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The Evolving Role of China and India in the Global Financial System

Philip R. Lane · Sergio L. Schmukler

Abstract Three main features characterize the international financial integration of China and India. First, while only having a small global share of privately-held external assets and liabilities, these countries are large holders of official reserves. Second, their international balance sheets are highly asymmetric: both are "short equity, long debt." Third, China and India have improved their net external positions over the last decade although neoclassical models would predict them to be net borrowers. We argue that domestic financial policies are key to understanding these patterns and the future role of China in the international financial system.

Keywords Financial integration · Capital flows · China · India · World economy

JEL Classification F02 · F30 · F31 · F32 · F33 · F36

The goal of this paper is to assess the evolving role of China and India in the international financial system by linking it to the developments in their domestic financial sectors. Much attention has been paid to the impact of China and India on international trade and, more generally, the world economy, as documented recently in Winters and Yusuf (2007a, b). However, there have been relatively fewer studies of their status as a recipient and source of international financial flows. Although their financial systems still remain restricted, China and India have received significant capital inflows in recent years and both have become key outward investors. In particular, China is the world's largest holder of foreign reserves, reaching $1 trillion

P. R. Lane
IIIS, Trinity College Dublin and CEPR, Dublin 2, Ireland

S. L. Schmukler
World Bank, Washington, DC, USA
e-mail: sschmukler@worldbank.org

P. R. Lane (✉)
Economics Department, Trinity College Dublin, Dublin 2, Ireland
e-mail: plane@tcd.ie

by January 2007; while India's reserves are also very high, standing at $172 billion in January 2007. At a much smaller scale, China and India have also recently started to invest in the private sectors of other countries.

In this paper we analyze three issues related to the international financial integration of China and India. First, we describe three main stylized facts that characterize their international financial integration. (1) Regarding size, China and India only have a small global share of privately-held external assets and liabilities (with the exception of China's FDI liabilities). (2) In terms of composition, the international financial integration of China and India is highly asymmetric, holding mostly official reserves on the asset side, whereas higher-return equity instruments feature more prominently on the liability side, primarily taking the form of foreign direct investment (FDI) in China and portfolio equity liabilities in India. (3) Their net foreign asset positions are more positive than would be predicted by neoclassical models of international capital flows. Second, we argue that domestic financial policies are central to explain the above stylized facts and the prospects for their future dynamics. In particular, we probe three inter-related domestic factors: (1) financial liberalization and exchange rate/monetary policies; (2) the evolution of the financial sector; and (3) the impact of financial reform on savings and investment rates. Third, we provide an assessment of the current international financial impact of these countries and we also discuss how the increasing weight of these countries in the international financial system will affect the rest of the world over the medium term.

Although any projections are subject to the usual caveats, our analysis suggests that further progress in domestic financial reform and the liberalization of the capital account will generate pressure for a restructuring of China's and India's international balance sheets. In particular, further financial liberalization will give more opportunities to foreign residents to invest in their economies and expand the investment alternatives for domestic residents, with the accumulation of external assets and liabilities by the private sectors in these countries likely to grow. With these changes, we may expect to see a diminution in the asymmetries in the composition of external liabilities, with a greater dispersion of inflows between the FDI, portfolio equity, and debt categories. On the assets side, the scale of acquisition of non-reserve foreign assets should see a marked increase. Together with the projected increase in their shares in world gross domestic product (GDP), China and India are set to become major international investing nations. Moreover, institutional reforms and further domestic financial development would, ceteris paribus, put pressure in the emergence of significant current account deficits in both countries in the medium or long term. Accordingly, if taken together with a possible deceleration in their rate of reserve accumulation, the roles of China and India in the global distribution of external imbalances could undergo a substantial shift in the coming years. These changes will have significant implications for other participants in the international financial system.

The analysis in this paper builds on several strands of the existing literature. A number of recent contributions have highlighted the importance of domestic financial reform for the evolution of the external positions of these countries.[1] Their

[1] See, amongst others, Blanchard and Giavazzi (2006), Chamon and Prasad (2005), Lim et al. (2005), Goodfriend and Prasad (2006), Ju and Wei (2006), and Prasad and Rajan (2006) on Kletzer (2005) and Patnaik and Shah (2007) on India.

role in the international financial system has been much debated, with opinions divided between those that view the current role of these countries (together with other emerging Asian economies) as large-scale purchasers of reserve securities as essentially stable in the medium to long run and those that believe that the current configuration is a more transitory phenomenon.[2]

Relative to the existing literature, we make a number of contributions. First, we provide a side-by-side examination of the current degree of China's and India's international financial integration, with a focus on the level and composition of their international balance sheets. Although these countries are put together in the analysis because of their size and growing economic importance, many differences remain and are highlighted in the paper. Second, we provide a comparative account of the development of their domestic financial sectors and show how distinct policies in the two countries help explain differences in their external capital structures.[3] Third, we conduct a forward-looking assessment of how future reforms in their domestic financial sectors will affect the evolution of international balance sheets, with an emphasis on highlighting the broader impact on the international financial system.

The rest of the paper is organized as follows. Section 2 documents the basic stylized facts of the international financial integration of China and India. Section 3 links the developments in the domestic financial sectors of these two countries with their international financial integration and analyzes the impact of their international integration on the global financial system. Section 4 concludes.

1 The international financial integration of China and India: basic stylized facts

To document the major trends in the evolution of China's and India's international financial integration, we study their international balance sheets.[4] We analyze: net foreign asset positions; gross holdings of foreign assets and foreign liabilities; and the equity-debt mix in their international balance sheets. Our focus on the international balance sheet has an advantage over capital flows, since the accumulated holdings of external assets and liabilities is the most informative indicator of the extent of international financial integration (Lane and Milesi-Ferretti 2007).[5] Moreover, they provide a reasonable measure of international portfolios,

[2] Dooley et al. (2003) famously dubbed this configuration the "Bretton Woods II" system; Caballero et al. (2006) provide theoretical support. While this hypothesis has a broad appeal in explaining the stylized facts of recent imbalances, it remains highly controversial and others, such as Aizenman and Lee (2007), Eichengreen (2007), Goldstein and Lardy (2005), and Obstfeld and Rogoff (2005) provide broad-ranging critiques.

[3] The analysis here is partly based on Bai (2006), Kuijs (2006), Li (2006), Mishra (2006), Patnaik and Shah (2006), and Zhao (2006).

[4] Lane (2006) provides more details concerning their historical evolution.

[5] The international balance sheet cumulates capital inflows and outflows and, at the same time, takes into account the impact of valuation changes driven by capital gains and losses on asset and liability positions. The size of cross-border holdings highlights the relative importance of China and India in global cross-border portfolios; the level of foreign assets also determines the level of their exposure to external financial shocks, while the level of foreign liabilities measures the vulnerability of foreign investors to domestic shocks.

where they stand and how they might shift, and help compare stock positions with the evolution of capital flows (with flows responding to stock adjustments). In some places, we also discuss recent patterns in capital flows, especially where these signal that the current accumulated positions are undergoing some structural changes toward new portfolio balances.

