The International Balance Sheets of China and India

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Abstract

We provide a comprehensive profile of the international balance sheets of China and India. We describe their net foreign asset positions, gross holdings of foreign assets and liabilities, external capital structure and bilateral investment patterns. In addition, we analyse the likely future evolution of their international financial integration and discuss some policy issues faced by these countries as they integrate further with the global financial system.

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1 Introduction

The goal of this study is to provide an empirical profile of the extent of the international financial integration of China and India. These countries have grown rapidly in recent years and reasonable projections signal that these countries will come to match the United States, European Union and Japan as global economic powers in the coming decades (Wilson and Purushothaman 2003). While the rapid integration of these countries into the world trading and production systems has received wide coverage, there is also increasing attention paid to their growing importance in the global financial system. Beyond the current scale of two-way capital flows, it is anticipated that further progress in liberalizing the domestic financial sectors and the external capital account in these countries will generate a much higher degree of cross-border asset trade.

Accordingly, it is important to gain an empirical understanding of the current level of involvement of China and India in the international financial system and assess how this may evolve over time.[1] In this paper, we take a volume-based approach by studying the level and composition of the foreign assets and liabilities held by these countries.[2] There are several dimensions to consider in examining international financial integration. First, what are the net positions of these countries? Second, how large are their gross holdings of foreign assets and liabilities? Third, what is the external capital structure, in terms of the composition of the international balance sheet between foreign debt (portfolio, other, reserves) and foreign equity (portfolio and FDI) assets and liabilities? Fourth, what are the geographical patterns in the distribution of cross-border holdings?[3] Fifth, what is the

[1] Lane and Schmukler (2006) analyze the implications of the international financial integration of China and India for the global financial system.

[2] A complementary approach is to examine price-based measures of international financial integration. See, for example, Cheung et al (2003).

[3] It would also be useful to know the sectoral composition of foreign assets and liabilities and the identities of the agents (banks, other financial institutions, firms, households, the government) that hold these instruments. We do not address these dimensions in any great detail in this paper.

currency composition?

The first question is important in terms of understanding the configuration of global imbalances and the net impact of China and India on the global allocation of savings and investment. The second and third questions are relevant in understanding the operation of capital markets, the scope for international risk sharing and the role of valuation effects in driving the net external position. The fourth question is required in assessing the strength of bilateral international economic linkages. Finally, the fifth question is helpful in assessing the potential balance sheet impact of a shift in exchange rates.

To address these questions, we exploit the information in a number of recently-developed datasets on financial globalization. First, Lane and Milesi-Ferretti (2006) construct estimates of the level and composition of foriegn assets and liabilities for 145 countries over 1970-2004.[4] This near-global coverage allows us to provide a cross-country comparative context for the international financial integration of China and India. Second, the Bank of International Settlements (BIS) provides very useful data on international securities trade and the cross-border claims and liabilities of the banks from its reporting countries; in particular, it provides important insights into the currency composition of international financial holdings. Third, the International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS) provides detailed data on bilateral patterns in cross-border portfolio debt and equity positions. Fourth, we make use of national sources to build a profile of the geographical distribution of FDI positions.[5]

The structure of the rest of the paper is as follows. In section 2, we provide a comprehensive description of the current extent of the international financial integration of China and India across the dimensions described above. In section 3, we address the likely future evolution of capital flows to and from these countries under the baseline assumption that

[4]This work builds on the earlier contribution of Lane and Milesi-Ferretti (2001a).

[5]At least for accumulated stock positions, we found the OECD FDI cross-country dataset to have inadequate coverage.

these countries will continue to make progress in developing their domestic financial systems and liberalizing the external capital account. Section 4 briefly addresses some policy issues that arise in the transition to a greater degree of international financial integration. Finally, some concluding remarks are offered in section 5.

2 The International Balance Sheets of China and India: A Profile

Our goal in this section is to quantify the importance of the external assets and liabilities of China and India. We begin by describing the evolution of the net foreign asset positions of these countries. Next, we quantify the gross scale of their foreign assets and liabilities, relative to their output levels and also global aggregate levels of cross-border holdings. We then turn to the composition of their international balance sheets between FDI, portfolio equity, debt and official reserves, with some coverage also of currency composition. Finally, we examine the bilateral patterns in their external assets and liabilities.

2.1 Net Foreign Asset Positions

Figure 1 shows the evolution of the net foreign asset positions of China and India over 1985-2004. Both countries display a V-shaped pattern - net external liabilities grew during the early 1990s but the net foreign asset positions have continuously improved since the middle of the 1990s. By 2004, China was a significant net creditor at 8 percent of GDP, with India a net debtor at -11 percent of GDP.[6] In terms of global imbalances, Table 1 shows that China was the world's tenth largest creditor in 2004, while India was the seventeenth largest debtor. In absolute terms, both imbalances are relatively small - the

[6]For convenience, I use the terms 'net creditor' and 'net debtor' interchangeably with positive and negative net foreign asset positions respectively.

Chinese creditor position amounts to only 7.4 percent of the level of Japanese net foreign assets, while Indian net liabilities are only 2.8 percent of US net external liabilities.

Taking another perspective, the 2004 cross-section of net foreign asset positions for the group of developing countries is shown in Figure 2 . The chart shows that both China and India have more positive net foreign asset positions than is typical for countries at their levels of output per capita. That said, it is also true there is considerable dispersion in the distribution of net foreign asset positions among developing countries - China and India are by no means extreme outliers.

2.2 International Financial Integration

Figure 3 records the scale of gross cross-border asset and liability positions for China and India, using the metric[7]

$$IFIGDP_{it} = 100 * \left(\frac{FA_{it} + FL_{it}}{GDP_{it}} \right) \tag{1}$$

where FA_{it}, FL_{it} refer to foreign assets and foreign liabilities respectively - the $IFIGDP$ ratio is the analog to measuring trade openness by the volume of exports and imports relative to GDP. Figure 3 shows that the extent of international financial integration was in fact slightly higher in India than in China in the mid-1980s but that cross-border assets and liabilities subsequently grew much more quickly in China than in India during the 1990s. However, there has been a noticeable uptick in the $IFIGDP$ index for India since 2002, resulting in a narrowing of the gap vis-a-vis China.

Figure 4 shows the distribution of the $IFIGDP$ index across the developing countries at the end of 2004. According to this aggregate measure, the extent of international financial integration is unusually low in both China and India compared to other countries with similar levels of output per capita.

[7] See Lane and Milesi-Ferretti (2003) regarding the origins of this volume-based measure of international financial integration.

Figures 5 - 13 provide further information concerning the position of China and India in the cross-section of developing countries in specific asset/liability categories. Taking first aggregate foreign liabilities, Figure 5 shows that both China and India have relatively low levels of foreign liabilities (relative to domestic GDP) when compared to other developing countries. In terms of the the various components of foreign liabilities, Figure 6 shows that China is in fact about average in terms of the ratio of FDI liabilities to GDP, whereas this ratio is remarkably low for India. The situation is sharply different for portfolio equity liabilities - Figure 7 shows that India has a very high level of portfolio equity liabilities for its level of development, whereas China is clustered with a large group of countries that have trivially small positions in this category. Finally, Figure 8 shows that China and India have below-average levels of external debt liabilities among the group of developing countries.[8]

In terms of gross foreign asset holdings, Figure 9 shows that India and China have relatively small aggregate positions, while Figures 10-11 show that this is especially the case for equity-type categories. Private debt assets are also relatively small, as is shown in Figure 12, but Figure 13 shows that the ratio of external reserve assets to GDP are about average for these countries.

We next turn to the importance of China and India relative to global cross-border holdings in the various asset categories - even if cross-border positions are relatively low relative to domestic GDP, the scale of the Chinese and Indian economies means that the absolute size of these holdings may be significant. Figure 14 shows that Chinese FDI liabilities are about 4 percent of global FDI liabilities, while Indian FDI liabilities represent only about 0.4 percent. The Chinese share has increased rapidly since the early 1990s but, despite high recent inflows, has actually declined since 2001 - one reason is that the relative

[8] Unlike the other categories, there is a negative correlation between output per capita and the ratio of external debt liabilities to GDP. This is likely driven by the reliance of low-income countries on official debt flows.

value of FDI positions outside the dollar bloc has increased in line with the weakness of the dollar since 2001. However, in terms of FDI flows, China is a key destination - it absorbed 7.9 percent of global FDI flows in 2003-2004 (India's share was 0.8 percent). With respect to portfolio equity liabilities, China and India each account for just over 0.5 percent of global portfolio equity liabilities. In terms of flows, China received 1.94 percent of global equity flows during 2003-2004, while India received 1.79 percent.

Figure 15 records that the Chinese and Indian shares in global external debt liabilities have both sharply declined in recent years - China now accounts for 0.65 percent and India 0.35 percent. The decline is especially noteworthy for India, which was a much more important international debtor in the early 1990s.

We turn to the asset side of the international balance sheet in Figures 16-18. Relative to Figure 14, Figure 16 shows that China and India are much less important as external investors in equity assets that as providers of equity liabilities. The relative insignificance of India and China as outward direct investors is also highlighted in UNCTAD's *World Investment Report 2005* which ranked India and China as 54th and 72nd out of 132 countries in terms of outward FDI over 2002-2004 and reported that China had only five firms and India only one firm in the top fifty transnational corporations from developing countries.[9]

In contrast, Figure 17 shows that these countries are significant holders of external debt assets. In turn, Figure 18 illustrates that external debt asset holdings largely reflect the high importance of foreign exchange reserves - by 2004, China was the second largest holder of external reserves with a 15.8 percent share of global reserve assets, with India sixth at 3.3 percent.

[9] The Chinese and Indian firms listed were primarily drawn from the petroleum sector.

2.3 External Capital Structure

In this subsection, we first consider the net debt and net equity positions of China and India. Next, we examine the debt and equity shares in foreign assets and liabilities. Finally, we consider some evidence on the currency composition of the debt liabilities of these countries.

2.3.1 Net Debt and Net Equity

As is emphasised by Lane and Milesi-Ferretti (2006a), most advanced countries (with the important exception of Japan) are "long in equity, short in debt", while developing countries typically are "short in equity," with the net debt positions of developing countries split between positive and negative values. Figure 19 shows that China displays a "fan-type" evolution, with growing net equity liabilities (mostly FDI) matched by a corresponding increase in positive net debt assets (mostly external reserves). As is shown in Figure 20, India has followed a similar pattern since the mid-1990s (although, as previously noted, its equity liabilities are more heavily skewed towards portfolio equity than in the Chinese case) - before that date, net debt had been growing quickly.

2.3.2 Debt and Equity Shares in Foreign Assets and Liabilities

Figure 21 shows the debt-equity mix on each side of the balance sheet. Figure 21 shows that the foreign asset portfolios of China and India are dominated by debt assets, which represent portfolio shares of 95 and 93 percent respectively. As is also shown in Figure 21, there has been a marked decline in the relative importance of debt liabilities in both countries - but with India still much more reliant than China on debt financing.

In terms of the mix of FDI and portfolio categories in equity positions, Figure 22 shows that FDI dominates both sides of the balance sheet for China, whereas the Indian data show that FDI is also the dominant category for foreign equity assets but that portfolio equity is more important for foreign equity liabilities (although FDI is also non-trivial in

that category).

2.3.3 Currency Composition of Debt Liabilities

Some insight into the currency composition of debt liabilities can be obtained from BIS data on the currency composition of international bond issues.[10] Figure 23 shows the evolution for China - the dollar is the predominant issuing currency (primarily the US dollar but the Hong Kong dollar is also employed), with the euro taking a minor role and the yen much less important than it was in the 1980s and early 1990s. A very similar pattern is shown for India in Figure 24.

Table 3 provides data on the currency composition of the liabilities of China and India to banks from fifteen countries that report banking positions to the BIS.[11] For China, the US dollar is the dominant currency at a 90 percent share, with the Japanese yen the only other non-trivial currency at 6.9 percent. The US dollar is also the most important currency for Indian liabilities to the reporting banks at 71.8 percent but Sterling is also significant at 17.3 percent and the euro accounts for a further 10.1 percent.

2.4 Bilateral Composition of Foreign Assets and Liabilities

In this subsection, we first consider the geographical patterns in FDI. Next we turn to bilateral positions in portfolio equity and portfolio debt securities, before turning to some data on the composition of the assets and liabilities held by BIS reporting banks. Finally, we conduct some regression analysis of the correlates of bilateral liability positions in these various categories.

[10] During 2000-2004, outstanding international bonds represented 1.5 percent of Chinese GDP, and 0.9 percent of Indian GDP.

[11] The BIS dataset contains information on liabilities in each country's domestic currency plus liabilities that are denominated in other currencies. For the purpose of this table, we assume that the dollar is the foreign currency of denomination in the latter case.

