

CAPITAL CONTROLS: MUD IN THE WHEELS OF MARKET EFFICIENCY

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In the early and mid-1990s, most economists and policymakers supported rapid capital account liberalization for emerging markets. Liberalization was expected to have widespread benefits. It was predicted to increase capital inflows, thereby financing investment and raising growth. Capital inflows—especially in the form of direct investment—would provide improved technology and management techniques, as well as access to international networks, all of which would further increase productivity and growth. Liberalization could facilitate the diversification of risk, thereby reducing volatility in consumption and income. It could also increase market discipline, thereby leading to a more efficient allocation of capital and higher productivity growth. Many countries followed this advice and removed their capital account restrictions.

The initial results were generally positive—increased capital inflows, investment booms, and impressive growth performance. But then a series of financial crises affected several emerging markets that had recently removed capital account restrictions, such as Mexico, Thailand, Korea, Russia, and Argentina. In contrast, several Asian countries that had maintained more stringent capital controls—such as China and India—emerged from the Asian crisis relatively unscathed. These experiences caused many people to reassess their previous support for capital account liberalization in emerging markets.

Many leading economists and policymakers now support the use of capital controls in some circumstances, especially taxes on capital

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inflows. For example, former U.S. Treasury Secretary Robert Rubin expressed sympathy for controls on capital inflows, such as those adopted by Chile in the 1990s (see Rubin and Weisberg 2003: 257). In 1998 a series of reports by the G-22 raised concerns about capital account liberalization and cautiously endorsed taxes on capital inflows.¹ *The Economist* (1998: 24) concluded a survey on global finance with the statement: “Some kinds of restriction on inflows (not outflows) of capital will make sense for many developing countries.” Even the IMF, formerly the bastion of capital market liberalization, has expressed support for certain capital controls. Stanley Fischer, former first deputy managing director of the IMF, writes: “The IMF has cautiously supported the use of market-based capital inflow controls, Chilean style” (Fischer 2002).

Just as surprising as this sea-change in views on the benefits of capital controls is the lack of rigorous economic analysis supporting this reversal. One of the most basic concepts underlying economics is that any policy measure should be assessed based on whether its benefits outweigh its costs. People may disagree on how to value or weigh the different costs and benefits, but there is little disagreement about the merits of this framework. Given this basic principle of economic analysis, it is surprising that the debate on capital controls has virtually ignored this framework and downplayed the evidence of substantial and pervasive costs.

Granted, doing a full cost-benefit analysis of the impact of capital controls is not easy. And granted, finding robust empirical evidence on the benefits of capital account liberalization is complex and has yielded mixed results to date. But simply focusing on one possible benefit of restricting capital flows—reducing country vulnerability to crises—could ignore substantial costs that overwhelm this possible benefit. Closing capital accounts can lead to a series of pervasive economic distortions that significantly reduce productivity, market efficiency, and aggregate growth. Even a small reduction in growth rates, when compounded over time, can have a much more deleterious effect on a country’s standard of living than a short-lived currency crisis.

Therefore, in this article, I attempt to pull together the various pieces of evidence on the costs and benefits of capital controls. Although my comments are not, in any way, the full cost-benefit analysis that is long overdue on this topic, I hope to demonstrate that

¹See *Report of the Working Group on Transparency and Accountability*, *Report of the Working Group on Strengthening Financial Systems*, and *Report of the Working Group on International Financial Crises*.

economists and policymakers may have been too quick to support capital controls. In particular, I argue that the benefits of capital controls are dubious and disputable, while the costs are substantial and pervasive. Capital controls create numerous microeconomic distortions that significantly reduce market efficiency. Most important, I hope to show that the free movement of capital should be an important goal for emerging markets, although exactly how they attain this goal may be more nuanced than some of the earlier recommendations for immediate and comprehensive liberalization.

The Benefits of Capital Controls: Dubious

The most frequently cited benefit of capital controls is that they can reduce country vulnerability to crises. This claim is supported by events during the Asian crisis. Several countries in the region that had recently opened their capital accounts experienced large capital outflows, forcing them to abandon their pegged exchange rates. For example, in 1997 Indonesia, Korea, Malaysia, Philippines, and Thailand experienced net financial outflows of \$13 billion (IMF 2004),² an average currency depreciation of 77 percent, and severe economic contractions. In sharp contrast, China and India had maintained more stringent capital controls and appeared to be relatively immune to the crises in their neighbors.

