

India's New Capital Restrictions: What Are They, Why Were They Created, and Have They Been Effective?

Bryan J. Balin

*The Johns Hopkins University School of Advanced International Studies (SAIS),
Washington DC 20036, USA*

Abstract:

In mid and late 2007, India enacted a set of three capital controls to reduce the volume of capital inflows entering India, end the appreciation of the rupee, discourage further loan and portfolio inflows, increase the maturity of debt inflows, and reduce volatility, turnover, and speculation on the Mumbai exchange. This paper examines the effectiveness of these controls from a historical, empirical, and theoretical viewpoint. Its results show that India's new capital controls did little to change the inherent issues India experienced as a result of the recent influx of capital because (1) several of the goals of India's "targeted" controls were unattainable; (2) even among the goals seen by scholars as achievable, India's capital controls were only effective in *de jure* terms and made very little impact on the *de facto* situation experienced by the Indian economy; and (3) due to the "targeted" nature of India's new controls, they were too limited in scope to hit their "moving targets."

Keywords: India's capital controls, Indian capital controls, India capital controls, international capital flows, capital controls, emerging market capital flows, portfolio flows, effectiveness of capital controls.

I. Introduction

From the identification of India as an “emerging economic superpower” by Alan Greenspan to the labeling of India as one of the four dominant economies of the future within the BRIC framework of Goldman Sachs, India has received considerable attention from the financial community as an up-and-coming economic powerhouse. Its recent macroeconomic stability, strong technical education system, large internal market, relatively low wages, and English-speaking workforce give India significant comparative advantages in global trade and enterprise, helping it to achieve spectacular (and consistent) growth of close to ten percent per annum between 2004 and 2007. Moreover, with the opening of its current account in the early 1990s and the deregulation of many parts of its capital account in the latter part of the decade, India has become an attractive location for foreign investment. As a result, India has seen considerable capital flows into its economy, with total inflows surging from \$13 billion in 2002 to \$77 billion in 2006.

Indian authorities, on the other hand, have not been unequivocally rosy about the entry of foreign capital into their country. Inside India and throughout the world, they have seen the “dirty underside” of foreign capital flows: capital market speculation, excessive risk-taking, economic overheating, overvalued exchange rates, and the ever-present threat of a “sudden stop,” where short-term speculative flows can quickly exit a country with little warning, causing a country’s currency, banking system, and economy to crash. In response, the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) have attempted to target what they see as “excessively speculative” inflows through a series of three capital flow restrictions enacted in 2007.

This paper aims to analyze these capital flow restrictions from a historical, practical, and theoretical perspective. It will begin by giving historical background to the opening of the Indian economy. Next, it will examine the capital control regime currently in place in India. Third, it will study the reasons behind India’s new capital controls and attempt to understand why India’s authorities deemed them necessary. Fourth, it will use the current literature on capital controls to determine which of the new controls’ objectives, of any, are possible to achieve. Fifth, this paper will analyze available data to see what effects, if any, these controls have made on the size and composition of India’s capital inflows. Then, it will examine any “spillover” effects of its new controls on India’s regulatory regime and economic system. Lastly, this paper will summarize its findings.

II. Background: India's "Great Opening"

India has not always been a prime target for foreign capital flows. Shortly after its independence from Great Britain in 1947, India set up a complex web of trade flows and capital transactions that effectively closed the country's economy from that of the rest of the world. Under a quasi-socialist government, India attempted to grow internally for much of the post-independence period. Only with the global debt crisis in the 1980s was India forced to look externally to finance its capital needs, beginning its first moves to open its economy to the world. The critical year in India's "great opening," though, did not come until 1991.

In this year, the troubles of the Indian "Hindu growth model" came to a head. After years of heavy external borrowing and the maintenance of an inconvertible, pegged, and ultimately, overvalued currency, both India's central bank and its government faced a dire reality. By early 1991, India's government was within real risk of systematic default, its economy was facing skyrocketing inflation and ballooning trade deficits, and moreover, the foreign exchange reserves of the Reserve Bank of India had drained to a point where it only had enough reserves on hand to cover two weeks' worth of imports. Facing a sharp banking and economic crisis spurred by the dual threats of a governmental default and a harsh devaluation, the Indian government saw itself as forced to take an almost unthinkable action—appeal to the IMF for help. In July 1991, India's Prime Minister, P.V. Narasimha Rao, announced that India had agreed to borrow over \$1 billion from the IMF to cover its fiscal and exchange control needs. In November, it asked for (and received) even more: an additional \$2 billion in conditional credit.

Assistance from the IMF, of course, did not come without a price. India's conditional credit facility mandated an immediate (but controlled) devaluation and the now "standard" IMF policies of fiscal austerity, external account liberalization, and economic deregulation. In essence, India pledged to open up its current account, establish a convertible currency, sell off a sizeable chunk of its state-owned enterprises (SOEs), end many of its price controls and goods subsidies, cut regulations, and bring government deficits to within "acceptable bounds."

On the heels of India's agreement with the IMF, neoliberal technocrats within the Rao government sensed a political opening and began to envision a new economic "course" for the Indian economy. Arguing that India's current situation could not be reversed without substantial reforms, these technocrats, under the leadership of then-Finance Minister Manmohan Singh, urged Prime Minister Rao to dismantle India's planned "License Raj" economy and transform it into an economic system

based on open markets, freer trade, and private enterprise. With few other viable options, Rao decided to side with the “Singh Group,” reshuffling his government to include its most prominent members.

In the reforms that followed, India established the foundation of its current economic model. The rupee became convertible on the current account, tariffs were slashed to an average rate of twenty-five percent, a framework for approving foreign direct investments was developed, business regulations were drastically cut, a SEC-style commission was created to regulate India’s equity markets, and the Mumbai Stock Exchange was opened to approved foreign investors. On the other hand, India’s government continued to maintain a strong hold on foreign inflows: substantial limits were created on the type, size, and maturity profile of capital inflows allowed into India. Many of these limits have persisted to the present day.