Figure 1 plots the evolution of the net foreign asset positions of these countries over 1985–2004. Figure 1 shows that both countries have followed a similar path—accumulating net liabilities until the mid 1990s but subsequently experiencing a sustained improvement in the net foreign asset position. According to the International Monetary Fund (IMF)'s World Economic Outlook database, since 2004, China's current account surplus has continued to increase, reaching 7.1% in 2005 and projected at 6.8% for 2006–2007, strengthening their creditor position. In contrast, the Indian current account balance has returned to negative territory at 2.5% in 2005 and projected at 3.1% for 2006–2007, deepening their debtor position. Compared to other developing countries, China and India had at the end of 2004 net foreign asset positions that were less negative than is typically the case for countries at a similar level of development. In global terms, the net positions of China and India are relatively small. However, China is increasingly important on a flow basis: its projected 2006 current account surplus of $173 billion amounts to 20% of the projected US current account deficit of $864 billion (World Economic Outlook database).

Moreover, underlying these net positions is a significant increase in the gross scale of the international balance sheets of China and India. Figure 2 shows the sum of foreign assets and liabilities (divided by GDP). This indicator of international financial integration has increased sharply for both countries in recent years, though the levels are not high when compared to other regions, as shown in the lower panels of Fig. 2.

There are significant asymmetries in the composition of the underlying stocks of gross foreign assets and liabilities. Table 1a shows the composition of foreign assets and liabilities for China and India. On the assets side, the equity position (portfolio and FDI) is relatively minor for both countries, with a predominant role for external reserve assets. While there is evidence of an increase in outward FDI during 2005 and the first part of 2006, it is clear that this is from a very low base. On the liabilities side, Table 1a also shows some important differences between the two countries. In particular, equity liabilities primarily take the form of FDI in China, whereas portfolio equity liabilities are predominant for India. External debt comprises less than one third of Chinese liabilities but more than one half in the Indian case.

Table 2 considers the net positions in each asset category at the end of 2004—both China and India are "long in debt, short in equity:" these countries have positive net debt positions and negative net equity positions. As observed by Lane and Milesi-Ferretti (2007), this is currently a common pattern for developing countries. However, the scale of the asymmetry is striking, especially in the Chinese case.

Figure 3 shows China's and India's relative importance of the different components of the international balance sheets. By the end of 2004, the FDI liabilities of China represented 4.1% of global FDI liabilities; this is broadly in line with China's share in world GDP (in dollars). However, global shares are much lower for the other non-reserve elements of China's and India's international balance sheets. In portfolio terms, Fig. 3 shows that China and India are

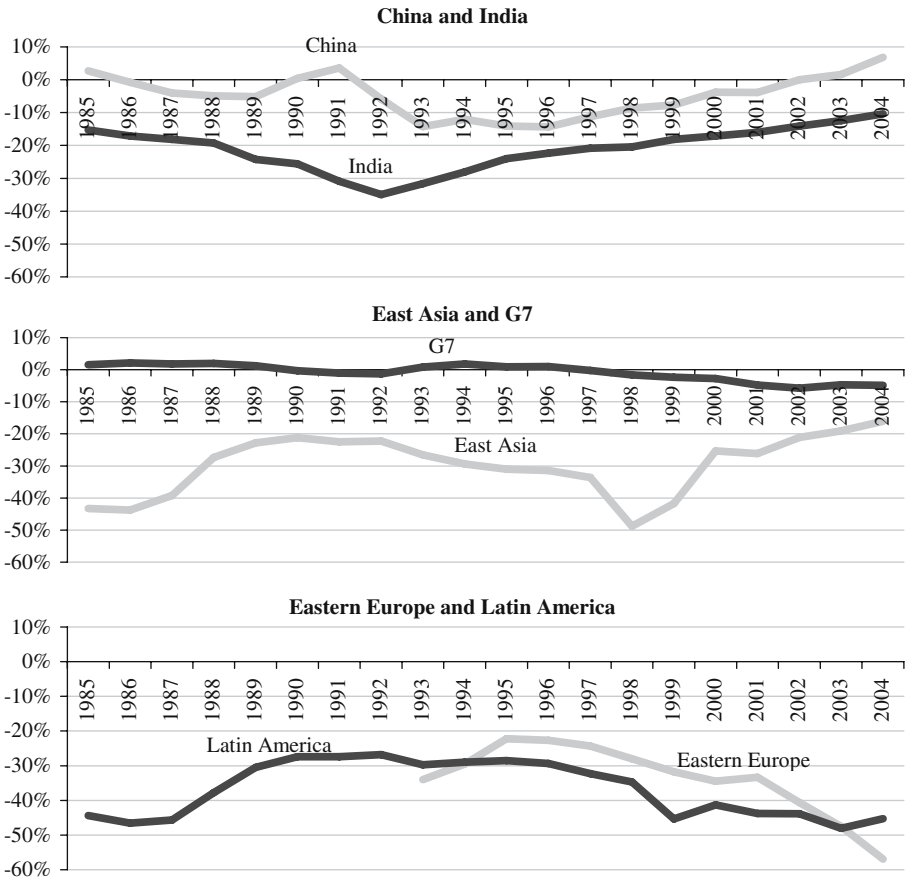

Fig. 1 Net foreign asset positions, 1985–2004. Net foreign asset position expressed as a ratio to GDP. East Asia is the average of Indonesia, Korea, Malaysia, and Thailand. G7 is the average of Canada, France, Germany, Italy, Japan, UK, and USA. Latin America is the average of Argentina, Brazil, Chile, and Mexico. Eastern Europe is the average of Czech Republic, Hungary, and Poland. The series for the regions are weighted averages where the weights are the countries' GDPs as a fraction of the region's GDP. Source: Authors' calculations drawing on the data set constructed by Lane and Milesi-Ferretti (2007)

"underweight" both as destinations for international investors and as investors in non-reserve foreign assets (Lane 2006). Regarding reserve holdings, China and India are much more important. For instance, China and India held 16.0 and 3.3% of world reserves in 2004, respectively, whereas their shares in global dollar GDP were 4.7 and 1.7%.

In sum, the current state of the international financial integration of China and India has several striking features. First, their international balance sheets are highly asymmetric—with official reserves dominating the asset side, whereas equity liabilities are prominent for both countries (FDI for China, portfolio equity for India). Second, the absolute level of non-reserve foreign assets is very low. In terms of global impact, these countries are relatively small in global holdings of foreign assets and liabilities, with the important exception of the official reserves category.

