison and Reinhart, 2001).

If monetary policy is strictly devoted to maintain price stability, the country can rely only on fiscal policy to counter a negative demand shock. However, according to traditional Mundellian analysis, under perfect capital mobility, fiscal policy of a small

open economy is completely ineffective under a flexible exchange rate: any increase in public spending pushes up interest rates, the currency appreciates and net exports are crowded out ; at the end of the adjustment, the additional public deficit brought about additional current account deficit without no real impact. In this context, a tax on capital inflows will limit the volume of capital inflows, limit the currency appreciation and may support efficient counter-cyclical fiscal policy.

#### **4.5. Capital controls and “excessive” currency appreciation**

As already mentioned, whatever the exchange rate regime, massive capital inflows bring about real appreciation of the currency (via the nominal exchange rate in a flexible regime, or via the monetary base and prices in the fixed one). Net capital inflows have as a counterpart a trade (current account) deficit; currency appreciation is in fact the consequence in the adjustment in relative international prices so as restore equilibrium of the balance of payments. If the trade deficit serves to finance positive net discounted value projects, there should be no reason to worry. Instead, if foreign savings serve to finance public deficit, consumption of foreign produced goods or speculative investment in real estate, things may be quite different. As the two destinations cannot be disentangled (and even if they could, financial intermediaries would find easy ways to by-pass them), it is very difficult to design efficient selective capital controls. One would like to prevent “speculative” capital flows, but to support “good” investment projects.

In general, economists who carried out empirical work, tend to agree that controls aiming at reducing the aggregate capital inflow were not very effective, but contributed to modify the structure of foreign funds in favor of long-term financing (see Montiel and Reinhart, 1999).

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<sup>9</sup> Some international regulations run against this logic: for instance, future Euro candidates should keep their currency within the narrow band of the ERM2 for at least two years! There are still several countries (Estonia, Bulgaria) which rely on currency board-based super-fixed exchange rate regimes.

#### **4.6. Capital controls and short-term financing**

Recent currency and financial crises pointed at the major instability risks that can be associated with short-term capital investment. Policy measures that tend to put some breaks on this type of investment look today quite appealing. Either a Tobin-tax or a requirement to create a one-year non-remunerated deposit for any investment in the country may discriminate against short-term funding. If short term borrowing becomes more costly, other forms of financing like long term funding or FDI become more attractive. It should however be kept in mind that foreign investors may ask for a high premium for long term loans; in this case, borrowers may prefer to bear the risks associated to short-term lending rather than to face a funding shortage at what in their eyes would be a reasonable rate (Rogoff, 1999).

Faced with massive capital inflows, in June 1991, Chilean authorities decided to implement a 20% one-year unremunerated reserve requirement on foreign borrowing. Initially, only foreign loans were considered, but afterwards, the scheme was extended to non debt (portfolio) investment and even to some forms of FDI. The scheme was abandoned in 1998 when the flow of foreign capital declined following the Asian crisis. Most economists who studied the empirical evidence in general agreed that the capital controls had only a modest and short term lived impact on reducing total capital inflows (Laurens, 2000). However, the policy entailed an important positive effect, which was somehow unintended. By altering the structure of funding in favor of long-term investment, Chile found itself in a much better position to face the risks of net flow reversal in the aftermath of the Asian crisis. As Rogoff (1999) put forward, Chilean-type controls must be very comprehensive to be effective.<sup>10</sup> The Chilean government was compelled to gradually extend the scheme of non interest bearing deposits to wider categories of investment, from private lending, to portfolio and even FDI, as financial intermediaries found ways to by-pass them.

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<sup>10</sup> . He gives as an example the situation where by the intermediary of cleverly tailored offshore derivative swap contracts, a Chilean bank may appear to be the holder of long term debt, while in reality, it owns only short term loans with a foreign bank

#### **4.7. Sequencing the capital account liberalization**

Capital account liberalization was undertaken in many countries around the globe; ways to do it were diverse, and results were mixed. Countries that avoided financial and external crises following capital account liberalization shared consistent macroeconomic policies and a systemic approach to safeguarding financial sector stability, but differed substantially regarding the timing and pace of liberalization. On the other hand, while also differing in the sequencing of capital account liberalization, countries that experienced serious crises have certain common features, such as major financial system weaknesses (prior to capital account) liberalization and policy shortcomings. In this context, it comes out that K.A. liberalization cannot be devised as a pre-determined time schedule, but as a contingent plan, where suppression of various barriers should be conditional upon fulfillment of various criteria.