III. India’s Current Capital Regime

India is said to have a “categorical” capital control regime. In this regime, all movement of capital into or out of India’s economy is prohibited, except for those items strictly stated as permitted. Inward Foreign Direct Investment (FDI) is closely monitored, and foreign companies making their first investments in India must first receive the approval of India’s Securities and Exchange Board to do so. Furthermore, foreign stakes are limited by industry, with ownership caps ranging from 100% for some airport maintenance companies to 0% for retailers. Figure (1) on the next page gives a detailed description of India’s current FDI regulatory regime.

Portfolio inflows are governed by a similarly strict regime. Only Foreign Institutional Investors (FIIs) approved by the Reserve Bank of India are permitted to invest in India’s stock and bond exchanges. These FIIs, in turn, can perform portfolio transactions for foreign individual investors, firms, and investment funds through legal vehicles known as sub accounts. Limits on foreign equity stakes in domestic companies are determined internally on a per-firm basis, but the RBI caps individual foreign portfolio holdings at 10% of a firm’s total market capitalization. Shorting by foreign and domestic investors is prohibited on India’s exchanges, and derivatives trading is strictly controlled. Foreign investment in government bonds is limited to \$1.76 billion, and total corporate bond ownership by foreign investors is capped at \$500 million (Shah, 2007).

Bank flows, while proportionately “freer” than FDI or portfolio flows, also face strong restrictions. Domestic banks are allowed to borrow from and loan to foreign firms, including global banks. Short-

Figure 1: FDI Restrictions
Source: Khurana (2007)

Sector	Limit on Foreign Ownership (%)
Retail	0
Real Estate	0
Agribusiness	0
Broadcasting	20-49
Defense	26
Insurance	26
Petroleum Refining	26
Airlines	49
Oil and Gas Pipelines	51
Trading	51
Petroleum Exploration	51-100
Petroleum Distribution	74
Mining	74
Telecom	74
Banking	74
Advertising	74
Airports	74-100
<i>All Others</i>	100

run lending flows to India are closely monitored, and, in addition to Basel I regulations, the RBI reserves the right to restrict both bank assets and liabilities that originate outside India. This restriction, although enacted on a case-by-case basis, typically restricts foreign exposure to 20% of a bank's lending portfolio and 15% of a bank's liabilities. Additionally, (partly) in an attempt to control capital flows to Indian-based subsidiaries of foreign banks, the Reserve Bank of India limits the number of banks operating in India to only a handful of major names and restricts their footprint to below 10% of India's total bank assets.

India's foreign exchange regime can be best categorized as a "dirty float." All foreign exchange transactions related to India's current account are, by policy, freely done through a set of domestic banks classified as "authorized" foreign exchange dealers by the Reserve Bank of India. Although the RBI reserves the right to do so, it has never blocked remittances or the repatriation of approved investments, loans, or licensing agreements. On the capital account side, flows related to the aforementioned "permitted" capital uses can be freely executed, although the RBI must approve forward contracts made by banks and FIIs. Indian residents and firms, on the other hand, cannot

convert the rupee into foreign currency to acquire assets or lend funds overseas without prior government approval (“Country Risk: India,” 16).

In respect to foreign exchange intervention, there is strong evidence to show that the Reserve Bank of India has tried to control the movement of the rupee with the primary intention of maintaining a competitive real exchange rate vis-à-vis the United States. *Khurana (2007)*, *Frankel and Wei (1994)*, and *Shah (2005)* have shown quantitatively that the rupee-dollar real exchange rate has exhibited extremely low volatility when compared to the movements of real rupee-yen and rupee-euro exchange rates. Also, a study of past officials within the RBI by *Mitchell and Launder (2003)* shows that the Reserve Bank of India’s desire to follow the movement of the U.S. Dollar has been the principal cause of fluctuation of the rupee over the last fifteen years. Moreover, the massive dollar buildup in India’s foreign exchange reserves that has occurred alongside the continuous depreciation of the U.S. dollar against most international currencies, combined with the strong sterilization efforts by the RBI since mid-2006, point to an ever-increasing desire by the Reserve Bank of India to manage its rupee-dollar exchange rate.