Table 1 Composition of foreign assets and liabilities, 2004

	China		India	
	Assets	Liabilities	Assets	Liabilities
Portfolio equity	0.3	2.9	0.1	9.1
FDI	1.9	25.7	1.3	6.4
Private debt	13.3	11.9	2.6	17.0
Reserves	31.8		18.3	
Total	47.3	40.5	22.3	32.6

Variables are expressed as a percentage of GDP. Source: Authors' calculations, based on data set constructed by Lane and Milesi–Ferretti (2007).

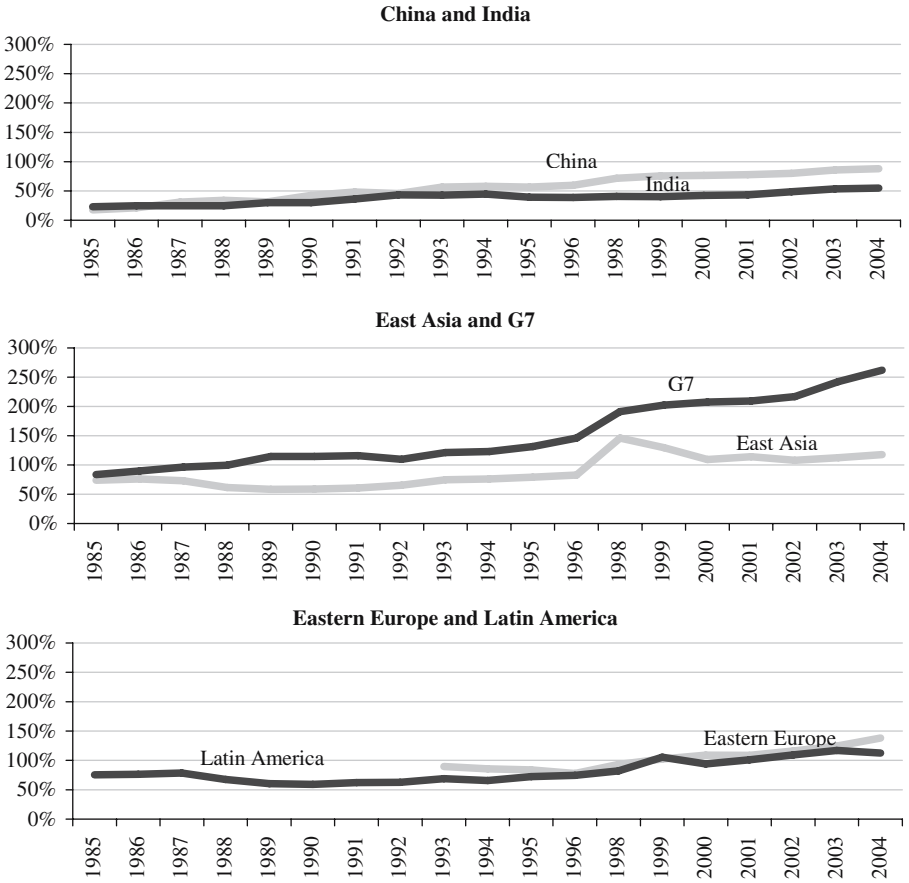

Fig. 2 International financial integration. Sum of foreign assets and liabilities expressed as a ratio to GDP. East Asia is the average of Indonesia, Korea, Malaysia, and Thailand. G7 is the average of Canada, France, Germany, Italy, Japan, UK, and USA. Latin America is the average of Argentina, Brazil, Chile, and Mexico. Eastern Europe is the average of Czech Republic, Hungary, and Poland. The series for the regions are weighted averages where the weights are the countries' GDPs as a fraction of the region's GDP. Source: Authors' calculations drawing on the data set constructed by Lane and Milesi-Ferretti (2007)

Table 2 Asymmetries in the international balance sheet, 2004

	China	India
Net Portfolio Equity	−2.6	−9.0
Net FDI	−23.8	−5.0
Net Equity	−26.5	−14.1
Net Private Debt	1.5	−14.6
Reserves	31.8	18.3
Net Debt	33.3	3.7

Variables are expressed as a percentage of GDP. Net private debt equals non-reserve debt assets minus debt liabilities. Source: Authors' calculations, based on dataset constructed by Lane and Milesi–Ferretti (2007).

Third, the net foreign asset positions of these countries are more positive than might be expected for countries at their level of development.

2 The domestic financial sector and international financial integration

The stylized facts described in the previous section can be explained by developments and policies related to China's and India's domestic financial sectors. To understand the links between the domestic sector and cross-border asset trade and international balance sheets, we summarize very succinctly the trends in three interrelated aspects of the financial sector: financial liberalization and exchange rate policies; the evolution (and state) of the domestic financial sector; and the patterns in savings and investment. We conduct the analysis by turning to the particular developments in the financial sectors of each country.

2.1 China

China has adopted a gradualist approach to financial liberalization, including the capital account, as summarized in Appendix Table 3. During the 1980s and 1990s, the main focus was on promoting inward direct investment flows (FDI). Investment by foreigners in China's stock markets has been permitted since 1992 through multiple share classes, but access is still restricted. Debt inflows have been especially restricted, as have been private capital outflows. This has allowed the state to control the domestic banking sector by, for example, setting ceilings on interest rates.

China's financial liberalization policies have been intrinsically linked to its exchange rate regime. During 1995–2005, the renminbi (RMB) was de facto pegged to the US dollar. A stable value of the exchange rate has been viewed as a domestic nominal anchor and an instrument to promote trade and FDI. The twin goals of maintaining a stable exchange rate and an autonomous monetary policy have contributed to the ongoing retention of extensive capital controls.

These policies have had a large impact on China's international balance sheet. On the liabilities side, the scale of private capital inflows can partly be attributed to speculative inflows in anticipation of RMB appreciation (Prasad and Wei 2007).[6] To

[6] Prasad and Wei (2007) highlight that unrecorded capital inflows have been growing in recent years, as foreign investors seek to evade limits on their ability to acquire RMB assets in anticipation of future currency appreciation.