This comparison used to support capital controls, however, misses several important points. Although the capital controls may have reduced China's and India's vulnerability during the 1997 Asian crisis, capital controls provide no security against financial crises in general. Many countries with capital controls have experienced devastating crises. For example, India experienced a major currency crisis in 1991 and China experienced a major currency crisis in 1994—despite the existence of capital controls in both countries that were even more stringent than in 1997. Several Latin American countries experienced severe debt crises in the 1980s—despite the existence of capital controls.

Moreover, even if capital controls can insulate a country for some period, they tend to lose their effectiveness over time. By the early 1970s, the capital controls included in the Bretton Woods system had become increasingly porous, allowing imbalances to accumulate that eventually led to the breakdown of the system. Since then, capital mobility has only increased and financial market instruments have

²Financial account statistics only. The financial account includes the net sum of direct investment, portfolio investment, financial derivatives, and other investment.

become increasingly complex and sophisticated. As a result, even if capital controls were able to reduce country vulnerability to crises in the past, they are even less likely to be effective in the future.

Rather than focusing on anecdotal evidence based on examples of countries with and without capital controls that have and have not experienced crises, several economists have attempted more formal empirical analysis of whether capital controls can reduce the probability of crises. This evidence only complicates the story. Studies generally find a positive—instead of negative—correlation between capital controls and the occurrence of currency crises in both bivariate and multivariate analyses (Glick and Hutchinson 2000; Eichengreen 2003: chap. 3). Taken at face value, these results could be interpreted as suggesting that crises may actually be more likely—instead of less likely—to occur in countries with capital controls.

A closer look at these empirical studies and the case-study evidence, however, suggests that these results are not surprising. Countries with macroeconomic imbalances (and which are therefore more vulnerable to crises) may impose capital controls in order to avoid difficult economic reforms or to avoid capital outflows that may trigger a crisis. Developed countries, or emerging markets with sound macroeconomic environments, are not only less likely to experience crises, but also less likely to enact capital controls and forgo the benefits of capital mobility. Therefore, although capital account liberalization may increase country vulnerability to crises in some cases, there is little empirical evidence that capital controls can protect countries from crises—especially mismanaged countries.

Another central argument used to support capital controls is the Chilean experience of the 1990s. From 1991 to 1998 Chile enacted the *encaje*, or unremunerated reserve requirement, which required that a fraction of certain types of capital inflows be deposited at the central bank in a noninterest bearing account for a fixed term. The exact terms of the *encaje* were frequently modified, but it was basically a tax on capital inflows with a higher effective tax rate for shorter-term investments. During the period when the *encaje* was in place, Chile experienced a period of impressive growth and strong economic performance. Growth averaged about 8 percent per year from 1991–98, the highest of any country in Latin America.

There are a large number of studies—almost a whole literature—assessing the macroeconomic effects of the *encaje*.³ These studies use

³An excellent survey of the empirical work on this subject is Nadal De Simone and Sorsa (1999).

a range of strategies and reach several general conclusions (albeit there are some differences across papers). First, although the primary goal of the *encaje* was to moderate the real appreciation of the Chilean peso in order to maintain competitive export prices, there is no evidence that the *encaje* affected the real exchange rate. Second, there is little evidence that the capital controls protected Chile from the crises originating in Mexico, Asia, Russia, and Brazil. Third, there is some evidence that the *encaje* did not significantly affect the total volume of capital inflows but did shift the composition of capital inflows to longer maturities. Finally, there is some evidence that the *encaje* raised domestic interest rates by creating a wedge between domestic and foreign interest rates (although there is no agreement on whether this was a short- or long-run effect).