III. India’s New Capital Controls

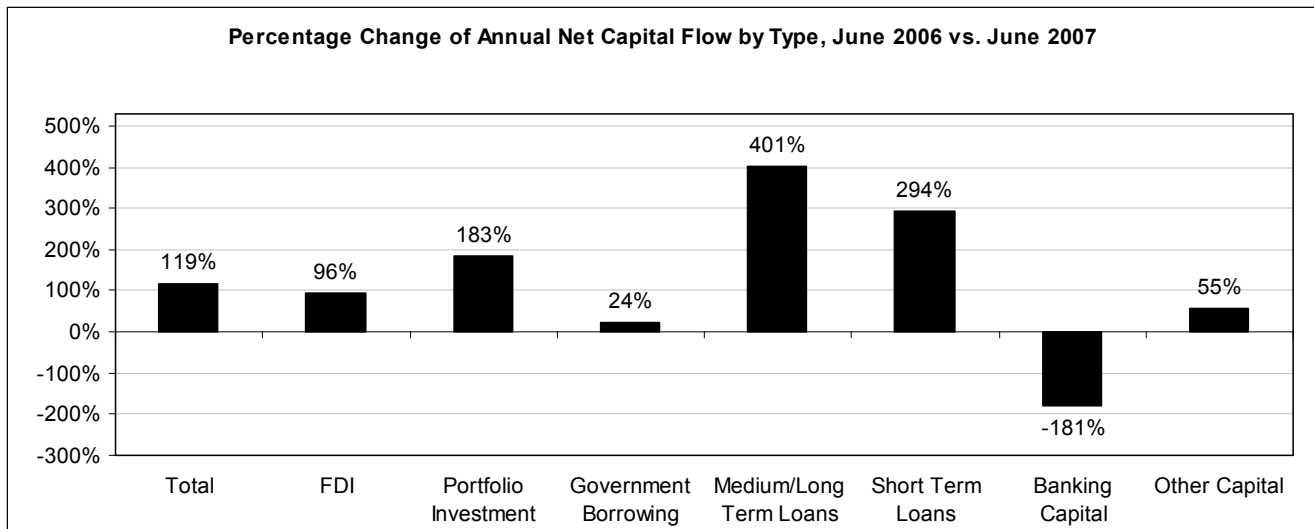
2006-2007: The Defining Years

Since India moved to open its economy in 1991, both the RBI and the SEBI have legislated increasing openness in India’s capital account, and even proposed in 2003 that India fully open its capital account, under certain restrictions, by 2011. Events in 2006 and 2007, though, have sidetracked India’s slow tack toward increasing openness. On the heels of lower interest rates in the United States, high liquidity in global markets, a relatively benign domestic business climate, a booming domestic stock market, and strong growth within the Indian economy, net capital flows into India increased by over 300%, rising from \$24 billion in fiscal year 2006 to \$77.3 billion in fiscal year 2007.¹ Compositionally, the main drivers behind this rise came from commercial loans and portfolio investment: as seen by Figure (2) on the next page, between June 2006 and the creation of the first round of new capital controls in June 2007, annual portfolio inflows rose by 183%, annual short-term commercial debt inflows rose by 294%, and annual medium and long-term commercial debt inflows rose by a breathtaking 401%.²

¹ India’s fiscal year ends on September 30 of each year. For example, fiscal year 2007 represents October 1, 2006 through September 30, 2007.

² “Annual” denotes the flows of the past twelve months. For example, a statistic showing annual flows in June 2007 represents all net flows that occurred between June 1, 2006 and May 30, 2007.

Figure 2: Change in Annual Net Capital Flows
 Source: Reserve Bank of India Balance of Payments Report, June 2005-June 2007



Seminal Reasons for the Controls

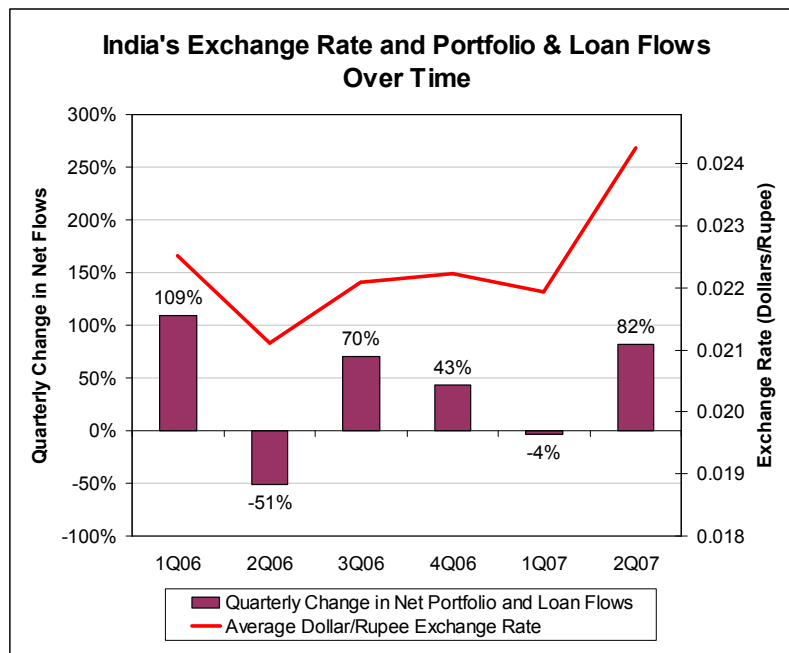
The remarkable inflow of capital into India did not come without costs. Firstly, a speculative boom erupted on India's stock market, with share prices soaring more than 32% in 2006 and another 21% in the first half of 2007. In a self-sustaining cycle, the rise of liquidity within the Mumbai exchange and increased lending to India helped bolster additional growth within the Indian economy, bringing even more inflows—and higher prices—to its stock exchange. With this rise in prices, valuations within the Mumbai exchange's SENSEX average began to “unhinge” from fundamentals, where average price-to-earnings ratios rose by 22% in the first half of 2007. Due to the relatively low float of many of the equities on the Mumbai Exchange, this surge resulted in a skyrocketing rate of turnover, where, in 2006, nearly three times as many shares changed hands as there were total shares on the exchange! This rapid turnover, in turn, helped volatility to spike—it was not uncommon to see the SENSEX average gain or lose more than six percent of its value in one week. High volatility, rapid turnover, and the “unhinging” of the market from its fundamentals, in the eyes of Indian regulators, meant only one thing: a high likelihood that the Mumbai exchange would collapse when other global equity markets fall or even a hint of trouble is found within the Indian economy.

The second major concern stemming from the massive flow of capital into India in 2006 and 2007 came from India's ever-appreciating exchange rate. Even with the intervention of the Reserve Bank of India (records indicate it bought \$120 billion worth of dollars in 2006 and the first half of 2007), there was not enough external demand for Indian assets to prevent the Indian rupee from appreciating more

than fifteen percent against the U.S. dollar between June 2006 and June 2007. The rupee's appreciation can be primarily linked to medium and long-term commercial loan and portfolio inflows, which, in total, encompassed 65% of all flows to and from India. As seen by Figure (3), the rupee's value vis-à-vis the U.S. dollar closely paralleled the fluctuation of these types of flows during 2006 and the first two quarters of 2007.