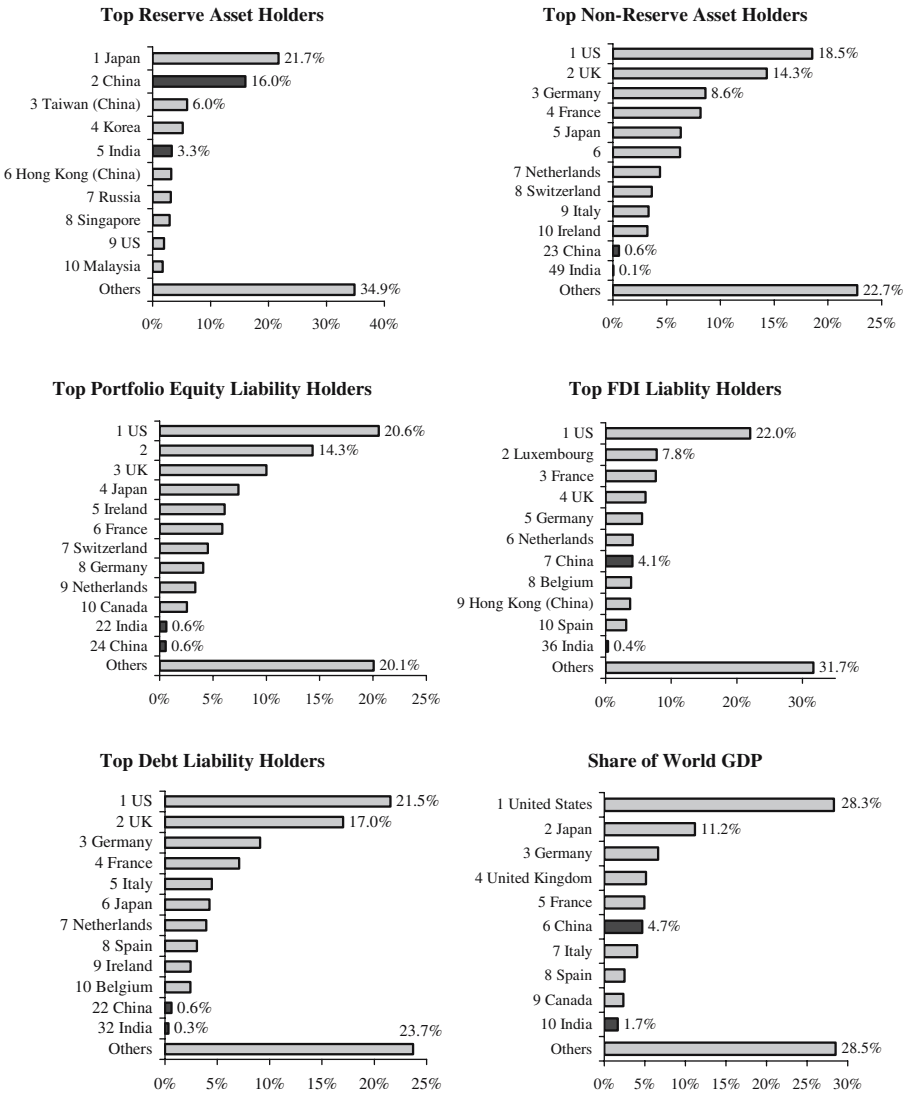

Fig. 3 Top foreign asset and liability holders, 2004. The figures show the holdings of foreign assets and liabilities, by type of asset and liability, of the ten largest holders, China, India, and the sum of all the other countries, as a percentage of total holdings of that type of asset or liability. It also shows the share of world GDP of the ten largest economies and India. Holdings are expressed as a percentage of the sum of the holdings of all the countries in the data set. Numbers next to holdings show position in world ranking. Source: Authors' calculations drawing on the data set constructed by Lane and Milesi-Ferretti (2007)

avoid currency appreciation, the counterpart of high capital inflows has been the rapid accumulation of external reserves and expansion in monetary aggregates. In turn, the sustainability of reserves accumulation has been facilitated by the regulation of interest rates that has kept the cost of sterilization down (Bai 2006).

The gradual liberalization of the domestic financial sector has been accompanied by a sharp deepening of the financial development indicators in China during the last

15 years. However, the banking sector remains excessively focused on lending to state-owned enterprises and does not appear to be an adequate provider of credit to private enterprises and households. An interest rate ceiling also distorts the behavior of banks and limits the attractiveness of banks to domestic and foreign investors (Bai 2006). Despite these deficiencies, the most important supplier of external finance to firms is still the banking sector. Other important channels are FDI—especially for private sector enterprises—and the state budget for state-owned enterprises (Allen et al. 2007).

With respect to domestic capital markets, the Chinese corporate bond market remains underdeveloped, while the large overhang of government-owned shares implies that tradable shares are only about one-third of total stock market capitalization. In addition, equity pricing is perceived as open to manipulation. Furthermore, corporate governance in China remains far from international standards. This contrasts with the focus of the Chinese government on guaranteeing safety for direct investment. The difference in the protection of foreigners' property rights between direct and portfolio investments has made FDI much more attractive than portfolio equity for foreign investors wanting to participate in the Chinese market.[7]

The evolution of the domestic financial sector helps explain some elements of China's integration into the international financial system. In particular, the problems in the banking system (the concentration of its loan book on state-owned enterprises, the significant number of non-performing loans, and solvency concerns) have limited the willingness of the authorities to allow Chinese banks to raise external funds or act as the broker for the acquisition of foreign assets by domestic entities (Setser 2006).[8] In addition, the distorted nature of the Chinese stock market means that portfolio equity inflows would have been limited even under a more liberal external account regime. Similarly, the domestic bond market is also at a very primitive stage of development, while the capacity of domestic entities to undertake international bond issues remains heavily circumscribed.

Another channel linking the domestic financial system with the international balance sheet is through domestic savings and investment, with the net difference in turn determining the current account balance. Kuijs (2005, 2006) argues that the extraordinarily high aggregate savings rate in China is primarily driven by corporate savings.[9] The high level of enterprise saving required to finance high levels of investment has been facilitated by a low-dividend policy. In the extreme case of many state-owned enterprises, there are no dividends at all. In some cases, the

[7] This is not to deny that poor protection of intellectual property rights in China means that much of the inward FDI is confined to labor-intensive sectors that do not rely on proprietary technologies.

[8] An interesting exception is that domestic residents are permitted to hold dollar deposits in domestic banks. In 2001, following a further relaxation, a substantial portion of these dollar deposits were employed to invest in B-shares on the Chinese stock market, denominated in foreign currency. See Zhao (2006) and Ma and McCauley (2002).

[9] Others have focused on the role of household savings. But in 2005, household savings have been similar to that of other developing countries. For instance, while the household savings rate in China may have been higher than those of OECD economies, it was actually lower than in India.

reluctance to distribute profits reflects uncertainty about ownership structures and the weak state of corporate governance.[10]

In addition to a low dividend policy, two more factors help explain high enterprise saving and investment. The first is the high share of the industry sector in GDP, associated with higher saving and investment because of its capital intensity. The second is the rising profits of Chinese enterprises in the last 10 years. These can be explained in part by the increasing importance of private firms and the increased efficiency of state-owned enterprises (Kuijs 2006).

On the investment side, the reliance on self-financing, and the lack of accountability to shareholders plausibly pushes up the investment rate, with corporate insiders pursuing projects that would not pass the return thresholds demanded by commercial sources of external finance.[11] In addition, for state-owned enterprises, access to directed credit from the banking sector allows these firms to maintain higher investment rates than would otherwise be possible. Furthermore, restrictions on capital outflows mean that enterprise investment has largely been restricted to domestic projects.