2.4.1 Foreign Direct Investment

The composition of Chinese FDI liabilities is presented in Table 6. As is well known, Hong Kong is the largest source of FDI for China, with a 45 percent share. In total, Asian economies account for 66.3 percent of Chinese FDI liabilities, with Taiwan POC, Japan, Singapore and Korea being the major other Asian investors. Outside Asia, the direct shares of the United States and the EU-15 are 8.9 and 7.8 percent respectively, although FDI from these regions may also be indirectly routed through offshore centers such as the British Virgin Islands and the Cayman Islands.

Table 7 documents the FDI shares for the major investors in India. Mauritius takes by far the largest share at 35.6 percent. The scale of this position may reflect round tripping and/or the use of Mauritius as a local entry point by investors from other countries. The collective European share is 28.6 percent, with the United States taking 16.5 percent. Among the other Asian countries, Japan has the largest share, with Singapore and Korea also significant (excluding Mauritius, the collective Asian share is 14.3 percent). In general, the pattern in Indian FDI liabilities is quite different to the Chinese case, with much stronger linkages to the major industrial nations.

The geographical distribution of Indian FDI assets is shown in Table 8.[12] The most important destination is Russia, followed by the United States. In general, Table 8 underlines the role played by offshore centers in intermediating FDI flows.

2.4.2 Portfolio Investment

Table 4 reports the bilateral composition of the portfolio liabilities of China and India, as derived from the International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS) that incorporates data on the portfolio investment positions of 67 reporting coun-

[12] In the next draft, we hope to include data on the distribution of Chinese FDI assets.

tries.[13] One key message from Table 4 is that a large proportion of portfolio investment is channelled via key offshore financial centers - Hong Kong is the source of about one third of the portfolio equity and debt liabilities of China, while Mauritius plays a similar role in Indian portfolio liabilities. In both cases, this may largely reflect round tripping by domestic investors that wish to take advantage of favorable treatment accorded to non-resident entities; these centers may also act as the local bridge for investment allocations by global investors.

A second characteristic of the bilateral patterns is that the US and Europe are much more important for portfolio equity positions than portfolio debt, with Asian (Japan and Singapore) investors correspondingly more important for debt than for equity - this is particularly the case for Indian portfolio liabilities. For Indian portfolio equity liabilities, the US has nearly twice the share of European Union countries, whereas the gap is much smaller with respect to China. With respect to portfolio debt liabilities, the European Union has a larger share than the US, particularly in the Indian case.

2.4.3 Bank Holdings

Table 5 shows the foreign assets and liabilities of China and India vis-a-vis banking institutions in fifteen BIS reporting countries. This coverage is limited - Japan and Hong Kong are the only Asian countries represented in the BIS dataset that is available - but provides some indication of the geographical patterns in bank positions vis-a-vis China and India. The bilateral data are reported on the locational principle - if a US bank makes a loan to a Chinese entity via a Hong Kong subsidiary, that is regarded as a loan from Hong Kong to China.[14]

For China, Table 5 highlights the dominant role of Hong Kong among the group of

[13] It would be desirable to report data on the geographical allocation of the portfolio assets of China and India - I am still seeking these data (these countries do not participate in the CPIS).

[14] Ideally, it would be desirable to also examine the bilateral data on a consolidated basis.

reporting countries included in the sample. The UK is the next largest bank creditor, with "Other Europe" and Japan taking smaller positions. In terms of the claims of Chinese residents on the reporting banks, Hong Kong is the majority destination with the UK, "Other Europe" and Japan taking roughly equal shares. Among the reporting countries, Indian liabilities are predominantly to UK banks, with "Other Europe" also significant. On the other side of the balance sheet, "Other Europe" is slightly ahead of the UK as a destination for Chinese assets, with Hong Kong also important with a nearly 20 percent share. Finally, Table 5 also reveals that the US has trivially small direct banking linkages with China and India - presumably, banking with these countries is conducted through affiliates (especially in Hong Kong).

2.4.4 Determinants of Bilateral Investment Patterns

In this subsection, we report some basic regressions that seek to identify the correlates of bilateral inward investment patterns for China and India. We employ the specification

$$\log X_j = \alpha + \beta_1 \log(GDP_j) + \beta_2 \frac{TRADE_j}{GDP_j} + \beta_3 \log(DIST_j) + \beta_4 STDEV(ER_j) + \varepsilon_j \quad (2)$$

where X_j is the level of investment by country j in China (India) in a given category, GDP_j is included as a scaling factor, $TRADE_j/GDP_j$ is the ratio of trade with China (India) to GDP, $DIST_j$ is distance from the destination and $STDEV(ER_j)$ is the degree of bilateral nominal exchange rate volatility between country j and the destination.[15]

The results for China are shown in Table 9. The FDI regression is reported in column (1) - the level of FDI investment into China is approximately proportional to the GDP of the source country, is positively correlated with the importance of bilateral trade with

[15] Taking the log of the dependent variable means that we exclude those countries that have a zero investment position in China (India). While explaining the $(0, 1)$ entry decision is itself interesting, we focus here on explaining variation in investment positions among those countries with a positive level of investment in China (India).

China and negatively correlated with distance.[16] In contrast, we find no role for bilateral exchange rate volatility in explaining FDI patterns.

We turn to the portfolio equity category in column (2). While the level of portfolio equity investment again varies with scale, trade linkages and distance have no explanatory power in this case. However, in contrast to the results for FDI, the exchange rate variable is now highly significant - portfolio equity investment is positively associated with a stable exchange rate vis-a-vis the yuan. All variables prove to be significant in the regression for long-term debt securities in column (3) - however, the trade variable has a negative sign, contrary to expectations. Finally, column (4) reports the results for the liabilities of China to BIS reporting banks. The small size of the sample (15 countries) may help to explain the general lack of individual significance of the regressors - only the trade variable is even marginally significant, although all variables have the expected sign.

Table 10 reports the findings for India. The results for the FDI regression in column (1) are qualitatively similar to those for China. However, the distance and trade variables are not individually significant, whereas exchange rate volatility is now significantly associated with a lower level of bilateral FDI. The portfolio equity regression in column (2) is also similar to the Chinese case - in particular, it is those countries that have stable bilateral exchange rates against the rupee that have the largest portfolio equity positions in India. However, the regressors have little explanatory power in the regressions for portfolio debt securities and BIS liabilities in columns (3) and (4). Regarding portfolio debt, this undoubtedly reflects the special role of Mauritius as a source of portfolio debt investment; for BIS liabilities, the colonial link to the UK may be the dominant factor.

[16] Of course, the level of bilateral trade may be endogenous to the level of FDI - the regression does not establish the line of causality.

3 The Future Evolution of Capital Flows

In sections 2-5, we have developed a profile of the position of China and India in the matrix of international financial assets and liabilities. On the liabilities side, we have seen that China and India have been relatively minor absorbers of external capital, with the exception of FDI flows into China. On the assets side, these countries are relatively unimportant on the global stage, with the important exception of the official reserves category. In terms of net accumulated positions, neither country is a major contributor to global imbalances if compared to the major creditor and debtor nations such as Japan and the United States.

However, it is clear that these countries will in the future loom much larger in the international financial system. First, projections for GDP growth in these countries mean that their share of world GDP will rise quickly in future years. For instance, Goldman Sachs (2005) estimates that Chinese dollar GDP will be 8.8 percent of G-7 dollar GDP in 2006, 14.5 percent in 2011, 21.1 percent in 2016 and 44.7 percent in 2031. The corresponding values for India are 2.8 percent, 3.8 percent, 5.2 percent and 13 percent. (The full projections out to 2050 are displayed in Figure 25.) Second, reforms in the domesic financial sectors of these countries plus further liberalisation of their capital accounts will enable a greater degree of cross-border asset trade.

Accordingly, the goal in this section is to provide an assessment of how the international financial integration of China and India will proceed in the coming years.

3.1 Net Foreign Asset Positions

Based on a combination of a calibrated theoretical model and non-structural cross-country regressions, Dollar and Kraay (2005) 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 2-5 percent of GDP over the next twenty years. Indeed, any general neoclassical approach would predict that China should be a net debtor nation, since

productivity growth and institutional progress should at the same boost investment and reduce savings.[17] A sustained current account deficit of the order of 5 percent of GDP per annum would become significant in terms of its global impact - while not as big as the magnitude of the current US deficit relative to global output, the increase in China's GDP relative to the rest of the world means that it would reach 25 percent of this level by 2010 and 50 percent by 2025.

While no similar study exists for India, similar reasoning applies - greater capital account openness and continued reform could mean that India runs persistently higher current account deficits during its convergence process. If we take the 5 percent of GDP baseline for the the current account deficit and make a similar calculation to that performed for China, this implies a current account deficit of 6 percent of the current US deficit by 2010 and 13 percent by 2025. Taken together, current account deficits of this scale by China and India would reach 31 percent of the current US deficit by 2010 and 63 percent by 2025. Clearly, the global impact of current account deficits of this absolute magnitude would represent a major call on global net capital flows.

Although a neoclassical approach predicts that these countries could run much larger current account deficits, much uncertainty surrounds these predictions. For instance, especially in the Chinese case, inadequate domestic reforms could serve to keep savings rates high. Moreover, as has been emphasized by Dooley et al. (2003), it is possible to rationalize persistent current account surpluses by appealing to the reduction in sovereign risk that may be associated with the maintenance of a net creditor position. However, the maintenance of such surpluses may not survive a liberalisation of controls on capital flows, in view of the powerful private incentives to invest more and save less.

[17] Indeed, the development experience of some other Asian nations has involved considerable current account deficits. For instance, the current account deficits of Korea and Singapore averaged 5.0 percent and 14.4 percent respectively during 1970-1982, with the net foreign liabilities of the former peaking at 44.2 percent of GDP in 1982 and the latter at 54.2 percent of GDP in 1976.

3.2 International Financial Integration

Figure 4 showed that increases in output per capita are associated with an increase in the cross-border financial trade in the cross-section of developing countries; it also showed that China and India have low levels of international financial integration for their current levels of output per capita. Lane and Milesi-Ferretti (2003) examined the dynamics of international financial integration for a panel of industrial countries and found that increases in trade openness, rising output per capita, domestic financial deepening and rising stock-market capitalization were associated with increases in the $IFIGDP$ ratio.[18] For these reasons, it is reasonable to expect that the scale of cross-border holdings will rise in China and India as economic and financial development progresses. In 2004, the $IFIGDP$ ratio for the United States was 191 percent, while the ratio stood at 103 percent and 58 percent for China and India respectively - in crude terms, this suggests that there is capacity for the growth rate of cross-border holdings to exceed the GDP growth rate by a considerable margin for a sustained period.[19]

3.3 External Capital Structure

In terms of gross holdings, Lane and Milesi-Ferretti (2003) found that domestic financial deepening promoted growth in the relative share of international debt assets and liabilities, while increases in domestic stock market capitalization increased the relative share of equity-type assets and liabilities (portfolio and FDI). There is a growing literature that examines the structure of external liabilities (see, amongst others, Rogoff 1999, Lane and

[18] Capital account liberalization was found to be important in a simple bivariate regressions - however, it lacked individual significance once the other regressors were included in the specification. The interpretation is that capital account liberalization operates via its impact on the scale of domestic financial development, trade openness and output per capita.

[19] The $IFIGDP$ ratio is much higher for smaller, advanced nations. A continental-sized economy such as the United States may be the more appropriate comparator for China and India.

Milesi-Ferretti 2001b, Faria and Mauro 2004, Wei 2005). Lane and Milesi-Ferretti (2001a) found that the equity-debt ratio in external liabilities was positively associated with trade openness and an open capital account while Faria and Mauro (2004) highlighted that good institutions are associated with an increased in the relative share of equity-type liabilities. Wei (2005) emphasises the distinction between the quality of financial institutions (as reflected in the ratio of the stock market capitalization to GDP and the ratio of the bank system's credit to the private sector to GDP) and the general institutional environment. He finds that low-quality public institutions (for instance, a high degree of bureaucratic corruption) discourages FDI and portfolio debt inflows and increases reliance on external bank loans, while poor financial development is associated with lower portfolio equity inflows and a greater reliance on FDI.

These empirical studies help to explain the external capital structures observed in China and India and provide some clues as future trends in the composition of external liabilities in these countries. In the Chinese case, the high share of FDI in external liabilities may in part be driven by an policy environment that is supportive of direct investment but also in part by the unattractiveness of the Chinese stockmarket as an investment mechanism, the poor state of the Chinese banking system and restrictions on portfolio debt inflows.[20] To the extent that the reform process improves these alternative investment channels, the relative share of FDI may be expected to decline over time. For India, the high share of portfolio equity liabilities reflects its advanced level of equity market development relative to the institutional environment for FDI, with capital account controls restricting the scale of debt inflows. Accordingly, institutional reform in India may be expected to lead to an increase in the relative importance of FDI inflows. In both countries, the liberalization of the domestic banking sector and the development of domestic bond markets should be associated with an increase in gross private debt liabilities, since domestic banks are

[20]See also Prasad and Wei (2005) for an extensive discussion of the underlying determinants of the composition of capital flows to China.

the natural intermediaries linking domestic households and small businesses to external investors and this is reinforced by a greater scope for securitisation.