Figure 3: India's Dollar/Rupee Exchange Rate and Combined Portfolio, Short-Term Loan, and Long-Term Loan Flows, 1Q06-2Q07

Source: Bloomberg, Reserve Bank of India Balance of Payments Report, June 2006-September 2007



With inflation in India paralleling that of the United States, the nominal appreciation of the rupee versus the dollar meant only one thing: that India's real exchange rate with the U.S., or in other words, the competitiveness of India's exports in the U.S. market, began to fall. While the real appreciation of the rupee helped to dampen inflation inside India, it became apparent by late 2006 that it was putting a serious dent on India's export sector. Accounting for nearly one quarter of India's GDP in 2006, India's exporters saw themselves increasingly priced out of crucial markets in the United States and other countries—such as China—that peg their currency to the U.S. dollar. Profits fell by nearly ten percent in rupee terms to 530 billion rupees in the second quarter of 2007, while foreign direct investment in this economically crucial sector fell by more than five percent in the first half of that year (Ghosh, 5). Because India's export sector has been the main source of economic growth, technological change, and dynamism within the Indian economy over the last fifteen years, exporters and regulators alike began to worry that the "hollowing out" of this sector, combined with rising import volumes,

could dampen India's long-term economic growth and stability. Furthermore, because high growth and the prospect of inflation and economic overheating prevented India from lowering interest rates to depreciate the rupee, existing policy mechanisms could not reduce the likelihood of such a possibility.

In early 2007, Indian authorities voiced the third principal concern emanating from the massive influx of capital into India: a worsening external debt profile. Because high global liquidity, relatively low international interest rates, and good growth prospects within India made it much easier for Indian companies to acquire debt capital from overseas, India's private sector took on unprecedented amounts of foreign debt. Consequently, the stock of foreign debt held by India's private sector rose 27% between March 2006 and March 2007 to 24% of total exports and 6.1% of GDP (Country Finance: India, 14). Moreover, the maturity profile of India's external private sector debt also underwent a striking deterioration: from January 1, 2006 to May 1, 2007, short-run commercial financing grew from 33% to 38% of all externally originated commercial loans, causing the average maturity of all external loans to India's private sector to fall from thirty-two months to twenty-five months. As a possible international credit crunch linked to the U.S. subprime crisis loomed on the horizon in mid-2007, Indian authorities saw these numbers as even more troubling.

The Controls

With the prospect of a speculative crash in the Indian stock market, a sharp downturn in India's export economy, exceedingly risky inflows of international loans to India's private sector, and the inability to use interest rates to regulate capital flows, the Securities and Exchange Board of India and the Reserve Bank of India decided to enact four capital controls, beginning in June of 2007, to head off these risks. Due to the relative strength of the capital regime already in place, India's regulators saw it as unnecessary to enact a more costly, "broad-based" capital control approach that covers all capital inflows, and instead opted for a less comprehensive, "targeted" approach that restricts only certain types of capital flows to change the size, composition, and maturity profile of India's capital inflows.

1. June 15, 2007: Limits on External Commercial Borrowings

In an attempt to reduce the pressure on India's exchange rate and limit the exposure of Indian firms to overseas commercial borrowing, the Reserve Bank of India announced that it would no longer permit Indian companies to borrow in excess of \$20 million through vehicles known as external commercial borrowings (ECBs). These instruments were seen as a primary vector through which Indian companies borrowed in the short-term from international creditors, and also were one of the three largest vectors

for obtaining longer-term commercial credit from foreign sources. This regulation became effective on August 7, 2007.

2. October 26, 2007: Limits on Participatory Note Use and Foreign Institutional Investors

On October 26, 2007, the SEBI announced that it would no longer permit foreign investors using sub-accounts under the auspices of approved Foreign Institutional Investors (FIIs) to use financial instruments known as participatory notes to invest on the Mumbai exchange. Moreover, unregulated entities—such as hedge funds—operating within India were banned from the use of these instruments, and all investors using participatory notes on derivative and derivative-linked trades were forced to unwind their positions within the following eighteen months. Furthermore, new issuances of participatory notes by existing FIIs were limited to forty percent of the existing shares they held, thus severely tightening their ability to make additional investments in Indian equities. Because nearly one-half of all investment on the Mumbai Stock Exchange and three-quarters of all derivatives trading in India was done through participatory notes, this measure was targeted to put extreme downward pressure on portfolio flows into India and reduce turnover and volatility in the country's exchanges. By decreasing financial flows into India, this measure also attempted to end the appreciation of the rupee.

In addition to restrictions on participatory note use, the SEBI also attempted to discourage both volatility in the Mumbai exchange and additional portfolio flows into India by tightening the criterion for application to become an FII. With the Board's decision, only foreign investment banks, brokers, endowments, university trusts, and pension funds could apply to become Foreign Institutional Investors and freely trade equity, debt, and derivative investments in India. Foreign hedge funds and some types of exchange-traded vehicles were therefore denied permission to trade on the Indian market.

3. December 14, 2007: Limits on Loans to Mutual Funds and FIIs

In another attempt to end the appreciation of the rupee, discourage further portfolio inflows into India, and dampen speculation, volatility and turnover on the Indian exchange, the Reserve Bank of India decided on December 14, 2007 to enact measures that curb loans to both foreign and domestically held mutual funds operating in India. This was done by mandating that such loans would be considered as direct investments in stock and bond instruments in the calculation of a bank's capital adequacy ratio, and by reasserting rules that limited a bank's investment in stocks and bonds to 40% of its net worth. Additionally, the RBI restricted the amount of capital a mutual fund may borrow to 20% of its net assets, and mandated that such debts must be repaid within six months. Finally, the RBI ruled that

banks could no longer give financial assistance, such as payment guarantees, to foreign institutional investors, effectively cutting them off from expansion in the Indian market.

IV. Theoretical Feasibility of Capital Control Goals

Following the framework set forth in *Edwards (1999)*, this section will determine if the goals of India's new capital controls are theoretically feasible. Each goal—as stated by the Reserve Bank of India and the SEBI—will be outlined, followed a discussion of the empirical literature that has examined the attainability of that goal.