In sum, the underdevelopment of the domestic financial system may help explain the high rates of both savings and investment in China. The net impact on the current account is in principle ambiguous, since financial development could reduce both savings and investment rates. However, the cross-country empirical evidence indicates that domestic financial deepening lowers the savings rate and increases investment.[12] Especially in combination with an open capital account, it is plausible that higher-quality domestic financial intermediation could place greater downward pressure on savings than investment. In particular, international capital funneled through domestic banks and domestic financial markets to high-return domestic projects may compensate for a reduction in investment in those inefficient enterprises that are protected by the current financial system. Moreover, a better financial system could stimulate consumption (by providing more credit) and reduce the need for maintaining high savings levels (either for precautionary motives or to finance future consumption).

2.2 India

India suffered a severe financial crisis in the early 1990s, which subsequently led to a broad series of reforms. The goal was to spur Indian growth by fostering trade, FDI, and portfolio equity flows and, at the same time, avoid debt flows that were perceived as being potentially destabilizing. In the subsequent years, India has undergone extensive but selective liberalization, as summarized in Appendix Table 4. But substantial capital controls remain in place.

[10] However, the recently-established State Asset Supervision and Administration Commission (SASAC) is seeking to assert greater control of state-owned enterprises, including a demand for greater dividend payments. Naughton (2006) provides an analysis of the political struggle over control and income rights in the state-owned sector.

[11] Moreover, the lack of financial intermediation distorts investment patterns, with young or pre-natal firms starved of finance while mature firms inefficiently deploy excess cash flows.

[12] See International Monetary Fund (2005).

The discouragement of external debt has restricted the ability of domestic entities to issue bonds on international markets and the entry of foreign investors to the domestic bond market.[13] Moreover, there are restrictions on purchases by foreigners in the corporate and government bond markets. Hence, the market for private bonds remains underdeveloped.

By contrast, the approach to equity inflows has been much more liberal. Whereas restrictions on FDI inflows have been progressively relaxed, the distinctive characteristic of equity flows into India is not the direct investment, rather the relatively high level of portfolio equity financing. India's broad domestic institutional investor base has facilitated the entry of foreign institutional investors (FIIs) that are permitted to take partial stakes in equity of quoted Indian enterprises. As a consequence of these restrictions on external transactions and other measures to develop equity markets, the composition of capital inflows has shifted toward higher equity to debt ratios of capital inflows and firms' financial structures.

In terms of capital outflows, the current constraints on asset allocation mean that official reserves are the predominant component of foreign assets. As in China, the de-facto exchange rate/monetary regime seeks to maintain a stable value of the rupee against the dollar, which provides a nominal anchor and is viewed as promoting trade and investment. The exchange rate regime has been supported by capital controls, which have allowed some degree of monetary autonomy to be combined with the exchange rate target.

Another channel linking the domestic financial system with the international balance sheet is through domestic savings and investment. India's current saving rate is similar to that of most other Asian economies; on the investment side, private investment has risen steadily, while public investment has been declining since the 1980s. In comparing investment levels in China and India, Mishra (2006) highlights that an important difference is that India's sectoral growth pattern is more oriented toward services and is thereby less intensive in physical capital, although this might be poised to change.[14]

As is the case in China, it is plausible that further development of the domestic financial sector may prompt a decline in household and corporate savings rates, in response to greater availability of credit from the financial system. Even more strongly than in China, further financial development may also stimulate an expansion in investment, in view of the credit constraints faced especially by small- and medium-sized enterprises. In addition, financial development that is accompanied by further capital account liberalization will also stimulate a greater level of cross-border asset trade, with the acquisition of foreign assets by domestic households and enterprises and the domestic financial system intermediating international capital flows to domestic entities.

[13] Patnaik and Shah (2006) also highlight that the composition of external debt has shifted in recent years, with private debt and official government external debt in decline but the quasi-sovereign debt of parastatals increasing. A part of the quasi-sovereign debt is the State Bank of India debt, which is guaranteed by the government. The other part is non-resident Indian deposits in banks, which are not guaranteed, but the State has no track record of allowing non-trivial banks to fail.

[14] Kochhar et al. (2006) argue that the next phase of Indian development may require a higher level of physical investment to absorb low-skilled labor and improve public infrastructure.

3 Impact on the global financial system

Keeping in mind the framework set above, this section addresses a series of issues that have emerged concerning the impact of China and India on the global financial system. We group these issues into three broad questions that have already captured attention and, where relevant, highlight the differential impact of China and India on developed and developing countries.

3.1 How important are China and India as a destination for external capital?

The level and composition of China's and India's external liabilities are likely to change, especially as domestic financial reform and external liberalization deepen. As a benchmark, an increasing share of these countries in world GDP and world financial market capitalization should naturally see increasing capital inflows to these countries. In addition, we may expect to see some rebalancing in the composition of external liabilities. For China, reform of the domestic banking system and the development of its equity and bond markets may reduce its heavy reliance on FDI inflows as alternative options become more viable. A reduction in the relative importance of FDI may also be supported by moves to limit the generosity of the current incentives offered to foreign direct investors, which would attenuate FDI directly and through its attendant impact on round-tripping activity.[15] Finally, the expansion of domestic capital markets and reform of the banking system would also allow foreign-owned firms to draw on domestic funding sources.

With regard to India, recent moves to further liberalize the FDI regime may increase the relative importance of FDI inflows. However, the ability of India to attract FDI also depends on more widespread institutional reforms that improve the investment environment for foreign investors and encourage them to channel FDI into the country. A major barrier regarding the liberalization of debt inflows could be that opening up the capital account may threaten the government's ability to finance its fiscal deficits at a low interest cost. Under these conditions, further liberalization may be delayed until the domestic fiscal situation is further reformed.

3.2 How important are China and India as international investors?

The rapid pace of reserve accumulation can be interpreted, at the economic level, as the byproduct of a development strategy that seeks to promote export-led growth by suppressing appreciation of the nominal exchange rate. For the rest of the world, this has represented a beneficial terms-of-trade shock, with the increase in manufacturing exports from China leading to a reduction in relative prices and helping to moderate global inflation. For suppliers of inputs to China, the increase in export activity has generated an increase in demand, aiding producers of components in other Asian countries and commodity producers around the world.

[15] While current policy is strongly pro-FDI, one reason to believe that FDI incentives could be scaled back is provided by the increasing political concerns about excessive FDI inflows. At one level, this relates to the demands of farmers whose land has been appropriated to provide industrial sites for direct investors and others (mainly local real estate developers). At another level, domestic firms that compete with foreign direct investors complain about the favorable treatment accorded to external investors.

On the financial front, the high level of reserves acts as a subsidy that lowers the cost of external finance for the issuers of reserve assets—primarily, the US. In turn, this helps to keep interest rates lower than otherwise in these economies. Regarding the impact on other developing countries, the low global interest rates associated with high reserve holdings have also translated into a compression of spreads on emerging market debt, with the "search for yield" raising the attractiveness of emerging market destinations to international investors (International Monetary Fund 2006a, b).