On the external assets side, section 2 emphasized that China and India predominantly hold official reserve assets, even if outward FDI has been growing from a low base in recent years. With domestic financial development and capital account liberalization, we may expect an increase in private debt assets and portfolio equity assets, in addition to further growth in outward FDI.[21] This pattern has been generally experienced by emerging market economies in recent years - for instance, Lane and Milesi-Ferretti (2005) report that the FDI and portfolio equity assets of the emerging market group quadrupled as a share of GDP during 1992-2002, while non-reserve debt assets nearly doubled as a share of GDP.[22]

If we again take the United States as a long-term benchmark, it currently has portfolio equity assets and FDI assets amounting to 21.5 percent and 28 percent of GDP respectively, with non-reserve foreign debt assets of 33.9 percent of GDP. The corresponding ratios for China are 0.34 percent, 2.17 percent and 15.6 percent; and 0.14 percent, 1.45 percent and 2.69 percent for India. Another relevant benchmark might be provided by Brazil, another large emerging market economy - while its portfolio equity assets are also small at 1.4 percent of GDP, its FDI assets are much larger at 11.5 percent of GDP and it has non-reserve debt assets of 6.5 percent of GDP.

3.4 Bilateral Investment Patterns

We provided some evidence in section 2 about the bilateral patterns in the external liabilities of China and India. More generally, a growing literature has emphasised the importance of gravity-type variables in determinining the geographical allocation of foreign assets and

[21] However, the scope for outward FDI may be limited by political/security concerns in some countries that may be employed to block the sale of strategic assets to foreign investors.

[22] Equity assets increased from 3.0 percent of GDP to 12.1 percent of GDP; non-reserve debt assets increased from 10.9 percent of GDP to 19.6 percent of GDP.

liabilities.[23] Relative to a benchmark in which allocations just match each destination's share in global financial assets, this body of evidence has emphasized that allocations are rather skewed towards countries that are major trading partners, proximate in distance, share a common language and have a similar institutional environment.[24] In addition, bilateral exchange rate stability has been shown to raise financial holdings, especially in the case of portfolio debt positions.

Accordingly, while a significant proportion of outward investment by China and India can be expected to replicate the benchmark shares of each destination region in global financial assets, the empirical importance of gravity factors means that a relatively greater share of the foreign assets of these countries will be allocated to those destinations that have the closest linkages with China and India.[25] For instance, Tables **??-??** show that the trade patterns of China and India have a clear regional focus (especially with respect to imports) - which, directly or indirectly, may also steer financial allocations. Lane and Milesi-Ferretti (2004) and Lane (2005) have shown the strong correlation between trade patterns and the distribution of portfolio equity and portfolio debt holdings, while Aviat and Couerdacier (2005) find a similar result for bank holdings.

In addition, the positive association between trade and FDI is well documented (see, for example, Sarisoy 2005). While in part this reflects the trade-creating effects of FDI, existing trade linkages may also help predict FDI patterns, especially for countries that are liberalising the regime for capital outflows. In the cases of China and India, two

[23] See, amongst others, Ghosh and Wolf (2001), Portes and Rey (2005), Lane and Milesi-Ferretti (2004), Rose and Spiegel (2004), Vlachos (2004), Aviat and Couerdacier (2005), Lane (2005) and Sarisoy (2005).

[24] In part, these factors may be important since they may serve to reduce informational frictions. However, even in the absence of such frictions, optimal financial diversification may involve over-weighting trading partners - see Obstfeld and Rogoff (2001) and Lane and Milesi-Ferretti (2004).

[25] In addition to the factors listed above, an important feature for both China and India are extensive overseas communities. Just as these migrant networks influence trade patterns, it is plausible that these should also influence bilateral investment patterns.

features of existing trade patterns are particularly important in this regard. First, there is considerable anecdotal evidence that these countries are seeking greater control of imported energy supplies through the acquisition of foreign energy producers.[26]Second, as domestic firms build market share in major export markets, it is natural to expand FDI activities in these destinations in order to be "close to the customer" for marketing, service and innovation purposes. Finally, to the extent that it is expected that the broad group of emerging market economies increase their share of world GDP and world trade, it is also important to emphasise that this group should increase in importance as trading partners for China and India - in turn, this should be associated with an increase in their weighting in the foreign asset holdings of these countries.

In terms of portfolio debt assets, the weight of the empirical evidence points to bilateral currency stability as an important determinant of allocations, in addition to the gravity factors we have emphasized (Lane 2005).[27] For this reason, an assessment of the likely investment patterns by China and India in this category turns on the future outlook for the currency regimes of these countries. In effect, there are two dimensions to be considered. First, both countries currently place a high weight on bilateral stability vis-a-vis the US dollar. If these countries adopted a more flexible exchange rate regime, this would reduce the focus on acquiring US dollar assets. Second, bilateral currency stability vis-a-vis the yuan is important for many smaller economies in East Asia and the rupee has the potential to attain similar importance in South Asia. Currently, many of these countries also track the US dollar, thereby also ensuring bilateral stability against the yuan and the rupee. If China and/or India moved to a more flexible regime, these peripheral countries may opt over time to place a higher weight on local currency stability than stability against the US dollar, which would increase the relative attractiveness of regional bond investments

[26]More generally, the acquisition of suppliers of other essential inputs may form part of the FDI strategies of these countries.

[27]In the next draft, we will add a discussion of political risk / flight to safety / capital flight.

relative to holding US dollar securities.[28]

More generally, the potential for greater intra-regional financial integration depends on the individual and collective policy choices made by the Asian countries. Most obviously, the development of efficient and transparent domestic securities markets increases the scope for cross-border financial trade. Moreover, Eichengreen and Luengnaruemitchai (2004) and Genberg et al (2005) discuss an array of cooperative initiatives that could further improve the liquidity and efficiency of Asian bond markets.

4 Macroeconomic Policy and International Financial Integration

In the previous section, we outlined how the international balance sheets of China and India are likely to evolve as domestic financial development progresses and the external account is further liberalized. Our focus has been on the medium-term outlook but there are important transitional problems in moving from the current situation to this new steady state. In this section, we briefly highlight some of these issues.

First, there are sound reasons to put in place a flexible exchange rate regime before full liberalization of the capital account.[29] In related fashion, domestic financial markets need to be sufficiently developed (for instance, a futures currency market) to ensure the smooth functioning of a liberalized currency system. Second, the domestic banking sector should be well-capitalized, operate under market-based incentives and an adequate regulatory structure.[30]

[28] Eichengreen and X (200X) argue that Asia is unlikely to follow the European route of establishing a currency union, in view of the much weaker institutional ties between the Asian countries. However, they argue that this would not preclude other arrangements that would serve to enhance regional currency stability.

[29] See Prasad et al (2005) for a discussion in the context of the Chinese situation.

[30] See García-Herrero et al (2005) for a recent analysis of the importance of preparing the Chinese banking

Third, we have argued that financial deepening and external liberalization will result in a much less concentrated international balance sheet. In view of the high reserves currently held by China and India, there is increasing attention paid to mechanisms that would reallocate these holdings towards higher-return activities. 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, 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 through closed-end mutual funds that 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.[31]

Finally, it is important to recognize that a deeper level of international financial integration poses some important challenges for macroeconomic policy. At one level, policymakers have to adjust to an environment of greater capital mobility. Prasad et al (2003) have shown that liberalization has in many cases led to an initial increase in consumption volatility, with an initial lending boom followed by a reversal in capital flow - avoiding this scenario requires vigilance in macroeconomic and financial policies.

At another level, financial globalization also increases the importance of valuation effects in driving the dynamics of the external position (Lane and Milesi-Ferretti 2005a, 2005b, International Monetary Fund 2005). While the valuation channel has been well recognized in considering the impact of yuan appreciation on the value of Chinese dollar reserve holdings, fluctuations in international asset prices and exchange rates will be an increasingly

sector prior to full external liberalization.

[31] See also the discussion in ECB (2006) and Summers (2006). In 2004-2005, China transferred $60 billion in reserves to increase the capital base of several state-owned banks. In India, there is an important political debate about the potential merits of reducing reserves in order to finance domestic infrastructural projects.

strong influence on the balance sheets of banks, firms and households in China and India. In turn, this reinforces the importance of promoting domestic financial development and domestic financial stability in order to minimize the potential disruption from such balance sheet effects.

5 Conclusions

The primary aim of this paper has been to build a profile of the current state of the international financial integration of China and India. We have emphasized that both countries have net foreign asset positions that are more positive than is typically the case for economies at similar levels of development. In addition, we have highlighted the asymmetric nature of their financial integration - with equity liabilities very important but official reserves dominating the asset side of their international balance sheets. While this surely reduces the risk profile of these countries, it is also an expensive strategy in terms of opportunity cost. In terms of global impact, the net positions of these countries are small but both are important in terms of the global distribution of official reserves and Chinese FDI liabilities are increasingly significant. With regard to bilateral patterns, we have found that a gravity-type model works fairly well in explaining the geographical composition of the external liabilities of these countries.

Turning to the future, we have argued that further domestic reform and capital account liberalization may usher in an era in which both China and India run significant current account deficits. If these countries maintain high output growth rates, these deficits will over time become important in terms of global imbalances, even if only a fraction of today's US external deficit. Moreover, independently of the evolution of the net position, we may expect that the asymmetries that we have highlighted in their external capital structure will shrink, with the acquisition of significant foreign equity assets and a more even distribution of liabilities between FDI, portfolio equity and debt components. In terms of

geographical distribution, the increasing importance of China and India as international investors means that the potential for greater Asian financial integration is high but this requires considerable regional efforts to build a more integrated Asian financial system.

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Table 1: The World's Largest Creditors and Debtors, 2004

Country	NFA/GDPW		NFA/GDPW
Japan	4.34	**India**	-0.18
Switzerland	1.25	Argentina	-0.18
Taiwan	1.06	New Zealand	-0.22
Hong Kong	1.05	Hungary	-0.24
United Arab Emirates	0.54	Portugal	-0.28
Germany	0.54	Indonesia	-0.29
Singapore	0.46	Canada	-0.30
Norway	0.40	Poland	-0.32
Saudi Arabia	0.39	Turkey	-0.33
China	0.32	Greece	-0.37
Kuwait	0.31	United Kingdom	-0.67
France	0.27	Mexico	-0.71
Belgium	0.27	Brazil	-0.72
Libya	0.16	Italy	-0.75
Qatar	0.15	Australia	-0.96
Iran, Islamic Republic of	0.12	Spain	-1.19
Luxembourg	0.09	United States	-6.49

Source: Author's calculations based on dataset of Lane and Milesi-Ferretti (2006).

Table 2: The Global Distribution of External Reserves, 2004

Country	**Share in Global Reserves**
Japan	21.50
China	15.84
Taiwan	5.91
Euro Area	5.41
Korea	5.13
India	3.26
Hong Kong	3.19
Russia	3.11
Singapore	2.89
United States	1.96
Malaysia	1.71
Mexico	1.65
Switzerland	1.43
Brazil	1.36
Thailand	1.25

Source: Author's calculations based on dataset of Lane and Milesi-Ferretti (2006).

Table 3: Currency Composition of Liabilities to Foreign Banks, 2004

	China	India
Dollar	89.9	71.8
Euro	1.9	10.1
Yen	6.9	0.6
Sterling	1.2	17.3
Swiss Franc	0.1	0.2

Note: Author's calculations based on international finance dataset of the Bank of International Settlements.

Table 4: Sources of Portfolio Investment into China and India, 2003

	China			**India**	
	Equity	Debt		Equity	Debt
World	100	100	World	100	100
United States	28.6	16.3	United States	41.2	13.4
EU15	24.7	20.4	EU15	24.1	22.8
Japan	4.6	10.3	Japan	0.2	11.9
Singapore	3.9	10.3	Singapore	0.4	16.6
Hong Kong SAR	34.3	36.7	Mauritius	31.5	27.8
ROW	4.0	5.9	ROW	2.6	7.6

Source: Author's calculations based on data from IMF's Coordinated Portfolio Investment Survey.

Table 5: China and India: BIS Positions, 2004

	China		India	
	Inward	Outward	Inward	Outward
Europe	7.1	14.1	30.8	36.3
UK	22.5	14.4	63.0	35.6
Japan	7.4	13.9	1.3	8.4
US	0.0	0.1	0.1	0.1
Hong Kong SAR	63.1	57.5	4.9	19.6
Total	100.0	100.0	100.0	100.0

Note: Author's calculations based on international finance dataset of the Bank of International Settlements.