1. Reduce the Volume of Inflows Into India to End the Appreciation of the Rupee

The empirical literature, as shown by *Edwards (1998)*, *Reinhart and Smith (1998)*, and *Gregorio, et al. (2000)* demonstrates that capital controls have little, if any, effect on the volume of capital inflows. Between these three papers, the capital inflow controls of over thirty countries were studied, and in no instance was the volume of a country's inflows over the medium and long run reduced by the enactment of capital controls. In the medium and long run, all three papers show that international interest rates and stock market returns, rather than capital controls, dictate the volume of inflows into a country. Moreover, attempts to limit flows were quickly circumvented, where investors found new—and somewhat dubious—ways to bring capital into a country. On the other hand, there is a bit of disagreement over the effects of capital flows in the short term: *Edwards (1998)* and *Reinhart and Smith (1998)* state that such controls have no effect on short-term capital inflows, while *Gregorio, et al. (2000)* shows that some capital controls, if broad-based and encompassing all incoming capital, can have a slight effect on capital inflows, decreasing their volume by four to five percent in the first six months after the enactment of new controls. Therefore, because India is attempting to enact “targeted” controls that do not attempt to slow all inflows, the existing capital control literature suggests that India's attempt to slow the volume of capital inflows is infeasible in both the short and long term.

A similar picture emerges when analyzing India's prospects of ending the appreciation of the rupee. Evidence from the capital control regimes of fifteen countries—including the oft-lauded Chilean controls on inflows—presented in *Reinhart and Reinhart (2000)* shows no instances in which a country has been able to slow or stop the real appreciation of its currency, and moreover, the average country saw its real exchange rate vis-à-vis the U.S. dollar appreciate by 28% in the three years after it enacted capital controls. In the short term, on the other hand, there is evidence that some countries can end the appreciation of their currency if they attempt to slow all inflows coming into their country. Again,

because India is not attempting to enact this type of capital control, empirical literature suggests that India will not be able to end the appreciation of the rupee in any given timeframe.

2. Change the Composition of Flows Away From Loan and Portfolio Inflows

Both *Montiel and Reinhart (1999)* and *Edwards (1998)* show that, for a variety of countries including Chile, Colombia, and the Czech Republic, countries have indeed been able to change the composition of capital inflows with capital controls. For example, Chile was able to target debt inflows, and especially short-run inflows in favor of foreign direct investment. As a result of its capital controls, short-run flows fell by 70%, all debt inflows fell 15%, and foreign direct investment flows increased by nearly 30%. The Czech Republic, in addition, was able to slow portfolio inflows in 2003 and 2004 by 31% through restrictions similar to those of India. Therefore, the literature shows that it is feasible for India to alter the makeup of its capital flows away from debt and portfolio flows.

3. Increase the Maturity of Loan Inflows

Edwards (1998) shows that it is indeed possible to use capital controls to increase the maturity of total loan inflows, but also that this impact is much less strong in *de facto* terms. Much like the case of restricting total inflows, investors find ways to “wiggle” around maturity restrictions through strategies such as selling long-term debt with maturities of less than ten months to domestic firms. In the case of Chile, for example, the mean maturity of debt inflows rose from 14 to 59 months during its capital control regime, but in *de facto* terms, inflow maturities only rose by 3-4%. As a result, the proportion of total loans to Chile made in the short term fell only slightly from 48 to 45%.

4. Dampen Volatility, Turnover, and Undercut a Speculative Bubble in the Mumbai Exchange

The empirical work on this issue gives largely mixed results. *Montiel and Reinhart (1999)* argues that capital controls on portfolio inflows do little to limit the long-term volatility or turnover of a country’s capital markets, while *Edwards (1998)* argues that countries can indeed reduce exchange volatility and turnover by limiting capital inflows from brokers, investment banks, mutual funds, and hedge funds. However, both articles agree that controls on capital inflows do not dampen the fall of an exchange during times of economic uncertainty. Using the examples of Singapore and the Czech Republic, these papers argue that speculative bubbles are primarily driven by domestic investors, while foreign investors oftentimes engage in much more “level-headed” behavior due to their relative lack of knowledge of where the “peaks” and “troughs” of a foreign market may truly lie.

V. Have India's Controls Achieved Their Objectives?

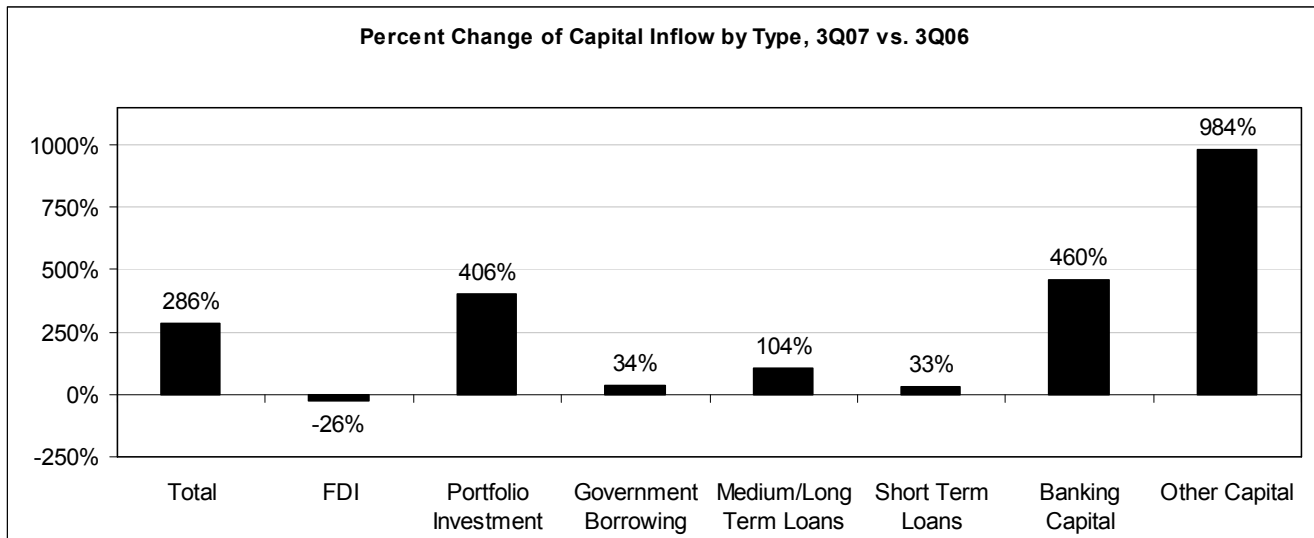
This section will determine if India's capital controls have achieved their four objectives, and reflect on whether the predictions of empirical literature, as outlined in the previous section, came to be vindicated by available data on India's capital inflows, debt exposure, and stock exchange volatility and performance. Firstly, though, the preliminary nature of the results presented in this section should be noted—at the time of the writing of this paper, the Reserve Bank of India has only released capital account data up to the third quarter of 2008. Therefore, the examination of the effects of India's new capital controls on the size and composition of inflows is limited to the period between August 1 and October 31, 2007. Furthermore, because India's third “new” capital control was enacted in December of 2007, this study can only analyze the exchange rate and market responses to this control. On the other hand, because India's December 14 control is seen to be much less influential and hard-hitting than the self-styled “draconian” capital controls of October and June, the conclusions of this section dealing with capital flow compositions and loan maturities still have considerable weight.