There are several reasons to believe that the pace of reserve accumulation will start to decelerate. First, the accumulation of reserves comes at a significant opportunity cost in terms of alternative uses for these funds.[16] Since these countries comfortably exceed the reserve levels that are required to cover imports and debt obligations, the opportunity cost may be high relative to the insurance gains from building up reserves as a precaution against financial risks. Second, to the extent that inflows are not sterilized, the increase in domestic liquidity associated with reserve accumulation threatens the possibility of an asset and real estate price boom and misdirected lending in the domestic economy. Third, it is increasingly appreciated in China the potential benefits to rebalancing output growth toward expanding domestic consumption, which would raise living standards even faster and avoid the external protectionist pressures that have been building up in the US and Europe. Fourth, the move to a more flexible exchange rate system might reduce the pressure on the monetary authority to intervene in the foreign exchange market to maintain a de-facto fixed currency peg.

If reserve accumulation were to slow down, this would have several ramifications, other things constant. The removal of the interest rate subsidy would raise the cost of capital for the primary issuers of reserve assets. In turn, depending on the policy response, this may contribute to a reversal in global liquidity conditions, which may also adversely affect the supply of capital to emerging market economies. However, the final effects of changes in reserve accumulation on the international financial system are difficult to estimate and depend on the other changes that occur along with the deceleration in reserve accumulation, the external net positions, and their contribution to global imbalances. For example, looking only at reserves does not take into account the amount of capital absorbed by these countries from the international financial system and how that affects global returns.

To mitigate the opportunity cost of reserve accumulation, countries may also decide to redirect the excess reserves toward a more diversified portfolio of international financial assets, which might include the liberalization of controls on outward investment by other domestic entities.[17] For instance, Genberg et al. (2005) support the creation of an Asian Investment Corporation that would pool some of the reserves held by Asian central banks and manage them on a commercial basis,

[16] As an illustration, Summers (2006) assumes that these countries could earn a six percent social return on domestic investments; Rodrik (2006) compares the yield on reserves to the borrowing costs faced by these countries.

[17] Indeed, some redeployment of reserves has already occurred. For instance, China transferred $60 billion in reserves in 2004–2005 to increase the capital base of several state-owned banks. See also the discussion in European Central Bank (2006).

investing in a broader set of assets with varying risk, maturity, and liquidity characteristics. In related fashion, Prasad and Rajan (2005) have proposed a mechanism by which closed-end mutual funds would issue shares in domestic currency, use the proceeds to purchase foreign exchange reserves from the central bank, and then invest the proceeds abroad. In this way, external reserves would be redirected to a more diversified portfolio and domestic residents would gain access to foreign investment opportunities in a controlled fashion. Summers (2006) suggests that the international financial institutions may have a role to play in establishing a global investment fund that would provide a vehicle for the re-allocation of the excess reserves held by developing countries.[18]

The different strategies for reserve deceleration have varying implications for the rest of the world. First, to the extent that reserves are reallocated toward other foreign assets, this would have a positive impact on those economies that would benefit from the shift away from the concentration on the reserve assets supplied by a small number of countries toward a more diversified international portfolio. The capacity of emerging market economies (especially in Asia) to benefit from such a move depends on the policy response. At a domestic level, those economies that made the most progress in developing domestic capital markets and providing an institutional environment attractive to direct investors would benefit the most.[19]

Second, a slowdown in reserve accumulation associated with a policy package that promotes an increase in domestic absorption (for example, through higher domestic consumption in China and higher investment in India) and a re-orientation away from export-led growth would have other spillover effects on the rest of the world economy. In effect, this would increase the overall cost of capital for the world economy. But in this case, it is important not to overstate the initial impact of a deterioration in the current account balances of these countries, in view of their small current positions in the global distribution of external imbalances. Still, it is possible to construct scenarios in which these countries become significant net capital importers, as their share of world GDP increases and if their medium-term current account deficits settle down in the 2–5% range.

Third, if a shift in reserves accumulation is associated with a shift in exchange rate policy, a move toward greater currency flexibility would also have spillover effects on other countries. If this shift in exchange rate policy generates less inflows and less reserve accumulation, the effect on the cost of capital in other countries is difficult to predict: it would depend on how the inflows previously going to these countries become allocated elsewhere, vis-a-vis how reserves were invested. In addition, the effective Asian "dollar bloc" that has been formed by individual Asian economies each tracking the US dollar would be weakened by such a move. In its place, and political conditions permitting, it is plausible that smaller Asian economies would move to an exchange rate regime that sought to target a currency basket that places a higher weight on the Chinese renminbi in addition to the US

[18] A global fund may be superior to a regional fund to the extent that Asia may face common shocks such that all countries in the region may simultaneously wish to draw down assets.

[19] As discussed in Eichengreen and Park (2005) and Eichengreen and Luengnaruemitchai (2004), there is also room for regional cooperative policies—for instance, in developing a more integrated Asian bond market.

dollar. As such, the renminbi might start to play a role of one of the few world reserve currencies in the international financial system, so long as the capital controls are removed and the financial system consolidates. Similarly, the rupee could increase in importance as a partial anchor for other South Asian currencies.

Finally, we note that part of the cross-border capital flows observed for China and India reflect round-tripping activities by which domestic entities seek to take advantage of the tax and other advantages offered to foreign investors, in a context of high capital controls. To the extent that such differential treatment is eliminated in the future through further financial liberalization, the gross scale of the international balance sheets as currently measured would shrink.

3.3 What is the contribution of China and India to global imbalances?

The net foreign asset positions of China and India have improved sharply in recent years and are currently small in global terms. Moreover, the Chinese current account surplus has continued to increase, although India has returned to running a small current account deficit. In this sub-section, we discuss whether these patterns may turn out to be transitory.

Based on a combination of a calibrated theoretical model and non-structural cross-country regressions, Dollar and Kraay (2006) argue that liberalization of the external account and continued progress in economic and institutional reform should result in average current account deficits in China of 2 to 5% of GDP over the next 20 years, with the net foreign liability position possibly reaching 40% of GDP by 2025.[20] Indeed, any general neoclassical approach would predict that China should be a net liability nation, since productivity growth and institutional progress in a capital-poor country offering high rates of return should at the same time boost investment and reduce savings. While no similar study exists for India, similar reasoning applies—greater capital account openness and continued reform should mean that India might run persistently higher current account deficits during its convergence process.

If the neoclassical predictions about the impact of institutional reform and capital account liberalization in China and India take hold, a sustained current account deficit of the order of 5% of GDP per annum would soon become significant in terms of its global impact. Clearly, the global impact of current account deficits of this absolute magnitude would represent a major call on global net capital flows. Of course, the feasibility of deficits of this magnitude requires that there are countries in the rest of the world that are willing to take large net creditor positions. If this is not the case, the desired savings and investment trends will translate into higher world interest rates rather than large external imbalances.