Various experiences with K.A liberalization throughout the world show that there is no simple rule for the proper conducting of K.A. liberalization. The pace, timing and sequencing of liberalization should take into account individual countries' characteristics, in terms of macroeconomic fundamentals and of financial system's deepening, supervision, risk assessment and management.

### **5. TRANSITION ECONOMIES: CHALLENGES AND RISKS ASSOCIATED TO K.A. LIBERALIZATION**

#### **5.1. EU criteria for membership and the K.A. liberalization**

From 1988, the EU undertook a large offensive of liberalizing capital markets within its frontiers. The removal of barriers in financial markets is expected to allow capital to become more mobile and move to the location with the highest return.<sup>11</sup>

Many progress were achieved since, maybe the most spectacular one being the adoption in 1999 of a single currency by eleven (now twelve) of the fifteen EU member countries. Of course, integration of the money market (financial assets with a maturity

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<sup>11</sup> See: Capital market liberalization, 1996, [europa.eu.int/comm/internal\\_market/studies/stud9.htm](http://europa.eu.int/comm/internal_market/studies/stud9.htm).

inferior to one year) was a basic precondition for efficient management of monetary policy in the Euro Zone and was achieved prior to monetary unification. While many barriers have been abolished since, some are still in force: in particular, cross border take-overs and mergers are still hard to implement, and, for not very clear reasons (perhaps related to the quality of information), investors still seem to prefer domestic assets. Foreign banks and insurance companies still face a number of difficulties in setting up affiliates abroad, and cross border transfers of funds still involve high costs. However, the European Commission resolutely pushes towards further liberalization of movements of capital and creation of a genuine capital market in the European region. We should therefore expect that cross-border ownership will further diffuse in the future. As a main consequence, we might expect that more pan-European firms should appear in the years to come.

In general, EU members must accept the 80000 pages of laws and regulations which make up the *Acquis Communautaire*. In particular, they should mutually recognize bank licenses and pursue the objective of harmonization of their financial sectors. In the enlargement context, the EU calls that candidate countries should proceed to an orderly liberalization of capital movements, to be completed by the date of accession at the latest.<sup>12</sup> There is no formal sequencing requested by the EU; suggestions are that, in a first stage, candidate country should liberalize long and medium term flows. Short term flows should be liberalized only in a second stage (Busch and Hanschel, 2000). Nonetheless, there is the possibility to apply for a temporary derogation regarding certain types of capital flows during the early stages of membership; such derogation apply to inward direct investment in “sensitive” sectors or acquisition of some types of real estate.

Rather surprisingly, one can observe no clear correspondence between the status of liberalization and the choice of monetary and exchange rate policy. Thus, Estonia and Bulgaria have a currency board, without stringent capital controls, Latvia pegs its currency without exchange controls. Hungary and Poland apply a crawling peg in conjunction with controls of short-term flows. The Czech republic floats its currency

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<sup>12</sup> See: EU Commission, 1998, Reports on progress toward accession by each of the candidate countries, Composite Paper and Emil Ems (2000).

without exchange controls, while Slovenia applies a managed float with full exchange controls (Ems, 2000).

## **5.2. Real appreciation and the control of capital inflows**

Compared to other regions, transition economies from Central and Eastern Europe are in a relatively good position to attract capital from the EU, as their labor force is rather skilled and they are geographically close to the EU market. As these countries resolutely progress toward a market economy integrated with the EU and the Rest of the World, it is highly probable that more and more capital will set up there. The main flow of capital throughout the 1990s towards the transition economies took the form of FDI, while other private capital flows (mainly trade and short term lending) were negative. The region as a whole was a net recipient of funds throughout period.

As a basis for a rough calculation, Lipschitz et al. (2002) estimated that in 2000, the marginal product of capital in transition economies should be somewhere between 8.5 to 23 times the marginal product of Germany. Hence, in absence of adjustment costs, one should have observed a one-shot massive capital inflow to Eastern Europe (and almost no new investment in Western Europe), so that capital per worker in this region become equal to capital per worker in the EU countries. The theoretical amount of capital is ten to twenty times higher than the actual amount of capital that really went into these economies in the 1990s. According to these economists, so far something has blocked capital inflows, and that we may expect a significant inflow once that this blocking factors are removed. Transition economies that lead the process of integration with the EU have benefited from the largest share of portfolio and FDI investment. Their currency is general subject to appreciation pressures. In this context, it might be tempting to try to limit capital inflows, in order to “protect” the exporting sector. However, experience of other countries that tried to implement such measures is not very encouraging, as such controls did not appear to be very effective.