A. Capital Flows to India and the Movement of the Rupee

In the third quarter of 2007 (3Q07), net capital flows increased 105% from those of the second quarter, amounting to over \$33 billion worth of new capital inflows into India between August and October of that year. In year-over-year terms, inflows in 3Q07 were 286%, or about \$25 billion above those of the third quarter of 2006. As predicted by the literature, lower international interest rates and stock market returns vis-à-vis those of India helped drive strong capital flows into the country, and India's “targeted” capital flows failed to make any impact on the influx of capital into the Indian economy.

Moreover, evidence in India's investment press shows that investors did indeed find ways to circumvent India's controls on short, medium, and long-term commercial loan investments by hiding inflows through loan “barter,” reciprocal asset swaps, and other transactions not seen by the Reserve Bank of India as movements of loan capital (Chandra, 1). This can be readily seen in the capital account numbers for 3Q07 released by the Reserve Bank of India: Figure (4) shows that, in the third quarter of 2007, movements defined as “other capital” flows spiked 984% from their level one year earlier, while short, medium, and long-term loans increased at a rate lower than that of all capital inflows. Evidence of the circumvention of controls on portfolio flows is less strong, but some sources do suggest that the aforementioned “asset bartering” technique has also been used to allow non-FIIs to make equity investments on the Indian market (Indian Express, 1).

Figure 4: Year-Over Year Change in Third Quarter Net Capital Flows
Source: Reserve Bank of India Balance of Payments Report, January 2008



The movement of the Rupee vis-à-vis the U.S. dollar also vindicates the existing literature on capital controls. As predicted by *De Gregorio, et al. (2000)*, India's "targeted" capital controls made no impact on the appreciation of the Rupee—the rupee/dollar exchange rate appreciated by nearly 3% from \$0.0246/R to \$0.0255/R in the six months following the enactment of the first round of capital controls on June 15, 2007. With no turnaround in the value of the rupee, India's exporters continued to feel the pinch of a consistently stronger currency—in the fourth quarter of 2007, India's export sector saw its rupee revenues fall for the first time in over seven years.

B. Composition of Capital Inflows

As seen by Figure (4) above, India did see a stark change in short, medium, and long-term loan inflows. In year-over-year terms, medium and long-term commercial loan inflows rose by 104% and short-term commercial loan inflows rose by 33% in 3Q07 versus their levels in the third quarter of 2006. Both these statistics were well below 3Q07's total year-over-year net capital flow growth rate of 286%. On a quarter-over-quarter basis, the decline in commercial loan borrowings was even more pronounced: medium and long-term commercial loans fell 48% in volume while short-term loans fell by 65% between the third and fourth quarters of 2007. Meanwhile, total capital inflows continued to surge on a quarter-over-quarter basis, rising 105% between 2Q07 and 3Q07.

In terms of portfolio inflows, the results are more mixed. On a year-over-year basis, portfolio inflows rose by 406% between 3Q06 and 3Q07, surpassing total inflow growth by over 120%. On the other

hand, on a quarter-over-quarter basis, portfolio flows rose by only 23% between the second and third quarters of 2007, far below India's total capital inflow growth of 105%.

Survey evidence, however, shows that investors and firms have made few *de facto* changes in behavior in the third quarter of 2007, although they have felt constrained by capital controls in *de jure* terms. A report by MoneyControl India in December 2007 showed that most foreign investors did slow the purchase of *de jure* portfolio instruments markedly in response to the RBI-enforced limitations on participatory notes, but, in *de facto* terms, found other means through which to continue bringing most capital into the Indian market. India's private sector borrowers have proven to be even more clever—nearly all of those surveyed claimed to use the aforementioned techniques to hide their borrowings under the “other capital” definition created by the Reserve Bank of India, thus allowing their borrowing to continue unabated in *de facto* terms.

From both the numerical and survey evidence, therefore, it can be seen that India's capital controls had very limited success in changing the composition of capital flows into India in the third quarter of 2007. Loan inflows did indeed decrease, and, if the MoneyControl India survey can be taken at its word, India's new capital controls on loans did contribute to this fall in short, medium, and long-term loan inflows. On the other hand, this fall was simply a *de jure* change in flow composition, where India's true stock of debt continued to rise at a rate faster than the rise in total capital inflows (SEBI, 2). In terms of portfolio flows, the results are a bit more ambiguous and depend on which figures one chooses to focus. With the help of the MoneyControl India survey, though, this paper's analysis tends to favor the quarter-over-quarter data that shows that the flow of portfolio capital into India has indeed slowed markedly, but again, the *de facto* effects of this slowdown were much less pronounced than what India's balance of payments statistics describe. Thus, in parallel to the predictions of *Montiel and Reinhart (1999)* and *Edwards (1998)*, India was able to change the composition of its capital flows, although much of this compositional change was carried out through the *de jure* window-dressing of sustained debt and portfolio inflows.