Of course, all of these results are subject to the caveat that it is extremely difficult to construct the counterfactual of what the exchange rate, capital inflows, or interest rates would have been in Chile without the capital controls. But even ignoring this problem, these results suggest that—at best—the benefits of the *encaje* were to slightly raise interest rates and increase the maturity of capital inflows. There is no conclusive evidence that the *encaje* reduced Chile's vulnerability to crises or increased its growth rate. Although the period from 1991 to 1998 was a period of strong economic performance in Chile, this undoubtedly resulted from the package of sound economic policies enacted by the Chilean government—such as strengthening its banking system, liberalizing trade, supporting privatization, increasing exchange rate flexibility, maintaining low inflation, and running sensible fiscal policy. It was this package of sound market-oriented policies that drove Chile's strong economic performance during the 1990s. There is no compelling evidence that the Chilean capital controls significantly contributed to this impressive economic performance.

Therefore, a closer look at the two most-cited examples of the benefits of capital controls—the Chilean experience in the 1990s and the cross-country evidence on country vulnerability to crises—suggests that the evidence on the benefits of capital controls is inconclusive and disputable—at best.

The Macroeconomic Costs of Capital Controls: Inconclusive

Most work assessing the costs of capital controls—or conversely the benefits of capital account liberalization—simply adds a measure of

capital controls or capital account openness as an explanatory variable in a standard cross-country growth regression.⁴ This macroeconomic testing framework has had limited success. Some studies find a significant positive effect of capital account openness on growth (or a negative effect of capital controls on growth), but in many cases these results are not robust to sensitivity testing. On a more positive note, there are no studies (to the best of my knowledge) that find a significant negative effect of capital account openness on growth. In fact, an IMF survey of recent empirical work shows that three studies find a positive effect of financial integration on growth, four find no effect, and seven find mixed results (Prasad et al. 2003).

There are a number of possible explanations for these inconclusive results. First, it is extremely difficult to accurately measure capital account openness. Simple empirical statistics measuring policies and regulations cannot accurately capture the complexity and effectiveness of liberalization. De facto measures of integration (such as the volume of capital flows or foreign asset holdings) are also problematic. Some countries with large capital inflows still maintain relatively strict capital controls (such as China), while other countries with relatively unrestricted capital accounts receive fairly little foreign capital (such as many African nations). Second, different types of capital flows and capital controls may have different effects. For example, foreign direct investment (FDI) may have greater benefits than portfolio flows, and controls on capital inflows may be less harmful than controls on capital outflows.

Third, the impact of removing capital controls could depend on a range of other hard-to-measure factors. For example, countries are more likely to benefit from capital account liberalization if they have stronger institutions, better corporate governance, and more effective prudential regulation. Fourth, the sequence in which different types of capital controls are removed may determine the aggregate impact. For example, lifting restrictions on offshore bank borrowing before freeing other sectors of the capital account may increase the vulnerability of a country's banking system. Finally, there may be "threshold effects" that are difficult to capture in linear regressions. For example, countries may need to attain a certain level of financial market integration or overall economic development before significantly benefiting from capital account liberalization.

Given all of these challenges to measuring the impact of capital controls on growth, it is not surprising that the empirical literature has

⁴Two excellent surveys of this literature are Eichengreen (2002) and Prasad et al. (2003).

had difficulty documenting the costs of capital controls at the macro level. To put these challenges in perspective, the current status of this literature is similar to the earlier literature on how trade liberalization affects growth. Economists generally believe that trade openness should raise economic growth, but most of the initial work on this topic (which used the same cross-country framework as these studies of capital account openness) reached similar, inconclusive results. In some cases trade liberalization appeared to have a positive correlation with economic growth, but in most cases these results were not robust to sensitivity testing. Since accurately measuring capital account liberalization and its interactions with other key variables may be even more difficult than for trade liberalization, it is not surprising that the initial work in this area has generated mixed results to date.

The Microeconomic Costs of Capital Controls: Substantial and Pervasive

On a more positive note, although the macroeconomic empirical evidence on how trade openness affects growth took years to develop, at a much earlier date studies using microeconomic data and case-study evidence found compelling evidence that trade liberalization raises productivity and growth. Similarly, recent work using microeconomic and case-study evidence has been much more successful than the macroeconomic literature in documenting the costs of capital controls. Although case studies inherently have the shortcoming that it is difficult to control for other events that occur simultaneously, this approach can avoid many of the problems discussed earlier with the macroeconomic, cross-country literature. Moreover, this approach can facilitate a much more detailed measurement of exactly how capital account liberalization affects the allocation of resources and market efficiency.