To the contrary, a selective set of market-based controls, limited in scope and strength, aiming at discriminating against short-term financing may be interesting. In particular, a Chile-type policy of one-year non-remunerated reserve requirement for any

capital inflow, by imposing a non-linear cost on capital inflows may help favoring long term investment and provide for a better external capital structure. We know that countries that rely more on short term lending are more vulnerable to liquidity crises. This policy does not come without a cost, as investors may require a larger risk premium for long-term lending. So there is a clear trade-off between the amount of foreign capital need for investment projects and the risks associated with sudden reversal in investors' expectations and possible capital outflows.

### **5.3. Short-term risks from K.A. liberalization specific to transition economies**

Future EU member countries should join the Euro-zone when as they are able to cope with the additional constraints implied by Euro membership. They should first go through a minimum two year test period, where their currency belongs to the second exchange rate mechanism (ERM2). According to this basic arrangement, the candidate should maintain parity with the euro within a  $\pm 15\%$  fluctuation band.<sup>13</sup>

As far as this obligation applies to transition economies, it clearly conflicts with the EU requirement of free movement of capital between the candidate country and the EU. The impossibility of maintaining the currency within a band if speculators bet against is the main lesson from the 1992-1993 EMS crisis, when the British pound and the Italian lira were forced out of the exchange rate mechanism. French experience during the "strong" franc period (1986-1999) is also significant: despite its sound financial position, the country could not convince investors that the devaluation risk is nil, thus had to bear a premium over interest rates as compared with German ones; in addition, when Germany had to increase interest rates to finance the reunification, the French were obliged to follow and suffer a sharp contraction and rise in unemployment. Transition economies are subject to the same risks: once admitted into the ERM2, their Central banks will strive to build up much needed credibility and defend the central parity with the euro. However, from a regulatory point of view, they will have the right to devalue their currency prior to accession (up to 15%): hence, if information about the priorities of



the central bank is imperfect, the devaluation risk cannot be zero and may harm growth and employment (Besancenot et al. 2000). The only possibility to match these two conflicting regulations is to allow transition economies to maintain some form of controls during the test period.

In particular, transition economies that, for one reason or another, decide to implement some kind of a fixed exchange rate regime, should dispose of efficient capital controls able to block a currency attack. It should be noticed that disposing of controls does not mean that these controls should ever be utilized. Indeed, if investors know that the country disposes of a powerful arsenal to limit capital outflows and a currency devaluation, they will never target this currency, thus controls would never be called upon. This is a virtual loop of self-fulfilling prophecies. Furthermore, it should be noticed that devising controls before a crisis is not the same thing as creating and implementing controls in the advent of the crisis. In this second scenario, not only the attack cannot be avoided (even if its consequences may be dumped by the controls), but, as Malaysia did, it had to a heavy cost in terms of credibility, as investors, critical of opportunistic behavior, restrain themselves for a while from investing there.

One should be aware of the risk that foreign capital will provide a reliable source of financing only for the best firms, thus accelerating the rhythm of market concentration. Creating and reinforcing firms' market power is beneficial for foreign investors, who see their profits increasing, but highly detrimental for consumer welfare. A country should not open its K.A. until it implements a powerful competition policy. In particular, one government should be very careful in the privatization process, by avoiding privatization of quasi-monopolistic firms unless there is an effective regulatory (anti-monopoly) framework put in place. Transferring such monopolies into the hands of foreign investors may further limit the state's capacity to monitor the abuses of market power.

Some of the transition countries that consider the issue of liberalizing the K.A. still have an inflation problem. For instance, Romania is undertaking a gradual process of reducing inflation. But falling inflation is often associated to over-consumption, as

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<sup>13</sup> "Exchange rate policies in the accession process", speech by Eugenio D. Solans, delivered at the conference on "Alternative Exchange Rate Regimes in the Globalised World", June 2002, [www.ecb.int/key/02/sp020611.htm](http://www.ecb.int/key/02/sp020611.htm)

individuals and firms carry on consumption or investment plans on lower than actual real interest rates (as they expect larger than actual inflation to occur). Over-consumption and over-investment may translate into an excessive demand for capital inflows, which comes out with utility losses at the moment true inflation is unveiled. Restraining the capital inflows may also help tempering excessive spending in countries that reduce inflation.

Finally, it may reasonably be assumed that foreign capital is more mobile than domestic capital. This is a matter of information: big foreign banks are better informed about worldwide opportunities than domestic banks. Thus, in the advent of a crisis, foreign capital would flee much faster to other destinations than domestic capital. Hence, an indirect way to throw some sand into the wheels of global capital markets is to favor domestic financing of the banking sector. This was the way chosen by Hungary, whose government decided to sold its largest bank (NSB, some 29% of the market) through the stock market and not through a call for bids procedure along the lines of their main privatization strategy.