Although a neoclassical approach predicts that these countries could run much larger current account deficits, there is substantial disagreement about these predictions. Critics argue that the neoclassical predictions do not take into account several factors that are unique to China and India and explain the recent past and

[20] The natural evolution is that the scale of current account deficits will taper off and, if these countries become rich relative to the rest of the world, this phase may be followed by a period in which these countries become net lenders to the next wave of emerging economies. See also Summers (2006).

distinctive nature. Importantly, several studies suggest that savings rates are likely to remain high in China and India. For instance, Fehr et al. (2007) interpret China's recent savings behavior as indicative of a low rate of time preference and suggest that China will remain a large net saver. Based on household survey data, Chamon and Prasad (2005) make demographic projections and predict higher household saving rates over the next couple of decades. Finally, Kuijs (2006) argues that structural factors mean that savings and investment rates in China will decline only mildly in the decades ahead. With respect to India, Mishra (2006) argues that in the future the upward trend of Indian saving rates will continue. For instance, India's working age population as a percentage of total population is expected to peak in 2035, much later than for other Asian economies.

While demographic considerations may mean that savings rates are unlikely to plummet, it is plausible that further domestic financial development and capital account liberalization will induce a downward adjustment in the savings rate. For instance, Chamon and Prasad (2005) point out that the savings rate (especially for younger households) could decline if the growing demand for consumer durables were to be financed through the development of consumer credit. This would be reinforced by the liberalization of controls on capital flows, which would provide greater competition in the domestic financial sector and more opportunities for risk diversification, leading to more lending and less savings. In addition, there are recent indications that China plans a range of policy initiatives to raise the domestic level of consumption.[21] Moreover, in both countries, improvements in social insurance systems and the provision of public services would reduce over time the self-insurance motivation of high savings rates.

To project the net position, it is important to also consider the prospects for the level of investment. In China and India, a combination of an improvement in domestic financial intermediation and capital account liberalization would raise the attractiveness of these countries as a destination for external capital and enhance the ability of domestic private firms to pursue expansion plans.[22] In the Indian case, a primary driver of larger current account deficits could be a higher rate of public investment, in view of the deficiencies in the current state of its public infrastructure.

In terms of net positions, Dooley et al. (2003) argue that it is possible to rationalize persistent current account surpluses by appealing to the reduction in country risk that may be associated with the maintenance of a net creditor position. However, even if such an externality effect is present, it may not survive a liberalization of controls on capital flows, in view of the powerful private incentives to invest more and save less.

In sum, our projection is that, all else equal, a combination of further domestic financial development and capital account liberalization will unleash forces that induce larger net resources flows into China and India. While this projection seems

[21] See the media coverage of the March 2006 Party Congress.

[22] In view of the high level of inefficient investment in China, it is plausible that corporate governance reforms and higher dividend payouts (together with domestic financial deepening and external liberalization) could lead to a reduction in the absolute level of investment in tandem with a decline in the level of enterprise savings. With an increase in market-driven investment and a decline in savings, the prediction of an increased current account deficit would still hold.

quite robust as a qualitative level, we recognize that other forces may operate in the other direction. In particular, a stalling of the reform process in either country would reduce the impetus for greater net inflows. Moreover, even if market-oriented reform continues, the relative pace of demographic change in China and, at a later date, in India will be an important force toward a more positive net external position. However, even in that case, the composition of capital flows will be radically different than the current pattern, with the net balance the product of much larger gross inflows and gross outflows.

4 Conclusions

In this paper, we have studied the impact of China and India on the international financial system by examining and comparing both countries, analyzing different aspects of their international financial integration, and linking the patterns in their international balance sheets to policies regarding their domestic financial systems. Given the evolution and probable changes in their domestic financial sectors, this analysis is relevant in projecting the future evolution of the international financial system.

The main current international financial impact of India and particularly China has been in their accumulation of unusually high levels of foreign reserves. Another salient aspect of their integration is the asymmetry in the composition of their gross assets and liabilities. Their assets are low-return foreign reserves, which are liquid and protect them against adverse shocks, but they carry a high opportunity cost. Their liabilities are FDI, debt, and portfolio equity, which typically yield higher rates of return. FDI has been relatively more important in China, with portfolio investment taking a lead role in India. Despite recent attention and concerns regarding their effects on developing countries, China and India do not seem to have been crowding out investment elsewhere and, despite a recent acceleration in activity, are not yet major accumulators of non-reserve foreign assets. A striking aspect of their integration has been the reduction in their net liability positions, defying neoclassical predictions that they should be running large current account deficits given their level of development. Whether the shift in China's and India's net positions is transient or permanent is a central issue in assessing their effect on the international financial system.

The evolution of China's and India's domestic financial systems (including their exchange rate and capital account liberalization policies) is essential to understand their impact on the international financial system. As both China and India are likely to undergo further financial development and liberalization, these countries are set to have an ever-increasing role in the international financial system. We project that the nature of their international financial integration is likely to be reshaped. At one level, the composition of the international balance sheet will become less asymmetric—with a greater accumulation of non-reserve foreign assets and a more balanced distribution of foreign liabilities between FDI, portfolio equity, and debt. This rebalancing should be good news for developing countries that may receive a greater share of the outward investment flows from China and India. At another level, there is a strong (but not undisputed) prospect that these countries might experience a sustained period of substantial current account deficits. In view of their

increasing share in global output, the prospective current account deficits of China and India may be a central element in the next phase of the "global imbalances" debate. If this scenario plays out, other potential borrowers will receive smaller net capital flows and/or face a higher cost of capital.

The future developments are, as always, difficult to predict and will depend on other factors (like distinct demographic trajectories and economic reforms), domestic policy options, and the international environment. Key aspects to monitor when analyzing the possible paths that China and India may pursue (and their impact on the international system) include the following elements. First, it is essential to watch what approach these countries adopt regarding their exchange rate policy, particularly in light of the sustained appreciation pressure (from the market and the international political environment). While significant appreciation may be resisted in the short run by further reserve accumulation, this is increasingly costly and may compromise other policy objectives. Second, a sharp correction in the US dollar vis-à-vis other major currencies may act as an external trigger for a switch to greater exchange rate flexibility in China and India, as the renminbi and the rupee would become (more) undervalued relative to those major, relevant currencies. Indeed, concerns about such a correction may also prompt these countries to alter the currency composition of reserves, affecting interest rates and possibly exchange rates (at least in the short run). A third key component to monitor is how fast these countries substitute reserve holdings for other assets abroad. To the extent that the international environment keeps being favorable, it is likely that some of the proposals to shift away from traditional reserve holdings start to materialize. Fourth, a fully-fledged liberalization of capital controls remains unlikely in the short to medium term, in view of the outstanding weaknesses in coping with unrestricted debt flows. However, it is likely that these countries will continue to liberalize their financial sectors, with implications for the composition of their international balance sheets and net foreign asset positions. The exact form of this liberalization process, its timing, and its pace are still to be determined and will remain a subject of attention. For all these reasons, we anticipate that the international financial integration of China and India is set to undergo significant reshaping in the years to come.