In one such study, Johnson and Mitton (2002) examine how the Malaysian controls on capital outflows affected stock returns for individual Malaysian companies. The authors' results suggest that the Asian crisis initially increased financial pressures on Malaysian firms, improving market discipline and reducing the ability of governments to provide subsidies for politically connected firms. When the capital controls were put into place in September 1998, however, investors believed the Malaysian government would have more freedom to help favored firms. In other words, the article suggests that capital controls reduced market discipline and provided a shelter for government cronyism. The estimates suggest that this cost of the capital

controls was substantial. In the initial phase of the crisis (from July 1997 to August 1998), politically connected firms lost about \$5.7 billion in market value due to the fall in the expected value of their political connections. When the controls were enacted in September 1998 (and market values were substantially lower), politically connected firms gained about \$1.3 billion in market value due to the increased value of their connections. In September 1998, after the capital controls had reduced market discipline, political connections were worth about 17 percent of the total market value of connected firms.

Another study of the microeconomic effects of capital controls examines the Chilean experience with the *encaje*—the tax on capital inflows previously discussed. Although the *encaje* is usually evaluated as one of the most successful examples of capital controls, I have found that these controls created a number of economic distortions for Chilean companies (Forbes 2003). For example, many firms chose to list abroad through American Depository Receipts (ADRs) in order to avoid the tax. This may have hindered the development of the Chilean stock market. Even more important, the *encaje* significantly increased financial constraints for smaller, publicly traded companies, although not for larger firms. In other words, the capital controls made it relatively more difficult and expensive for smaller companies to raise financing for productive investment. This inefficient allocation of resources undoubtedly reduced productivity and growth in Chile. Moreover, this cost of capital controls could be particularly important for emerging markets where small and new firms are often important sources of job creation and economic growth.

A third microeconomic study examines the impact of capital controls on foreign companies and multinational behavior. Research by Desai, Foley, and Hines (2004) shows that multinationals distort their trade patterns, profits, and dividend repatriation in order to evade capital controls. They estimate that multinational affiliates are about 10 percent more likely to remit dividends to parent companies in the presence of capital controls, and that the distortions to profitability from capital controls are comparable to a 24 percent increase in the corporate tax rate. They also show that the cost of borrowing is higher in countries with capital controls, and when this effect is combined with the other steps multinationals take to evade the controls, this reduces the size of foreign investment by 13 percent to 16 percent. Therefore, capital controls not only create widespread distortions as companies attempt to evade them, they also reduce the total amount of foreign direct investment (FDI) available to host countries.

A fourth study provides an even clearer example of how adept

companies are at evading capital controls by examining the loopholes used during Argentina's recent crisis. At the end of 2001 the Argentine government enacted a series of financial market controls (called the *corralito*) that restricted capital outflows and withdrawals from the banking system. During this period the stock market rose dramatically, despite a sharp economic contraction, a plummeting peso, and a banking system on the verge of collapse. Work by Auguste et al. (2002) explains this apparent discrepancy. Investors dodged the capital controls by purchasing Argentine stocks for pesos, converting the stocks into ADRs, and then selling the ADRs in New York for dollars that could be deposited in U.S. bank accounts. The study estimates that the capital outflow through this single loophole was between \$835 million and \$3.4 billion in just four months starting in December 2001. Investors were willing to pay a substantial premium to evade the capital controls—with some ADRs trading at a discount of more than 40 percent. The authors interpret these results as suggesting that once countries allow financial market development, “it may be difficult if not impossible to reverse the process of capital market integration with (even draconian) capital controls.”