Table 6: Chinese FDI Liabilities, 2004.

	Share
World	100
Hong Kong SAR	45.0
United States	8.9
Japan	8.7
Taiwan POC	7.4
British Virgin Islands	6.9
Korea	4.8
Singapore	4.8
United Kingdom	2.3
Germany	1.8
France	1.3
Other	8.2

Note: Author's calculations based on data from Ministry of Commerce of the People's Republic of China (http://www.fdi.gov.cn)

Table 7: Indian FDI Liabilities, 1991-2005

	Share
Mauritius	35.6
United States	16.5
Japan	6.9
Netherlands	6.9
UK	6.6
Germany	4.4
Singapore	3.1
France	2.7
Korea	2.2
Switzerland	2.0
Other	13.2
Total	100

Note: Author's calculations, based on data from the Department of Industrial Policy and Promotion (http://dipp.nic.in/).

Table 8: Indian FDI Assets, 1991-2005

	Share
Russia	19.9
United States	16.4
Mauritius	8.0
Sudan	7.1
British Virgin Islands	6.6
UK	5.5
Bermuda	4.4
Hong Kong	4.0
Singapore	3.3
Australia	2.7
Other	22.1
Total	100

Note: Author's calculations, based on data from the Department of Industrial Policy and Promotion (http://dipp.nic.in/).

Table 9: China: Bilateral Patterns in External Liabilities, 2004

	(1) FDI	(2) Portfolio Equity	(3) Portfolio Debt	(4) Bank Liabilities
Size	1.15 (7.0)***	1.02 (3.68)***	0.42 (2.31)**	0.01 (.54)
Trade	8.15 (2.59)**	3.74 (.62)	-8.25 (1.96)*	0.77 (1.88)*
Distance	-1.3 (1.93)*	-1.06 (1.04)	-3.69 (4.69)**	-0.05 (.47)
ERVOL	-0.02 (.17)	-1.06 (4.3)***	-1.31 (6.94)***	-0.012 (.78)
Adj R2	0.77	0.5	0.75	0.84
N	25	37	26	15

Note: Double fixed-effects panel regressions. White-corrected t-statistics in parentheses. ***, **, * denote significance at the 1, 5 and 10 percent levels respectively.

Table 10: India: Bilateral Patterns in External Liabilities, 2004

	(1) FDI	(2) Portfolio Equity	(3) Portfolio Debt	(4) Bank Liabilities
Size	1.1 (5.4)***	1.04 (3.0)***	0.11 (.37)	0.02 (.48)
Trade	0.14 (.81)	1.05 (1.7)	0.84 (1.01)	-0.013 (.15)
Distance	-0.14 (.18)	1.86 (1.05)	0.63 (.18)	-0.09 (.33)
ERVOL	-0.22 (1.76)*	-1.15 (3.27)***	-0.35 (.32)	-0.05 (.51)
Adj R2	0.27	0.38	0.25	0.07
N	80	30	16	15

Note: Double fixed-effects panel regressions. White-corrected t-statistics in parentheses. ***, **, * denote significance at the 1, 5 and 10 percent levels respectively.

Table 11: China: Trading Partners, 2004

	Exports		Imports
United States	21.1	Japan	18.1
Hong Kong SAR	17.0	Korea	11.9
Japan	12.4	United States	8.6
Korea	4.7	Germany	5.8
Germany	4.0	Malaysia	3.5
Netherlands	3.1	Singapore	2.7
United Kingdom	2.5	Russian Federation	2.3
Singapore	2.1	Hong Kong SAR	2.3
France	1.7	Australia	2.2
Italy	1.6	Thailand	2.2
Russian Federation	1.5	Philippines	1.7
Australia	1.5	Brazil	1.7
Canada	1.4	India	1.5
Malaysia	1.4	France	1.5
United Arab Emirates	1.2	Saudi Arabia	1.4

Note: Author's calculations based on data from the IMF's Direction of Trade Statistics.

Table 12: India: Trading Partners, 2004

	Exports		Imports
United States	17.0	China	8.4
United Arab Emirates	8.8	United States	8.3
China	5.5	Switzerland	7.2
Hong Kong SAR	4.7	Belgium	6.1
United Kingdom	4.5	United Arab Emirates	5.5
Singapore	4.5	Germany	5.0
Germany	3.5	United Kingdom	4.7
Belgium	3.0	Australia	4.6
Italy	2.7	Korea	4.3
Japan	2.5	Japan	4.1
Bangladesh	2.2	Singapore	3.4
France	2.0	Indonesia	3.3
Netherlands	1.9	Malaysia	3.0
Sri Lanka	1.8	South Africa	2.9
Saudi Arabia	1.7	Hong Kong SAR	2.3

Note: Author's calculations based on data from the IMF's Direction of Trade Statistics.

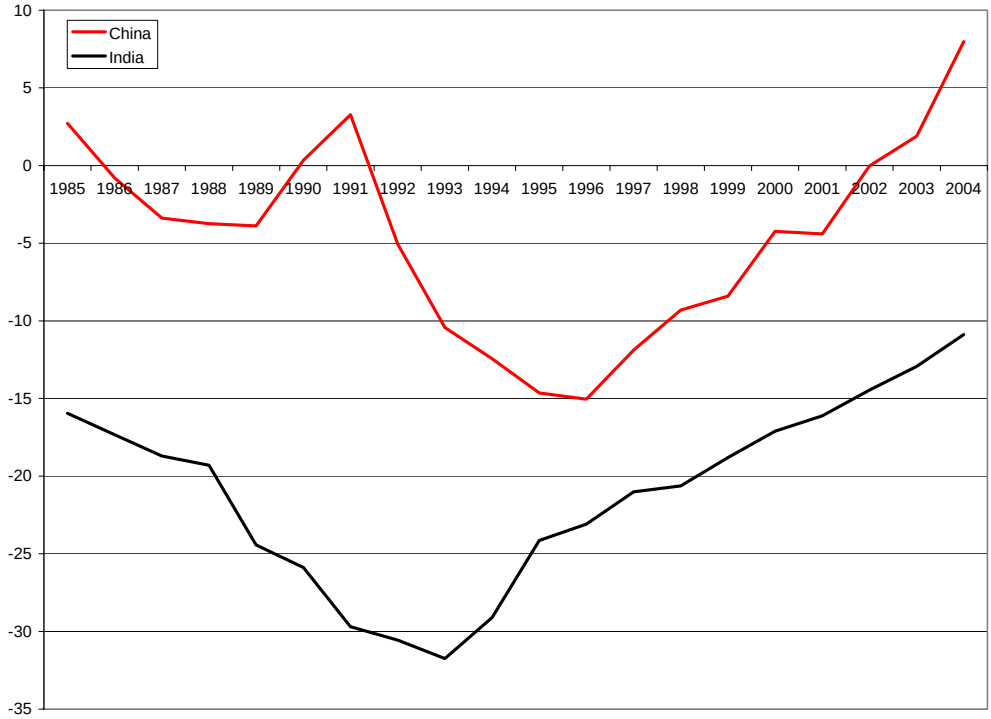

Figure 1: China and India: Evolution of Net Foreign Asset Positions, 1985-2004. Note:. Source:.

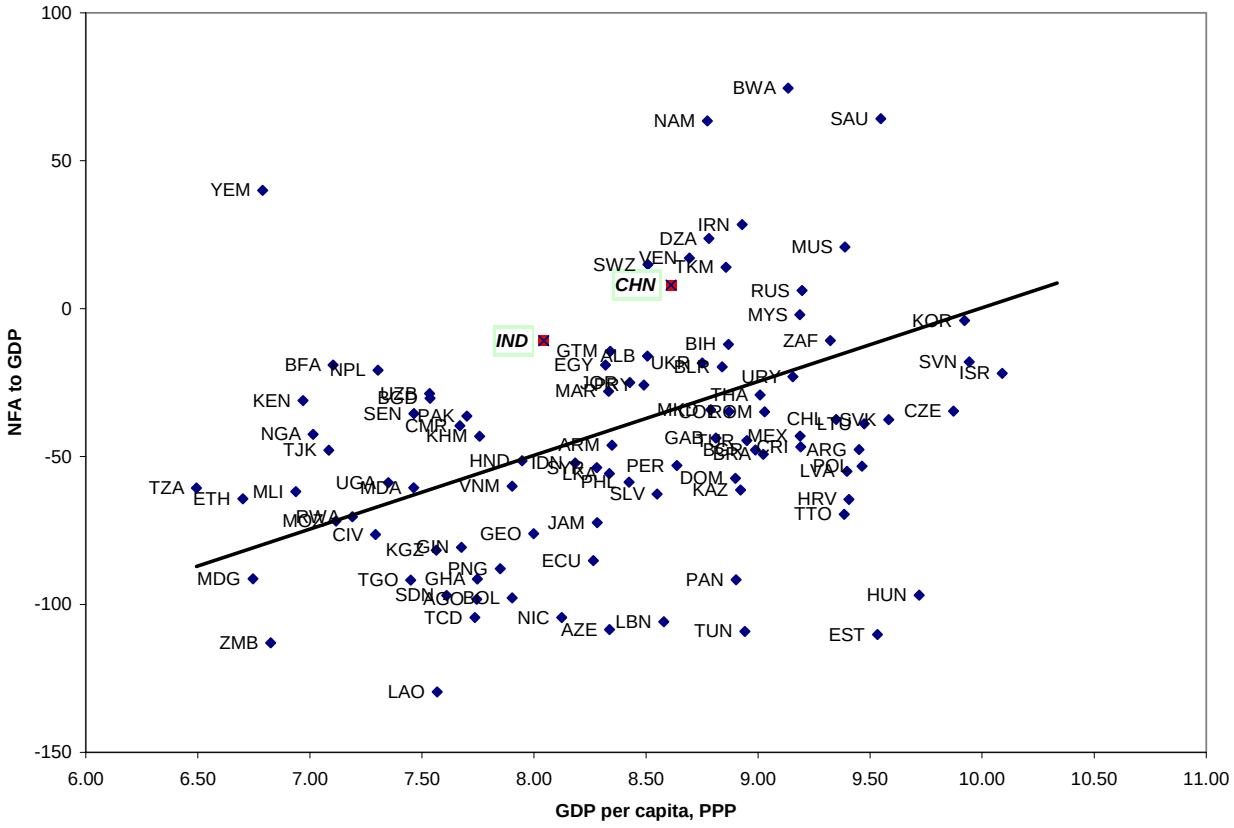

Figure 2: Net Foreign Assets: Developing Countries, 2004. Note: Source:.

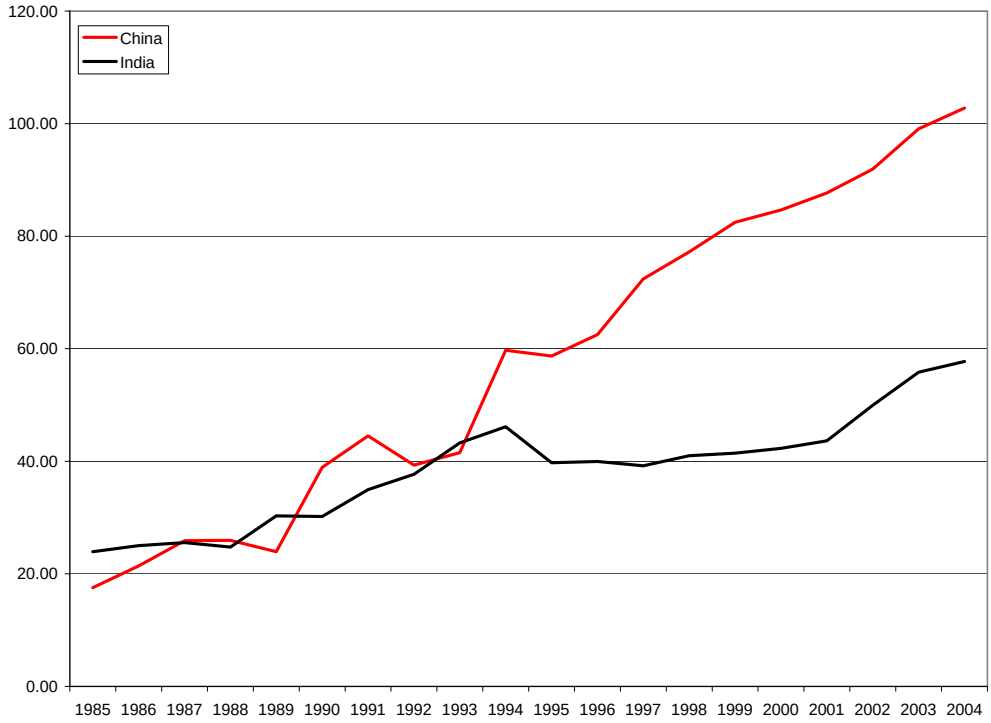

Figure 3: China and India: International Financial Integration, 1985-2004.