C. Maturity of Loan Inflows

In the third quarter of 2007, the average maturity of India's external commercial debt rose from twenty-five to twenty-eight months. Following the predictions of *Edwards (1998)*, India was indeed able to extend the maturity of its flows in *de jure* terms. On the other hand, no data has been released on the *de facto* change in India's maturity profile since the enactment of its new capital controls, making the

second prediction of *Edwards (1998)*—that there would only be a slight change in *de facto* loan maturities—impossible to test.

D. Volatility, Turnover, and Speculation on the Mumbai Exchange

Since the enactment of India's first new capital control on 15 June 2007, the Mumbai Stock Exchange, as expressed through its SENSEX index, has faced an increasing amount of volatility and turnover. This is shown in Figure (5) below. In the larger graph, the weekly closing price of the SENSEX index is shown in the periods immediately before, during, and after the enactment of capital controls. Below it, the standard deviation of each daily close vis-à-vis the 14-day moving average of the SENSEX index is graphed. From both graphs, it can easily be seen that volatility of the Mumbai Stock Exchange did not decrease after India enacted new capital controls—instead, it increased substantially, to a point in early 2008 where its daily closes were as much as 750 standard deviations away from the average close of the previous fourteen days. In numerical terms, this equates to a rise in average weekly price movements from 6% per week in the second quarter of 2007 to 20% per week in the third and fourth quarters of that year—a far cry from developed indices, that typically do not move more than fifteen percent in an entire year!

Figure 5: Average Weekly Closing Prices and 14-Day Volatility of the SENSEX Index
(Please see Section (D) for detailed description of this chart)

Source: *StockCharts.com*



Data on volatility and speculation in the Mumbai Exchange is even less promising. Net turnover in the third and fourth quarter of 2007, on an annualized basis, was 4.2 times the number of shares on the Indian exchange, a 35% increase from the already high 2006 net turnover rate of 3.1. Moreover, the average price-to-earnings ratio of the Mumbai Exchange rose an additional 10% between June and December 2007, showing even greater speculation during this time. The continued “unhinging” of equity prices from their financial fundamentals only ended when the oft-cited speculative “bubble” in Indian equities burst in early 2008 after the fears of a U.S.-led global slowdown spurred investors to exit India’s equity markets.

Therefore, although some empirical literature on capital flows suggests that it is feasible to use capital controls to reduce volatility and turnover in a country’s domestic equity exchanges, India’s controls were unable to do so in the third and fourth quarters of 2007 and the first quarter of 2008. Moreover, India’s controls failed to dampen a speculative bubble on the Mumbai Stock Exchange or guard against a sharp fall in stock prices once this bubble “burst.” The fall of Mumbai’s exchange in early 2008 thus vindicates the work of *Edwards (1998)* and *De Gregorio, et al. (1999)* that shows that capital controls cannot prevent a dramatic fall in a stock exchange after a speculative bubble has been created. On the other hand, because no data is yet available on the nationality of the sellers on India’s equity market after January 1, 2008, there is no way to know if, as predicted, the main driver behind the exchange’s fall was a “rush to the exit” by domestic investors.

V. “Spillover” Effects of India’s Capital Controls

In addition to the direct effects of India’s new capital controls on the Indian economy, these controls also created several undesirable “spillover” effects in India’s regulatory and economic spheres. The most visible effect of India’s new capital controls has been a spike in corruption and cronyism in India’s business and regulatory communities. Media reports from both local and international sources have documented a rising tide of corruption within both communities, reporting that businesses and regulators alike believe that certain large, politically well-placed firms have been allowed to circumvent India’s new capital controls with ease. An increasing number of foreign firms, in an attempt to regain access to the Indian market, have also resorted to the bribery of RBI officials to speed the long and cumbersome process of approval needed to become a “certified” FII in India. In addition, accusations of corruption have recently been wielded against the framers of India’s capital controls: some have alleged that these framers molded controls to favor certain companies in which they had financial stakes (Ghosh and Unnikrishnan, 1).

Secondly, India's small and medium sized businesses have seen both their regulatory and capital costs rise in direct response to the RBI and SEBI's new capital controls. Because these government institutions mandate that all businesses must prove their compliance with India's new controls on a quarterly basis, small and medium-sized businesses have seen their regulatory burdens increase by nearly ten percent. Moreover, they have also seen their costs of capital rise vis-à-vis those of larger businesses. With limits on borrowing overseas, larger businesses have increasingly turned to domestic banks to meet their funding needs, thus "squeezing out" the smaller clients of these banks and forcing small and medium-sized firms to accept less favorable funding arrangements (Country Finance, 47).

VI. Conclusion

After its "great opening" to the world economy in 1991, India has relied heavily on capital inflows to fuel its spectacular growth. Therefore, it has built a capital control regime to harness these flows in a way that ensures both growth and stability within the Indian economy. On the other hand, India's existing capital control framework did not fully protect the country against some of the drawbacks of the recent surge in capital inflows to India, including high volatility, turnover, and speculation in its equity market, an overvalued real exchange rate and increasingly uncompetitive export sector, and a worsening external debt profile. In response, therefore, India enacted a set of three capital controls in mid and late 2007 to reduce the volume of capital inflows coming into India, end the appreciation of the rupee, discourage further loan and portfolio inflows, increase the maturity of debt inflows, and reduce volatility, turnover, and speculation on the Mumbai exchange.