This series of studies, as well as others, suggest that capital controls can have substantial economic costs. They generate numerous distortions as companies attempt to evade the controls. They reduce the efficiency and overall volume of investment. They can act as a shelter for unproductive practices, including cronyism and political favoritism. Although large companies may be able to evade some of the effects of the controls, smaller firms tend to be disproportionately affected—which can be particularly detrimental in emerging markets where small firms can be important engines of job creation and growth. The bottom line is that a range of compelling microeconomic empirical evidence indicates that capital controls can reduce market discipline and impede overall efficiency.

A More Nuanced Approach to Capital Account Liberalization

Most policymakers do realize that the costs of capital controls can be pervasive and that there are substantial benefits from capital account liberalization. As a result, there are few examples of countries that have reinstated capital controls after removing them—mainly countries that temporarily enact capital controls during a crisis. Most countries with capital controls hope to move toward greater capital mobility at some time in the future.

The biggest unresolved question, however, is when and how. After the series of financial crises in the 1990s, some countries believe the process of capital account liberalization should be very slow and gradual. Some also believe that the benefits of capital account liberalization only outweigh the costs in developed countries with sound institutions, strong banking systems, and prudent regulation. Many officials also believe that the risks are greatest during the actual process of capital account liberalization—when capital mobility and market discipline suddenly increase. Since politicians with a short time horizon may place greater weight on maintaining short-term stability than on promoting long-term growth, they may be more likely to delay removing capital controls—even if the long-term benefits clearly outweigh the costs.

Even if we could ignore these political considerations, there is no simple roadmap for when and how a country can best liberalize its capital account. Much more analysis needs to be done. Nonetheless, there are several insights and lessons learned over the past decade that countries should use to guide their movement toward greater capital mobility.

First, there are a number of steps that countries can take to increase the benefits from capital account liberalization and to reduce the risks—such as building strong institutions, implementing sound regulations, strengthening financial systems, enacting prudential supervision, and enforcing a strong rule of law. All of these steps help ensure that after liberalization, capital flows to its most efficient use. These steps also help ensure that local companies and banks can better withstand any shifts in capital flows that occur during liberalization. Closely related and also important are all of the steps supporting a strong macroeconomic environment—such as a sustainable fiscal policy and low inflation rates. If investors and domestic citizens are more confident in a country's macroeconomic outlook, they are less likely to withdraw capital during liberalization.

Second, and closely related, countries should *not* wait to successfully complete all of these ambitious tasks before liberalizing their capital accounts. All of these steps are clearly beneficial and desirable, not only to reduce the risks from capital account liberalization, but also to strengthen overall economies and raise long-term growth rates. Countries should move forward in these areas, no matter what the status of their capital accounts. But these steps should not be viewed as necessary for liberalization. If countries waited to liberalize until they had accomplished all these ambitious goals, they would forgo the benefits of liberalization for decades—or even longer. Would the United States have been better off with a closed capital

account in the 1980s due to its financial vulnerabilities in the savings and loan industry? Should Japan have avoided liberalization due to its significant banking sector problems in the 1990s? The answer is clearly no.

Moreover, even if countries have not completed all of these ambitious steps, liberalizing their capital accounts and increasing competitive pressure could help accelerate the reform process. For example, reforming banking systems to ensure that they lend based on commercial assessments rather than on political connections can be a prolonged and difficult process. Removing capital controls (such as allowing foreigners to invest in the banking system or allowing domestic citizens to invest abroad) could increase market discipline in the banking system. Removing capital controls could encourage the very reforms that in turn increase the benefits and reduce the risks from capital account liberalization.

A final lesson learned about the process of capital account liberalization is that all capital flows are not alike—and the sequencing of liberalization can be critically important. Controls on FDI should be removed early on. FDI yields many of the same benefits as other types of capital inflows—such as providing capital to raise investment levels and increasing competition, market discipline, and efficiency in the host country. FDI also yields unique benefits that are critically important for emerging markets—such as providing access to advanced technology, expertise and skills, and providing connections to foreign export markets and international supply and distribution networks. Moreover, FDI is generally less risky than other types of capital flows because it is harder to liquidate and therefore less vulnerable to destabilizing shifts. In fact, recent research suggests that FDI can actually mitigate the economic effects of crises because multinational companies can access financing from their parent companies, allowing them to expand economic activity during crises when local companies tend to be financially constrained (Desai, Foley, and Forbes 2004).