## **6. CONCLUSION**

All in all, unrestricted capital mobility has contributed to increase global financial instability against the background of imperfect information in the financial market, leading to herding, bubbles and multiple equilibria. Although economists understand better now these economic phenomena thanks to advances in expectation theory after 1975, they still have to work out efficient economic policies to cope with them.

In the aftermath of the Asian crisis, a wide consensus developed among economists: an emerging country should not liberalize the capital account if several basic conditions are not fulfilled. This is a major difference with the wisdom of liberalizing trade in goods and services, which can be welfare enhancing in the long run; open trade would lead to better utilization of inputs, foster competition in the internal market and curbs monopoly power which is beneficial to consumers. Liberalizing capital account may lead to opposite effect, increasing market concentration and market power of some

firms. It also may put the seeds for increased economic instability, where periods of enthusiasm and rapid development are followed by major crises and stagnation.

As basic rules, one should not proceed to comprehensive opening of the K.A. before it:

- manages to successfully fight inflation, stabilize exchange rates and builds up international economic credibility;
- keeps the public deficit and public debt below reasonable limits;
- maintains a reasonable degree of foreign indebtedness (public and private);
- develops the financial system and implements efficient prudential rules;
- sets up a powerful competition policy;
- implements an efficient statistical and information system;
- fights corruption, crime, illegal businesses and money laundering.

The design of a proper sequencing plan for K.A. liberalization should consider in the first place the type of exchange rate regime at work. In particular, a country that opts for a flexible exchange rate regime should be very careful with liberalizing capital inflows, as its fiscal policy may become completely ineffective. A country that opts for a fixed exchange rate regime becomes automatically highly vulnerable to currency attacks in the context of full K.A. liberalization. In the advent of a crisis of trust, it may face massive and capital outflows that may bring about a “bad” equilibrium, validating the initial pessimistic expectations.

Transition economies from Central and Eastern Europe have already faced significant net capital inflows. They may expect a significant increase of these inflows, in pace with internal development and progress with EU integration. The EU imposes on all candidates to open their capital account prior to integration. For the most advanced transition countries like Hungary, Poland or the Czech Republic, this is a matter of two or three years. Most of them have made important progress in the fields of macroeconomic stabilization, structural reform and in the particular domain of creating a sound financial system. For them, the risks associated to opening the K.A. seem reduced. Other transition economies, like Romania and Bulgaria, have yet to overcome significant difficulties. Thus, budget constraints are not hard enough and the financial system is underdeveloped.

In this context, opening the K.A. rapidly and in a non-discriminating way may bring about major disruptions.

Arguably, the least advanced transition economies, might consider the case for some selective capital controls. Of particular interest might be a Chile-type non remunerated short term reserve requirement for capital inflows, such as to favor long term investment to the expense of short term financing. This rule should also be able to prevent a run on their currency, in particular if their central bank targets the exchange rate. Therefore, a set of controls on sharp and massive capital outflows may be devised, even if they may never be called upon. This is essentially a signaling issue. Finally, one may wish to put some limits on the degree of penetration of foreign capital into the banking sector, such as to reduce the mobility of capital outflows in the advent of a crisis. Anyway, in the process of privatization, massive inflows of capital should not be allowed to target would-be monopolies. Competition policy should be strong enough to prevent this outcome, prior to liberalizing transactions of capital.

#### REFERENCES

- Besancenot, Damien, Radu Vranceanu and Thierry Warin, (2000), L'Europe de l'Est et l'UEM, *Revue d'économie internationale*, 81, pp.65-77.
- Bhagwati, Jagdish, (1998), The capital myth : the difference between trade in widgets and trade in dollars, *Foreign Affairs*, 77, pp.7-12.
- Blanchard, Olivier, (1997), *The Economics of Post-communism*, Oxford University Press
- Buch, Claudia M. and Elke Hanschel, (2000), The effectiveness of capital controls: the case of Slovenia, *Journal of Economic Integration*, 15, 4, pp. 602-628.
- Daianu, Daniel, (1994), Inter-enterprise arrears in a Command Economy, *IMF Working Papers*, 54/94.
- Demigrüç-Kunt, Asli and Erica Detragiache, (1998), Financial liberalization and financial fragility, *IMF Working Paper*.
- Calvo Guillermo A. and C.A. Rodriguez, (1979), A model of exchange rate determination under currency substitution and rational expectations, *Journal of Political Economy*, 85, pp. 617-625.