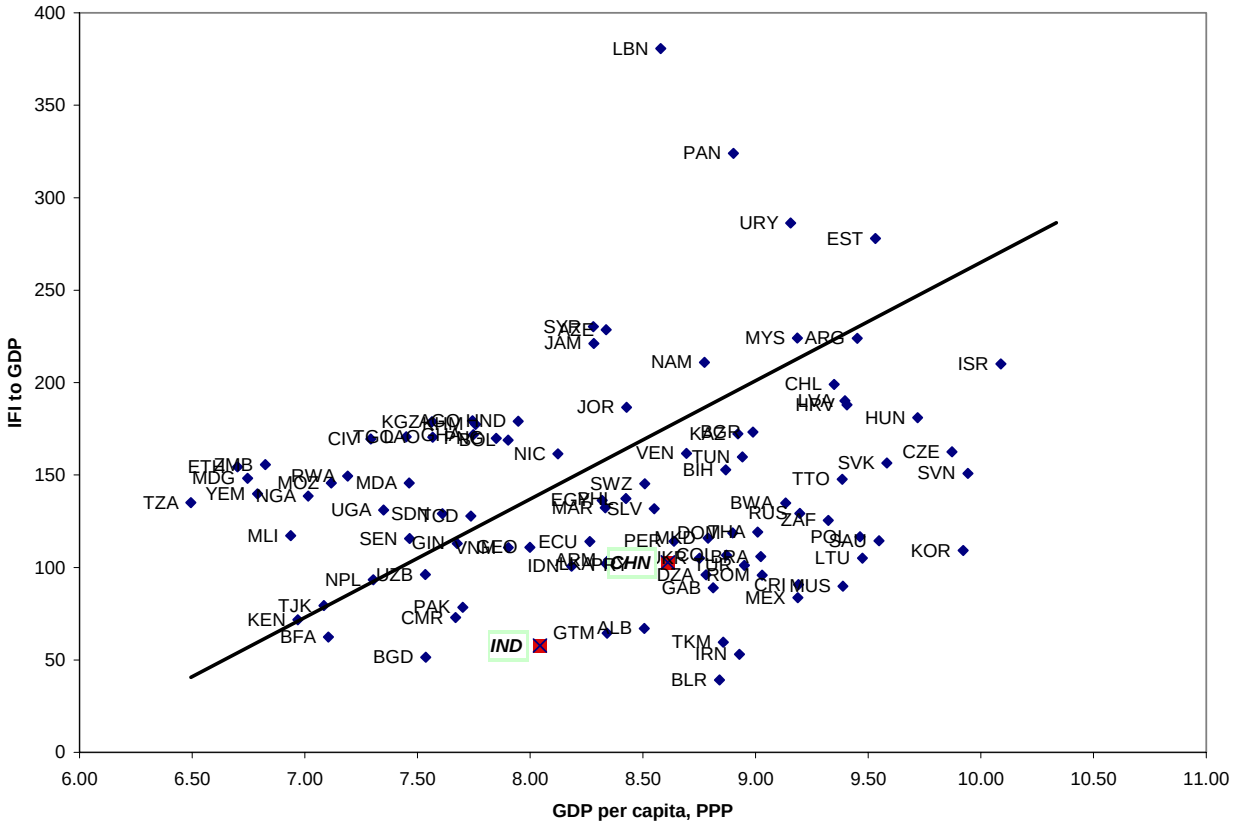

Figure 4: International Financial Integration: Developing Countries, 2004. Note: Source:.

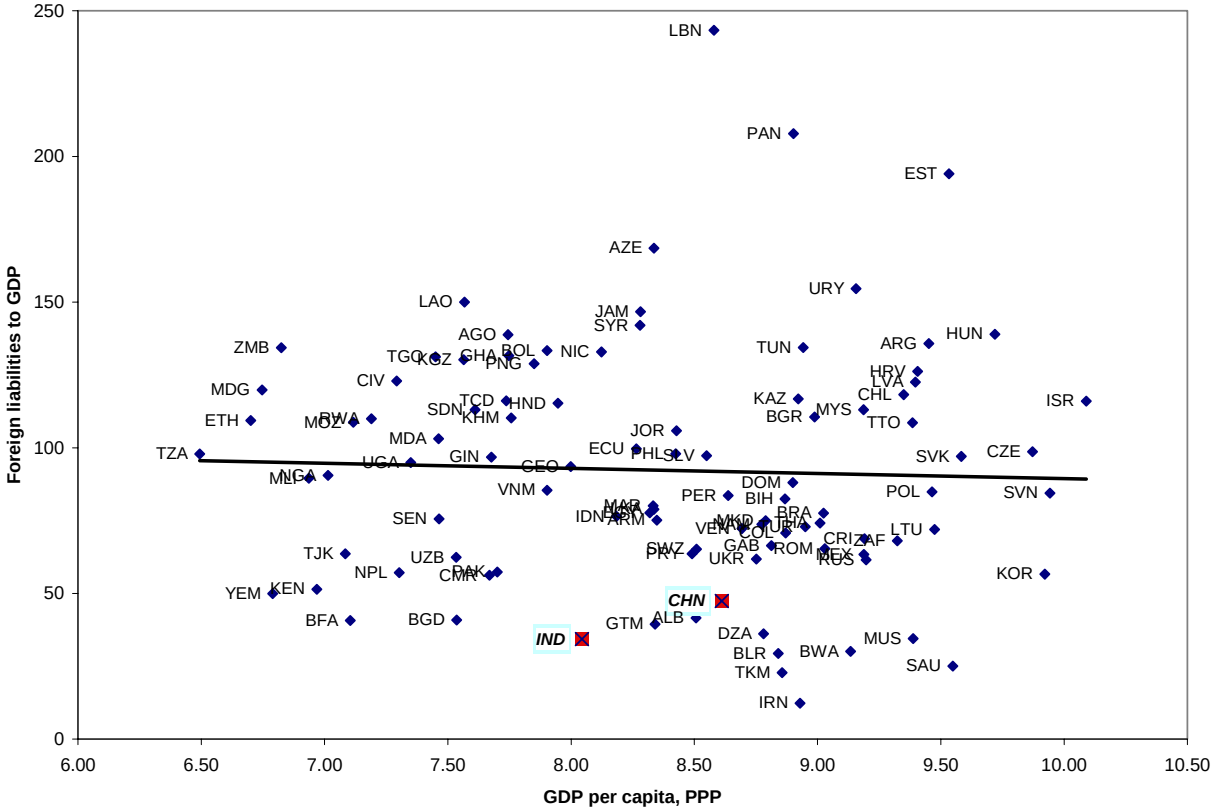

Figure 5: Foreign Liabilities: Developing Countries, 2004. Source: Note: .

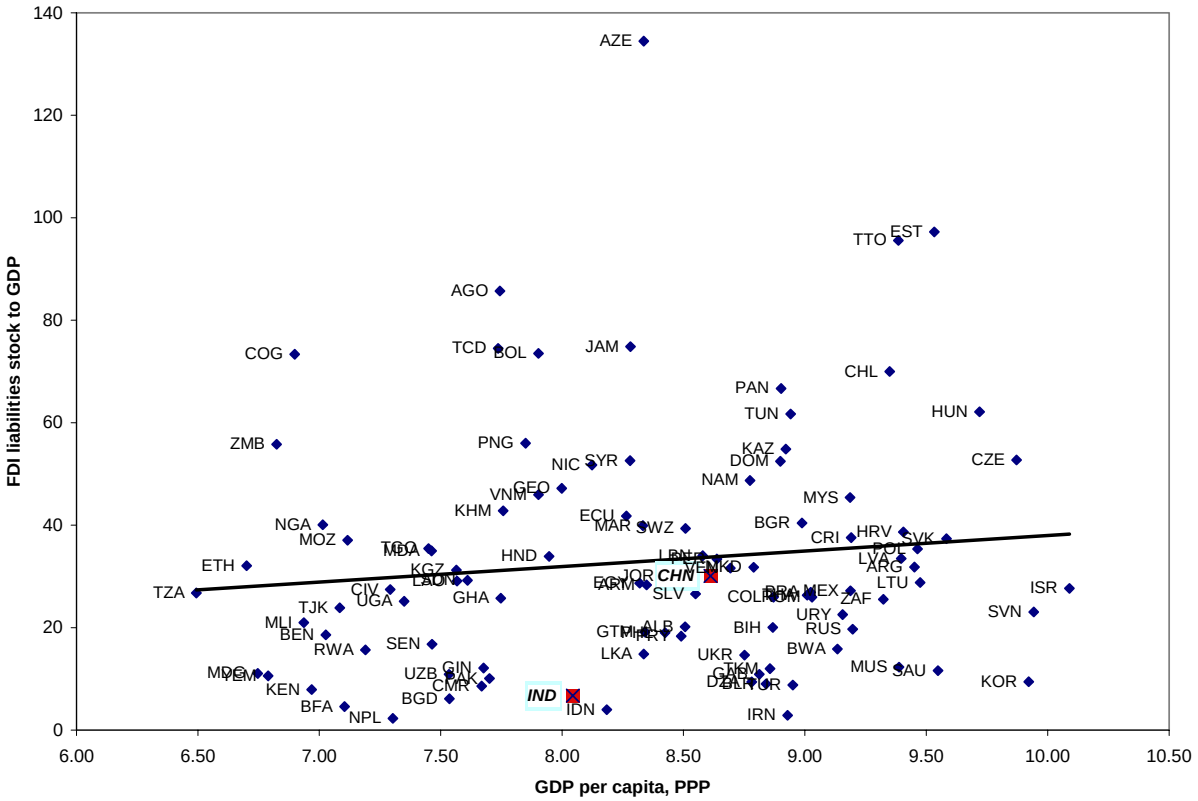

Figure 6: FDI Liabilities: Developing Countries, 2004. Source: Note:.

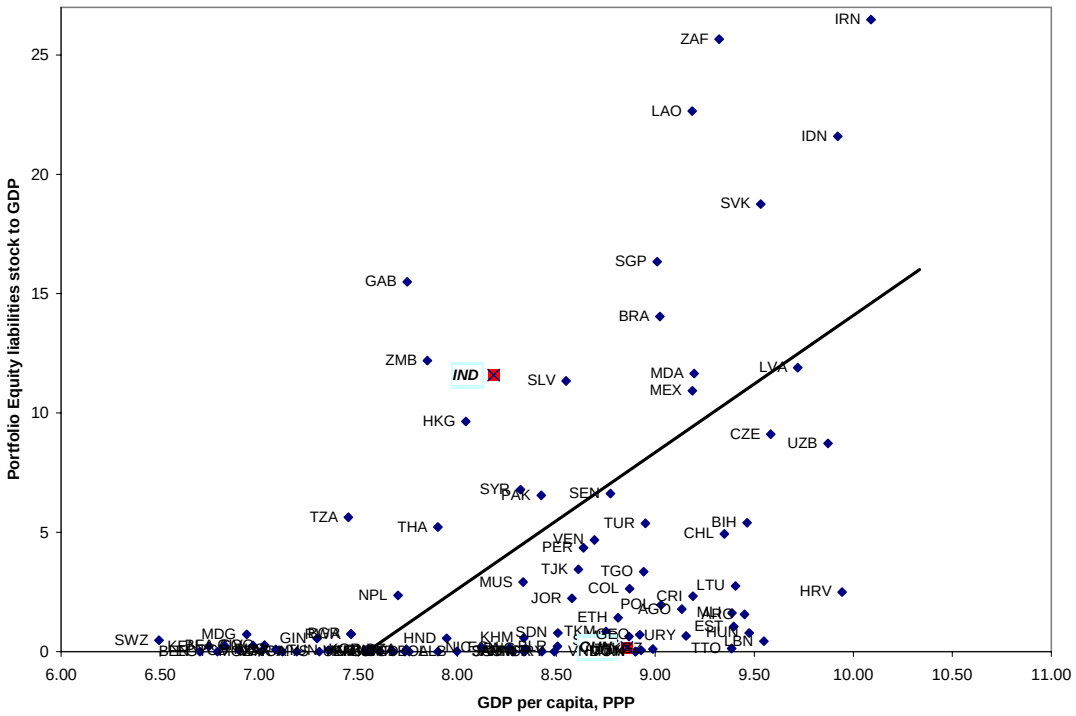

Figure 7: Portfolio Equity Liabilities: Developing Countries, 2004. Note: Source:.