China's recent experience highlights many of these lessons on capital account liberalization. The Chinese government realizes that capital account liberalization is in the country's best long-term interest and that movement in this direction is inevitable as China becomes more fully integrated with the global economy. China is also reluctant to fully open its capital account today, partly due to its weak financial system and the need to substantially strengthen regulations and prudential supervision. Rather than wait to reap the benefits of capital account openness until these reforms are successfully completed, however, the government has been removing controls in

stages. Restrictions on FDI were some of the earliest to be phased out, and the results have been dramatically successful. FDI in China surged, so that by 2003 China received more than \$50 billion in FDI, surpassing the United States to become the world's largest single recipient of FDI. A recent IMF study estimates that FDI has increased China's annual potential growth rate by about 3 percent—with about 80 percent of the benefits coming from increased productivity (Tseng and Zebregs 2002).

China's phased removal of capital controls also illustrates how liberalization can provide an important impetus for governments to progress on important domestic reforms. China committed to open its banking sector to foreign investment as part of its WTO accession, with substantive liberalization completed by 2007. This looming deadline has forced the Chinese government to accelerate steps to strengthen and reform the banking system. For example, the government recently injected \$45 billion into two large state-owned banks in an effort to strengthen their balance sheets and prepare them for public listing. Even more important, Chinese banks are actively working to improve accounting, transparency, and loan-assessment standards. Although much more work still needs to be done, the market discipline from opening the banking sector to foreign investment has increased the momentum driving these difficult reforms. In sharp contrast, the Chinese stock market continues to be fairly insulated from international competition, and progress implementing important reforms has been much slower. Plans for stock market liberalization are frequently delayed (such as the elusive Qualified Domestic Institutional Investor program). China's two major stock exchanges fell to a five-year low in September 2004, even though the Chinese economy has boomed.

Conclusion: Mud in the Wheels

In a recent survey of the literature on capital flows, Barry Eichengreen (2002) concludes: "Capital account liberalization, it is fair to say, remains one of the most controversial and least understood policies of our day . . . empirical analysis has failed to yield conclusive results."⁵ I have hopefully shown that at least part of this statement is inaccurate. Yes, capital account liberalization is a highly controversial topic. Yes, capital account liberalization is not fully understood. For example, much more work still needs to be done on how best to

⁵Eichengreen (2002).

sequence capital account liberalization. And yes, much of the empirical analysis on this subject is mixed and inconclusive—especially the work focusing on the macroeconomic effects of liberalization.

But, there is also little conclusive empirical evidence that capital controls yield substantial benefits. Any benefit from capital controls is extremely difficult to isolate—even in the oft-cited case of the Chilean *encaje*.

Much more conclusive and compelling, however, is the emerging microeconomic evidence on the substantial and pervasive costs of capital controls. Capital controls create numerous economic distortions that significantly reduce market efficiency. Although this literature is only its infancy, a range of articles using diverse methodologies to examine very different aspects of capital controls find a consistent result: capital controls have significant economic costs and lead to a misallocation of resources. Even if it is difficult to capture these effects at the macroeconomic level when countries undergo rapid structural reform, this misallocation of resources is bound to reduce productivity and potential growth rates.

In 1978 Tobin argued that a tax on currency transactions would act as “sand in the wheels” of international financial markets. In comparison, given this new microeconomic evidence that capital controls lead to a misallocation of resources through a number of different channels, a more accurate rendition may be that capital controls are not just “sand” but rather “mud in the wheels” of market efficiency. Emerging markets should seek to remove this “mud in the wheels.” They should accelerate steps to strengthen their financial systems, prudential regulations, institutions, and governance in order to increase the benefits and reduce the costs of liberalization. But countries should not wait until these reforms are completed before opening their capital accounts. They should start the process as soon as possible—such as opening up to FDI and setting deadlines to liberalize in other sectors. A steady and phased removal of capital controls will open the economy to market competition and discipline, thereby accelerating the reform process. This will allow countries to more quickly reap the substantial benefits of removing the “mud in the wheels” of market efficiency, thereby raising long-term growth rates and standards of living.

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