Unfortunately, India's new capital controls did little to change the inherent issues India experienced as a result of the recent influx of capital. This was due to two primary issues: firstly, as the existing empirical literature on capital inflows shows us, several of the goals of India's "targeted" controls were unattainable. Its controls could not—and did not—change the volume of capital inflows coming into India, slow or stop the appreciation of the rupee, or prevent a speculative bubble from forming—and "popping"—in the Mumbai exchange. Secondly, even among the goals seen by scholars as achievable, India's capital controls made very little impact on the *de facto* situation experienced by the Indian economy. India's new controls failed in outright terms to reduce turnover and volatility in India's equity markets, and although India was able to slow *de jure* growth in portfolio and loan inflows, investors were able to circumvent India's controls, thus leaving only a small (and debatable) *de facto* reduction in net portfolio flows to India. The only pure "success" of India's capital controls is the

improvement of the maturity profile of its external commercial debt, but even this success is in question due to the lack of *de facto* information on the true post-control change in India's debt profile.

Beyond being ineffective, India's new capital controls, in some ways, actually had detrimental effects within India. In the regulatory sphere, they helped spur corruption and favoritism within India's Reserve Bank and Securities and Exchange Board, eroding the institutional capacity of both of these governmental entities. In addition, these controls helped to raise the regulatory and capital-raising costs of small and medium-sized businesses, tilting the business climate in India in favor of larger, more influential corporations.

On the other hand, it should be noted that the results of this study come from data published in the first six to nine months after India's new capital controls were put in place, and therefore, many of this paper's conclusions are preliminary in nature. When more data is available, further study will be needed to confirm their applicability over the long term.

In sum, though, the data at hand shows us that India's capital controls were not effective in helping alleviate the drawbacks experienced by India from surging capital inflows. Taking into account their "spillover" effects, these controls, in the end, were much more harmful than beneficial to the Indian economy. Especially given the "targeted" nature of India's new controls, it can be seen that these controls failed because they were too limited in scope to hit their "moving targets," were far too easy to circumvent, and were given too many objectives they could not achieve.

Works Cited

1. Chandra, N. Mohan. "Missed the Woods & Trees." The Hindustan Times. 29 February 2008.
2. Country Finance: India. The Economist Intelligence Unit. March 2008.
3. Country Risk Service: India. The Economist Intelligence Unit. January 2008.
4. De Gregorio, Jose, Edwards, Sebastian, and Valdes, Rodrigo O. "Controls on Capital Inflows: Do they Work?" *NBER Working Paper No. 764*, April 2000.
5. "Do Capital Controls Work?" Indian Express. 7 January 2008.
6. Edwards, Sebastian. "How Effective are Capital Controls?" *The Journal of Economic Perspectives*, Vol. 13, No. 4. (Autumn, 1999), pp. 65-84.
7. Ghosh, Arunabha. "India's Pathway Through Financial Crisis." *Global Economic Governance Programme Working Papers*, 1 June 2004.
8. Ghosh, Sugata and Unnikrishnan, Rajesh. "Curbs go kaput as firms brandish put options." The Economic Times. 31 July 2007.
9. Hugh, Edward. "Capital Inflows into India and Rupee Appreciation." India Economy Watch. 23 December 2007.
10. "India: 2007 Article IV Consultation—Staff Report; Staff Statement; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for India." IMF Country Report No. 08/51, February 2008.
11. Khurana, Nishtha. "Crisis Prevention and Capital Controls in India: Perspectives from capital account in the current scenario." The Hans Böckler Foundation, 1 October 2007.
12. Leahy, Joe. "India Eases Restrictions on Derivatives." The Financial Times- Asia Edition. 23 October 2007.
13. McClatchy, William. "India ETNs Going Out In Style." ETFZone.com. 2 January 2008.
14. Mitchell, A. and Launder, C. "A Survey of The Reserve Bank of India: Perspectives. *Central Bank Finance*, 2003.
15. Montiel, Peter and Reinhart, Carmen M. "Do capital controls and macroeconomic policies influence the volume and composition of capital flows? Evidence from the 1990s." *Journal of International Money and Finance*, Vol. 18 (1999), pp. 619–635.
16. "The Most Extraordinary Country: Doing Business in India." Presentation by Fulbright & Jaworski, L.L.P. 20 February 2008.

17. Reinhart, C.M., and Reinhart, V.R. “Some Lessons For Policy Makers Who Deal With the Mixed Blessing of Capital Inflows.” In Kahler, M. (Ed.), Capital Flows and Financial Crises. New York: Cornell University Press, June 2000, pp. 93–127.
18. Reinhart, C.M., and Smith, R.T. “Too much of a good thing: the macroeconomic effects of taxing capital inflows.” In Glick, R. (Ed.), Managing Capital Flows and Exchange Rates: Perspectives from the Pacific Basin. Cambridge: Cambridge University Press, 1998, pp. 436–464.
19. Reserve Bank of India, Balance of Payments Data. 31 December 2007.
20. Ibid, 28 September 2007.
21. Ibid, 30 June 2007.
22. Ibid, 31 March 2007.
23. Ibid, 31 December 2006.
24. Ibid, 30 September 2006.
25. Ibid, 29 June 29 2006.
26. Ibid, 31 March 2006.
27. “SEBI move dents FII sentiment for India: UBS.” MoneyControl India. 17 December 2007.
28. Shah, Ajay. “India’s Experience with Capital Flows: The Elusive Quest for a Sustainable Current Account Deficit.” *National Bureau of Economic Research Working Paper 11387*, May 2005.
29. JA Frankel and SJ Wei. “Yen Bloc or Dollar Bloc? Exchange Rate Policies of the East Asian Economies.” Working paper written for the Third Annual NBER - East Asia Seminar on Economics. 17-19 June 1994.
30. Singh, Manmohan. “Use of Participatory Notes in Indian Equity Markets and Recent Regulatory Changes.” *IMF Working Papers*, December 2007.
31. Timmons, Heather. “India Seeks to Cool Stock Market With Limits on Foreign Investors.” The New York Times. 26 October 2007.