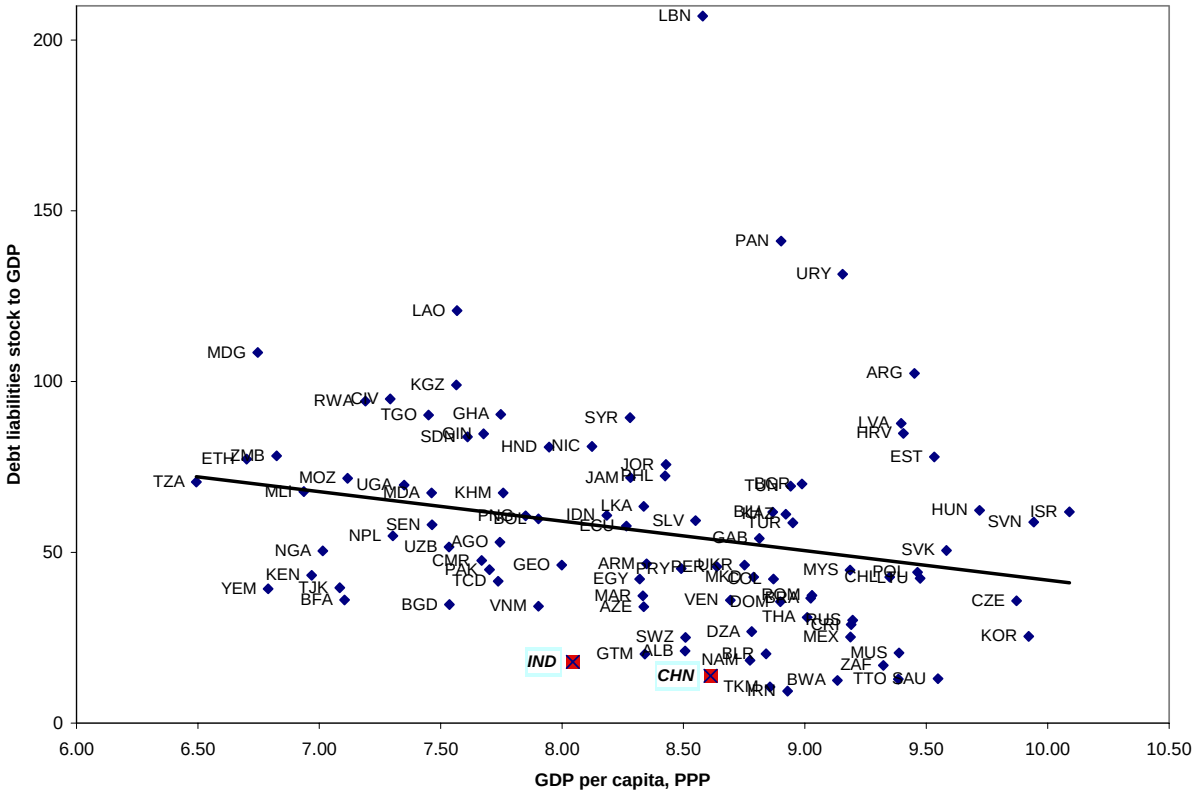

Figure 8: External Debt Liabilities: Developing Countries, 2004. Note: Source:

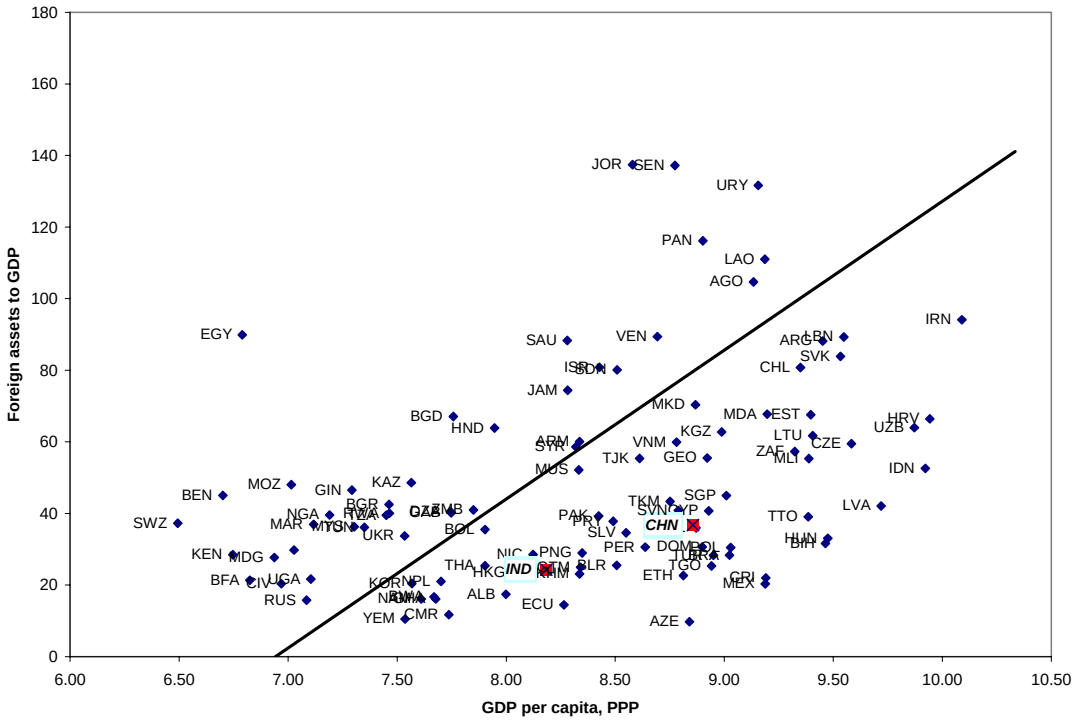

Figure 9: Foreign Assets to GDP Ratio: Developing Countries, 2004. Note: Source: .

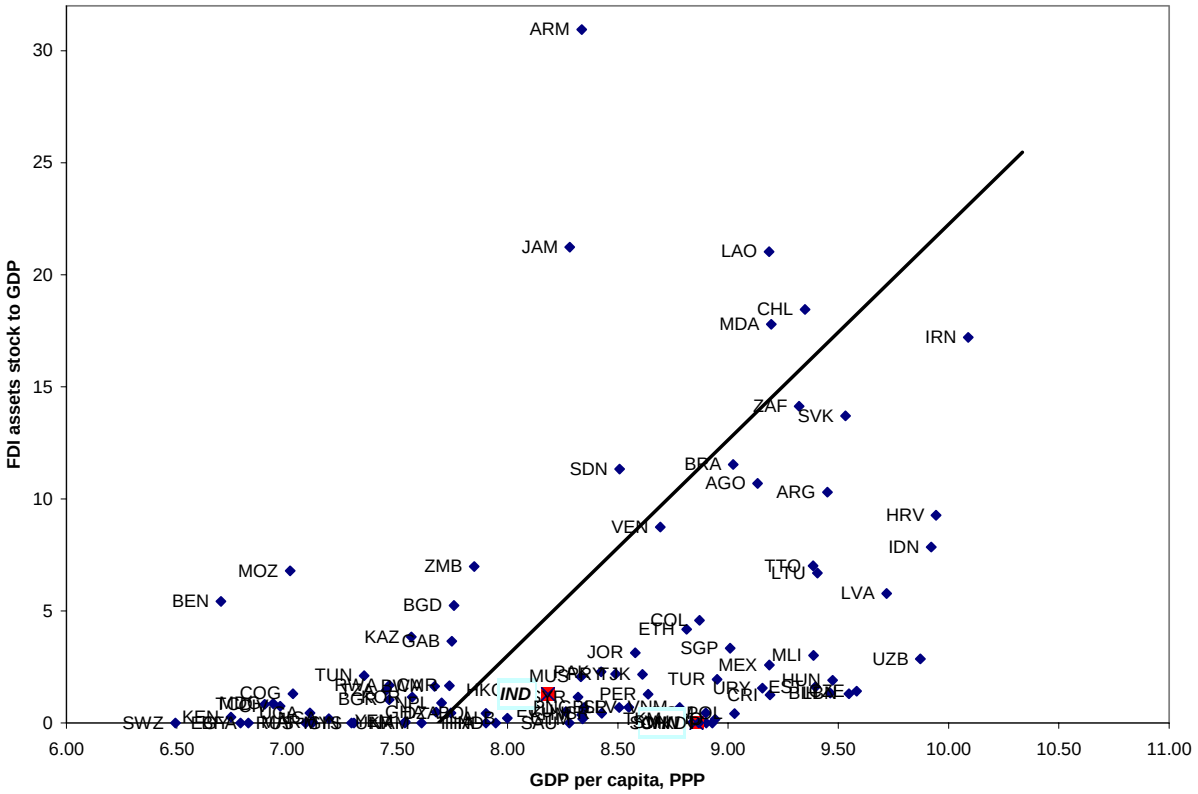

Figure 10: FDI Assets: Developing Countries, 2004. Note: Source:.

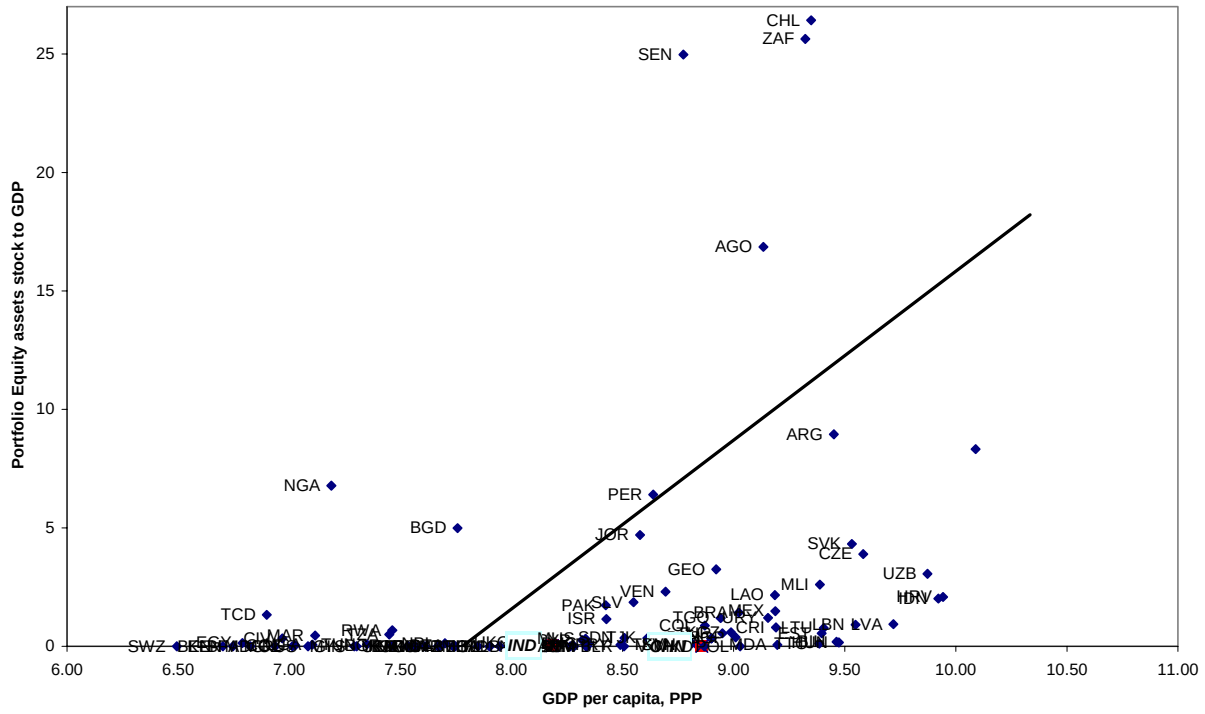

Figure 11: Foreign Portfolio Equity Assets: Developing Countries, 2004. Note: Source:.