- Edison, Hali J. and Carmen M. Reinhart, (2001), Stopping Hot Money, *Journal of Development Economics*, 66, pp. 533-553.
- Edison, Hali J., Michael Klein, Luca Ricci and Torsten Slok, (2002), Capital account liberalization and economic performance: survey and synthesis, *IMF Working Paper* WP/02/120.
- Edwards, Sebastian, (2002), Capital mobility, capital controls and globalization in the Twenty-first Century, *Annals AAPSS*, 579, pp. 261-270.
- Edwards, Sebastian, (2001), Capital flows and economic performance: are emerging economies different?, *NBER Working Paper*, 8076, [www.nber.org/papers/w8076](http://www.nber.org/papers/w8076).
- Eichengreen, Barry, (2001), Capital account liberalization: what do the cross-country studies tell us ?, *World Bank Economic Review*, 15, 3.
- Eichengreen, Barry, Andrew Rose and Charles Wyplosz, (1995), Exchange market mayhem: the antecedents and aftermath of speculative attacks, *Economic Policy*, 21, pp. 249-296.
- Ems, Emil (2000), "Capital Controls in View of Accession", European Commission, Directorate General I.
- Fischer, Irving, (1930), *The Theory of Interest*, Macmillan.
- Flood, Robert and Nancy Marion, (1999), Perspectives on recent currency crises literature, *International Journal of Finance and Economics*, 4.
- Garber, Peter M., (1998), Derivatives in international capital flow, *NBER Working Paper* 6623, June 1998.
- Greenwald, Bruce, Joseph Stiglitz and Andrew Weiss, (1984), Informational imperfections in the capital market and macroeconomic fluctuations, *American Economic Review*, 74, 2, pp. 194-199.
- IMF, (1999), *Exchange Rate Arrangements and Currency Convertibility*, IMF, Washington D.C.
- Ishii, Shogo and Karl Habermeier, (2002), Capital account liberalization and financial sector stability, *IMF Occasional Paper* 211.
- Johnston, Barry R., (1998), Sequencing capital account liberalization and financial sector reform, *IMF Paper on Policy Analysis and Assessment*, 98.
- Krugman, Paul, (2000), Crises, the price of globalization, *2000 Symposium on Global Economic Integration*, Federal Reserve Bank of Kansas City, August 2000.

- Lamfalussy, Alexander (2000), *Financial Crises in Emerging Markets*, New Haven, Yale University Press
- Leblang, David, (1999), Domestic political institutions and exchange rate commitments in the developing world, *International Studies Quarterly*, 43, pp. 599-620.
- Lipschitz, Leslie, Timothy Lane and Alex Mourmouras, (2002), Capital flows to transition economies: master or servant, *IMF Working Paper*, WP/02/11.
- Laurens, Bernard, (2000), Chile's experience with controls on capital inflows in the 1990s, in: Ariyosi et al., *Capital controls: country experiences with their uses and liberalization*, *IMF Occasional Paper* 190, May.
- Mikesell, Raymond F, (2001), Dual exchange markets for countries facing financial crises, *World Development*, 29, 6, pp. 1035-1041.
- Mishkin, Frederic S., (1999), Lessons from the Asian crisis, *NBER Working Paper* 7102, [www.nber.org/papers/w7102](http://www.nber.org/papers/w7102).
- Montiel, Peter and Carmen Reinhart, (1999), Do capital controls and macroeconomic policies influence the volume and composition of capital flows ? Evidence from 1990s, *Journal of International Money and Finance*, 18, 4, pp. 619-635.
- Obstfeld, Maurice (1986), Rational and self-fulfilling balance of payment crises, *American Economic Review*, 76, 11.
- Quinn, Dennis P. (1997), The correlates of changes in international financial regulation, *American Political Science Review*, 91, 3, pp. 531-551.
- Rodrik, Dani, (1998), Who needs capital account convertibility, in Peter Kenen (Ed.), *Should the IMF Pursue Capital Account Convertibility? Essays in International Finance*, 207, Princeton, Princeton University Press.
- Rogoff, Kenneth, (1999), International institutions for reducing global financial instability, *NBER Working Paper* 7625, [www.nber.org/papers/w7625](http://www.nber.org/papers/w7625).
- Rossi, Marco, (1999), Financial fragility and economic performance in developing countries. Do capital controls, prudential regulation and supervision matter ? *IMF Working Paper* WP/99/66.
- Stiglitz, Joseph E., (2002), *Globalization and Its Discontents*, W.W. Norton.
- Wyplosz, Charles, (2002), How risky is financial liberalization in the developing countries, *Comparative Economic Studies*, 54, 2, pp. 1-26.