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Appendix

Table 3 Brief chronology of China's financial liberalization since 1990

Date	Details
1990	Shanghai Securities Exchange was officially recognized
April 1990	An amendment to the law on Chinese foreign equity joint ventures, stipulating that the State would not nationalize joint ventures, simplifying the approval procedures for new foreign investment enterprises, and extending the management rights of foreigners was passed
May 1990	Shanghai was opened to FDI, with tax incentives similar to special economic zones. The State Council issued regulations for the sale and transfer of land use rights in cities and towns to encourage foreign investors to plan long-term investment. Shenzhen Stock Exchange was officially recognized
1991	Shenzhen Stock Exchange was officially recognized
April 1991	The tax of 10% on distributed profits remitted abroad by foreign investors in foreign funded enterprises was eliminated, unifying the tax rates on Chinese foreign joint ventures and entirely foreign enterprises. Also, more tax benefits were given to priority industrial sectors
1992	The B-share market was launched
March 1992	Foreign investment was further liberalized, with the opening of a large number of in-land and border areas
July 1993	Qingdao Beer was the first Chinese firm to list in the Hong Kong Stock Exchange
1997	Financial institutions were allowed to issue bonds in international markets with SAFE approval
February 1999	A private Chinese firm was listed abroad for the first time
February 2001	Domestic investors were allowed to purchase B shares with existing foreign currency deposits
June 2001	Domestic investors were allowed to purchase B shares with new foreign currency deposits
September 2001	Restrictions were liberalized on purchases of foreign exchange for advance repayments of loans and debts
April 2002	A new four-tier classification was introduced, defining sectors in which foreign investment is encouraged, permitted, restricted, or banned. As a result, sectors that were previously closed to foreign investment were opened
December 2002	Qualified foreign institutional investors were allowed to purchase A shares, subject to restrictions
January 2003	Permission from the SAFE was no longer required for domestic residents to borrow foreign exchange from domestic Chinese financial institutions
November 2003	In some provinces and regions, the limit on outward direct investment was raised to $3 million, from $1 million
2004	Insurance companies were allowed to use their own foreign exchange to invest in international capital markets
January 2004	The asset requirements for Hong Kong (China) banks to open branches in mainland China were lowered to $6 billion, from $20 billion. Other restrictions on Hong Kong banks were eased too
June 2004	Domestic foreign-funded banks were not permitted to convert debt contracted abroad into RMB, and were not allowed to purchase foreign exchange for servicing such debts. Capital remitted through FDI could only be converted to RMB upon proof of domestic payment
December 2004	Foreign heirs were allowed to take inheritance out of the mainland. Emigrants were allowed to take legally obtained personal assets with them
2005	A foreign company was listed in the Shanghai Stock Exchange for the first time.
February 2005	Domestic residents were allowed to set up companies abroad to facilitate round-tripping investment or overseas financing (issuing bonds and stocks). This made it easier for private firms to access international capital markets and for

Table 3 (continued)

Date	Details
	foreign investment banks/funds to provide financial services to Chinese firms
April 2006	The People's Bank of China announced the qualified domestic institutional investor (QDII) program, under which mainland Chinese financial institutions are allowed to invest in offshore securities. It stipulated that: (1) qualified banks may assemble the funds in domestic currency from domestic institutions and individuals and invest these funds in fixed income products in international market, (2) qualified security firms may assemble funds from institutions and individuals and invest in international capital market including stocks, and (3) insurance companies may invest in foreign fixed income and monetary instruments

Sources: Prasad and Wei (2007) and Zhao (2006)

Table 4 Brief chronology of India's financial liberalization since 1990

Date	Details
July 1991	The government abolished the industrial licensing system, except in 15 critical industries, and reduced the number of industries reserved to the public sector from 17 to 6. Government approval for the expansion of large firms was no longer necessary, including foreign firms. Foreign firms were allowed major shareholding in joint-ventures, and foreign investment up to 51% of equity in 35 priority industries received automatic approval. The new investment policy also spelled more incentives to attract FDI from non-resident Indians, including 100% ownership share in many sectors and full repatriation of profits
1992	The Security and Exchange Board of India (SEBI) Act was passed: the SEBI became operational as an independent regulator
September 1992	Foreign institutional investors (FIIs) were given permission to participate in the Indian market. One FII could own up to five percent of a firm, and all FIIs combined could own 24 percent. A minimum of 70 percent investment in equities was required. FIIs had to have at least 50 investors
1994	The National Stock Exchange (NSE) began trading bonds in June, and equity in November. Differentiating features of the NSE included: equal access to all traders in a vast geographical area, a competitive market in security intermediation, electronic matching of trades on the basis of price-time priority, anonymous trading followed by guaranteed settlement, and a more independent corporate governance structure (not an association of brokers)
November 1996	"One hundred percent debt FIIs" were permitted. These were allowed to buy corporate bonds, but not government bonds
April 1997	The ceiling upon total ownership by all FIIs of a firm was raised from 24% to 30 percent. A shareholder resolution was required
April 1998	FIIs were permitted to invest in government bonds, with a ceiling upon all FIIs put together of $1 billion
June 1998	The ceiling upon ownership by one FII in one firm was raised from five percent to ten percent. FIIs were permitted to partially hedge currency exposure risk using the forward market. FIIs were permitted to trade equity derivatives in a limited way
August 1999	The requirement that FIIs must have at least 50 investors was eased to 20 investors.
February 2000	Foreign firms and individuals were permitted access to the Indian market through FIIs as "subaccounts." Local fund managers were also permitted to do fund management for foreign firms and individuals through subaccounts. The requirement that no investor was allowed to have more than 5% of an FII was eased to 10%
March 2000	The ceiling upon total ownership by all FIIs of a firm was raised from 30 to 40%. A shareholder resolution was required
March 2001	The ceiling upon total ownership by all FIIs of a firm was raised from 40 to 49%. A shareholder resolution was required

Table 4 (continued)

Date	Details
September 2001	The ceiling upon total ownership by all FIIs of a firm was raised from 49% to "the sectoral cap for the industry." A shareholder resolution was required
January 2003	Limitations upon FIIs hedging using the forward currency market were removed
December 2003	Twin approvals for FIIs at both SEBI and RBI were replaced by single approval at SEBI
November 2004	A new ceiling upon total ownership by all FIIs of corporate bonds was placed at $0.5 billion
February 2006	The ceiling upon ownership of government bonds by all FIIs was raised to $2 billion, and the ceiling upon ownership of corporate bonds by all FIIs was raised to $1.5 billion

Source: Patnaik and Shah (2007), Sharma (2000), and Thomas (2005)

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