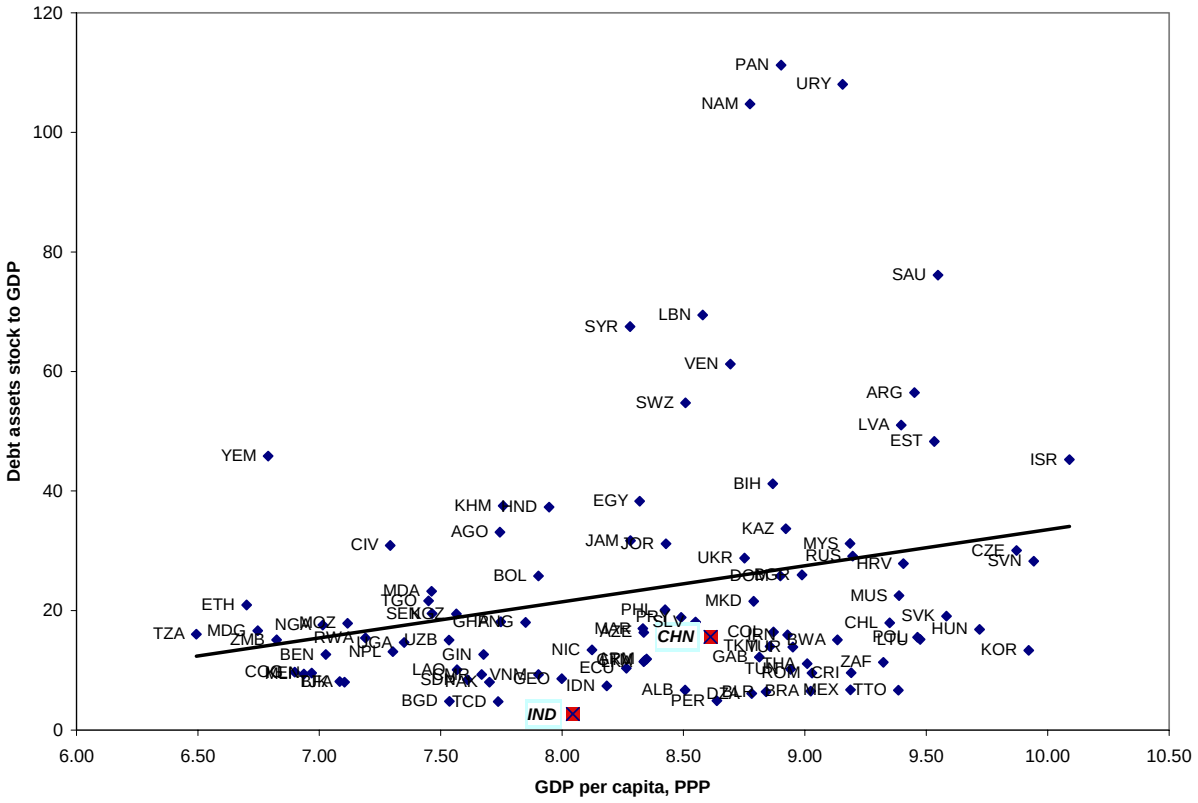

Figure 12: Foreign Debt Assets: Developing Countries, 2004. Source: Note:.

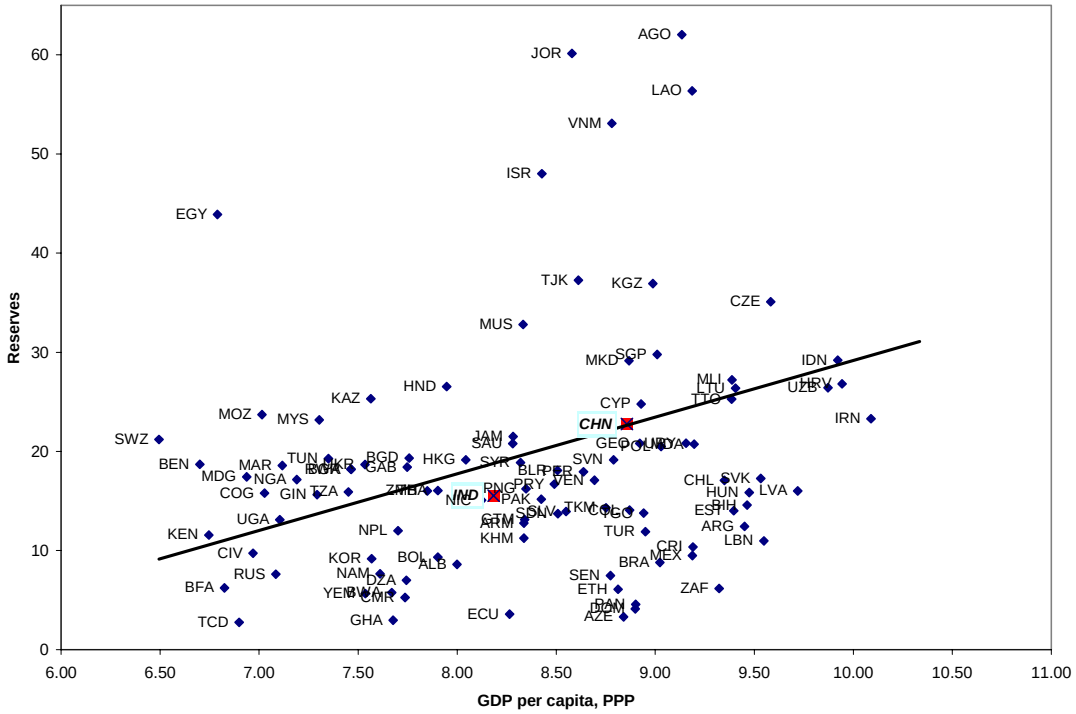

Figure 13: External Reserve Assets: Developing Countries, 2004. Note: Source:.

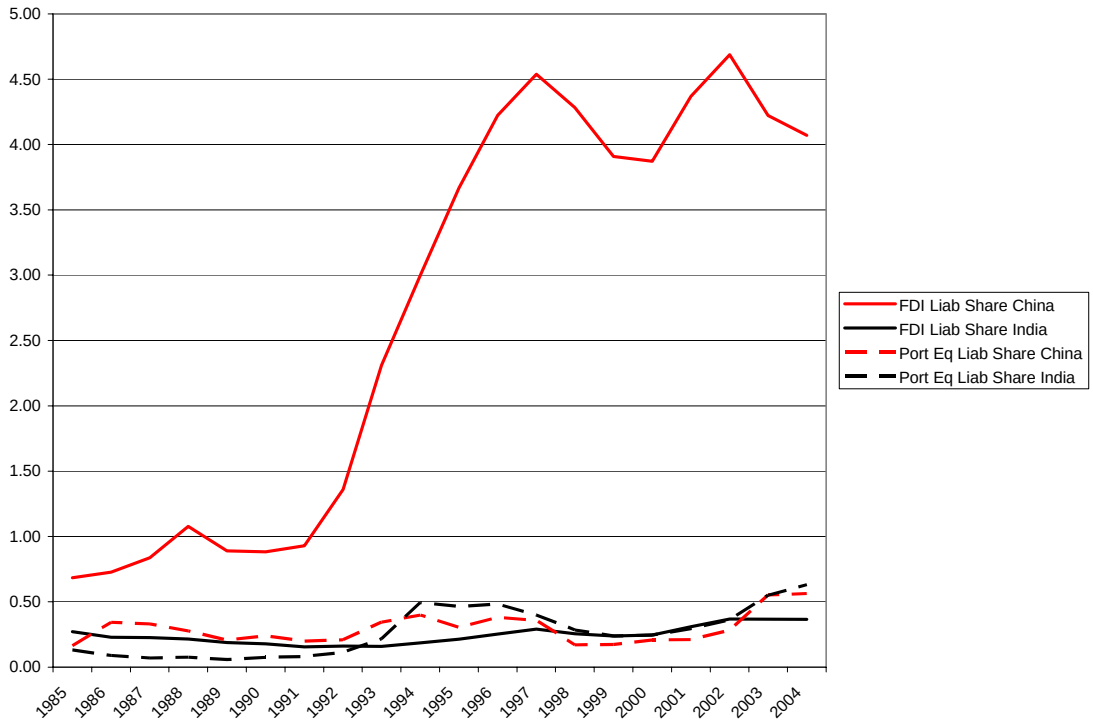

Figure 14: China and India: Share in Global Cross-Border Equity Liabilities, 1985-2004. Note: Ratio of each country's liabilities to global cross-border liabilities in each investment category. Source: Author's calculations based on data from Lane and Milesi-Ferretti (2006a).

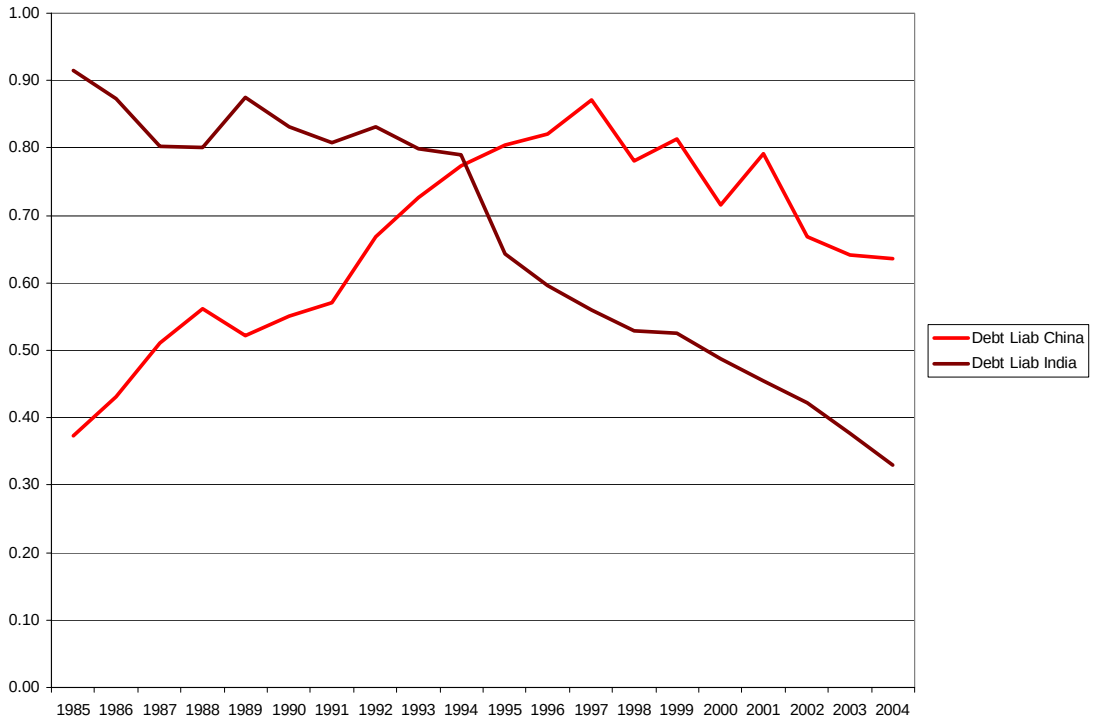

Figure 15: China and India: Share in Global Cross-Border Debt Liabilities. Note: Source:

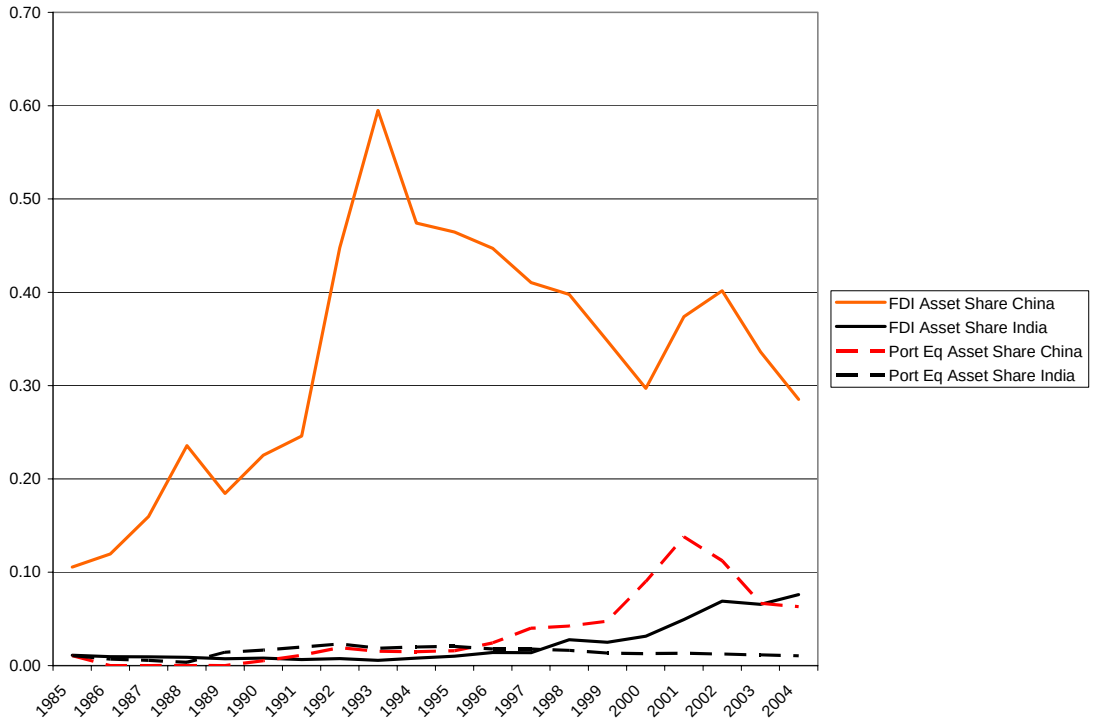

Figure 16: China and India: Share in Global Equity Assets. Source: Note:.

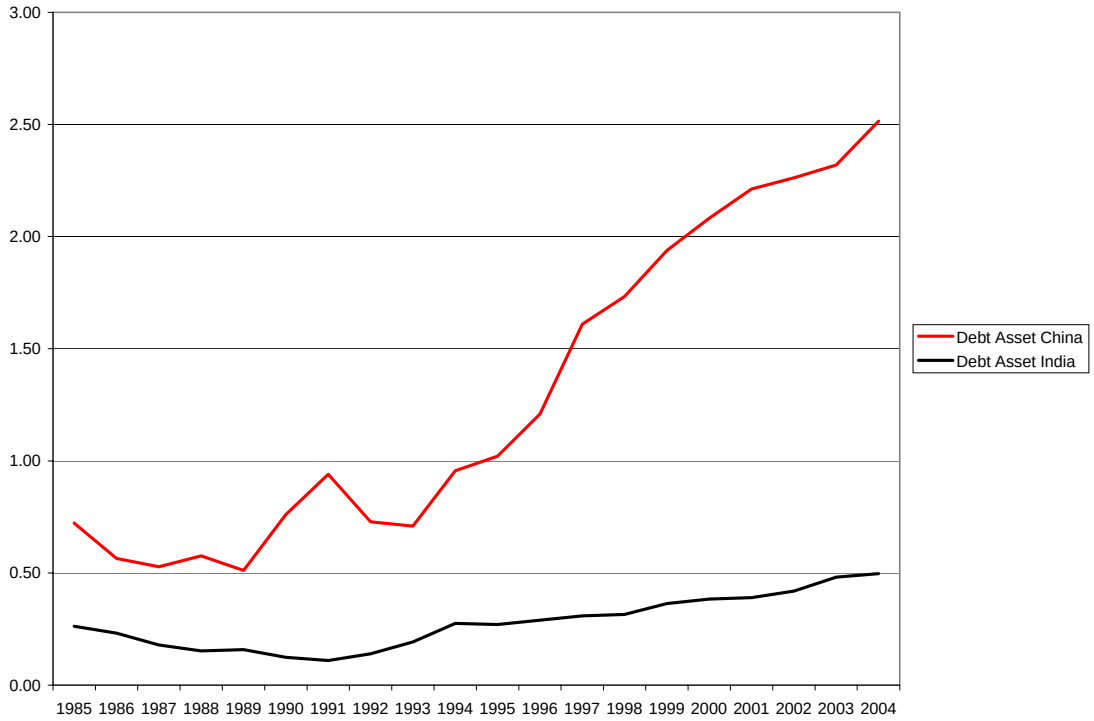

Figure 17: China and India: Share in Global Debt Assets. Note: . Source:.

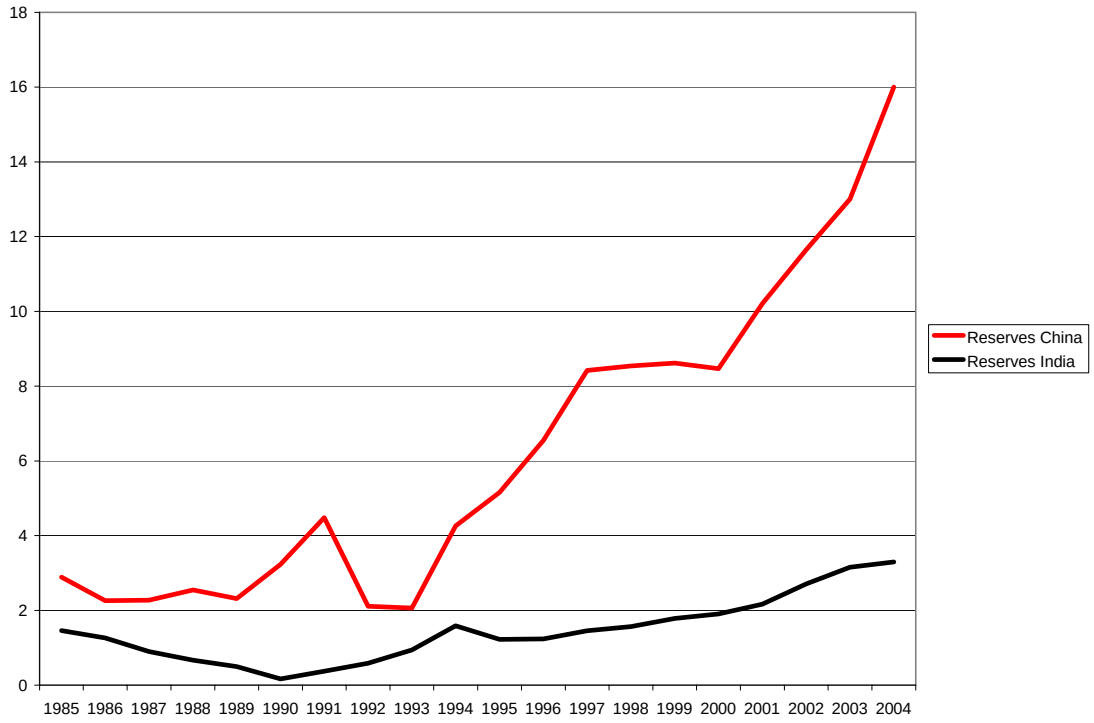

Figure 18: China and India: Share in Global Foreign Reserves Holdings. Note: Source:.

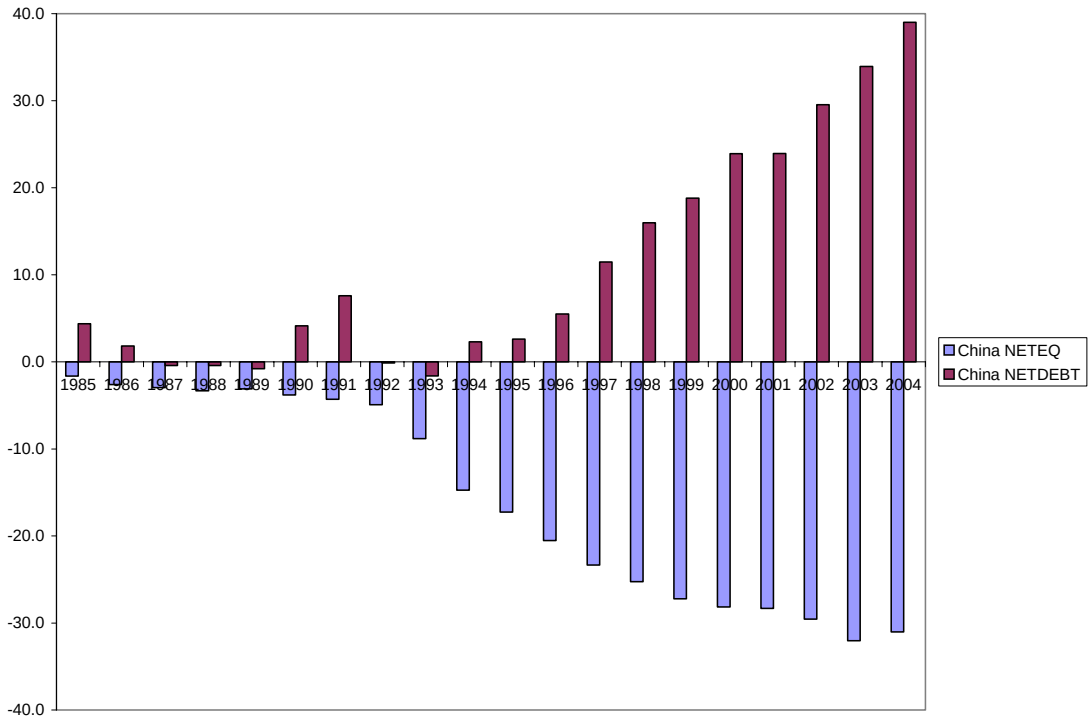

Figure 19: China: Net Equity and Net Debt Positions, 1985-2004. Note: . Source: Author's calculations based on data from Lane and Milesi-Ferretti (2006a).

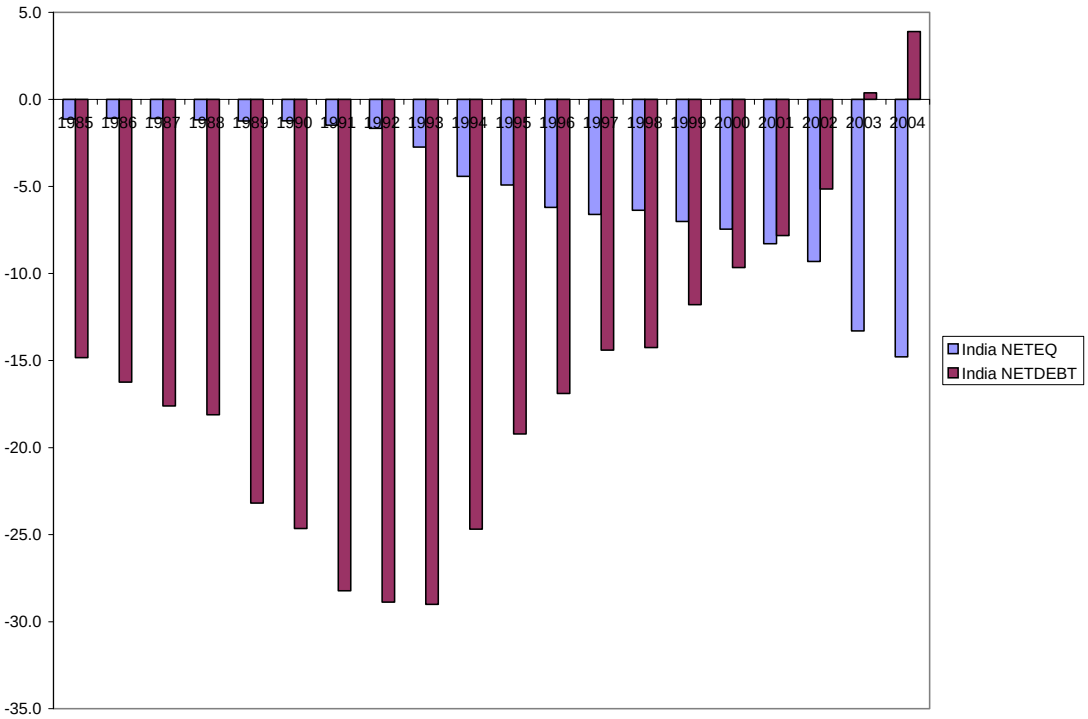
5.0
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
-30.0
-35.0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
India NETEQ
India NETDEBT

Figure 20:

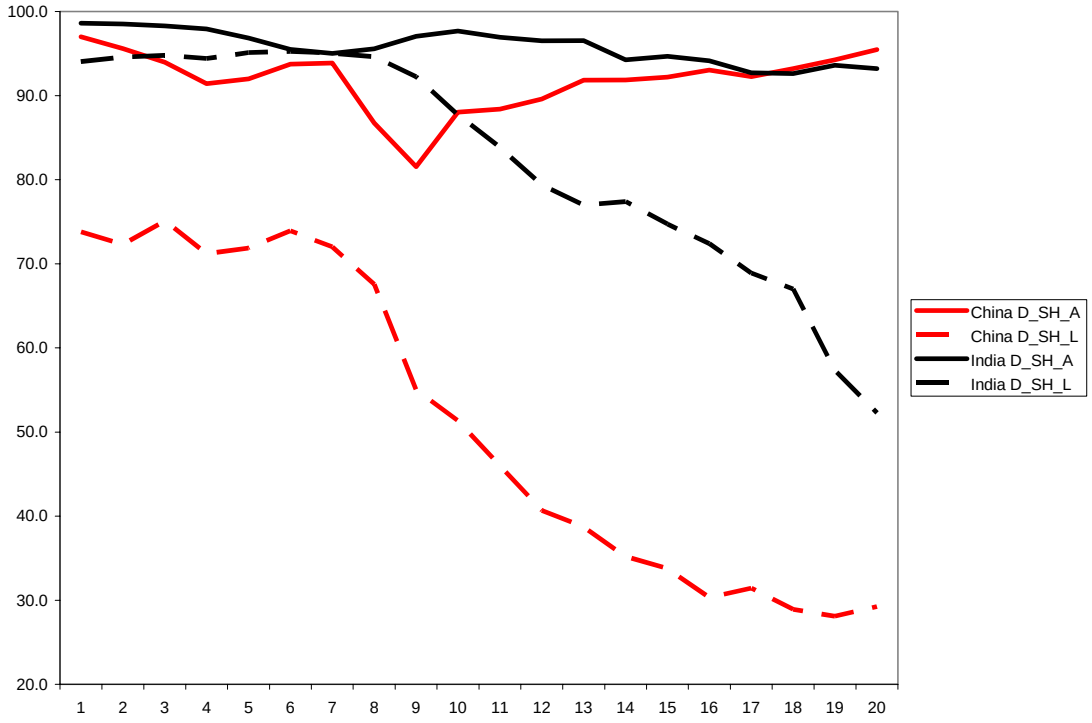

Figure 21: China and India: Debt Shares in Foreign Assets and Liabilities, 1985-2004.

Note: Source:

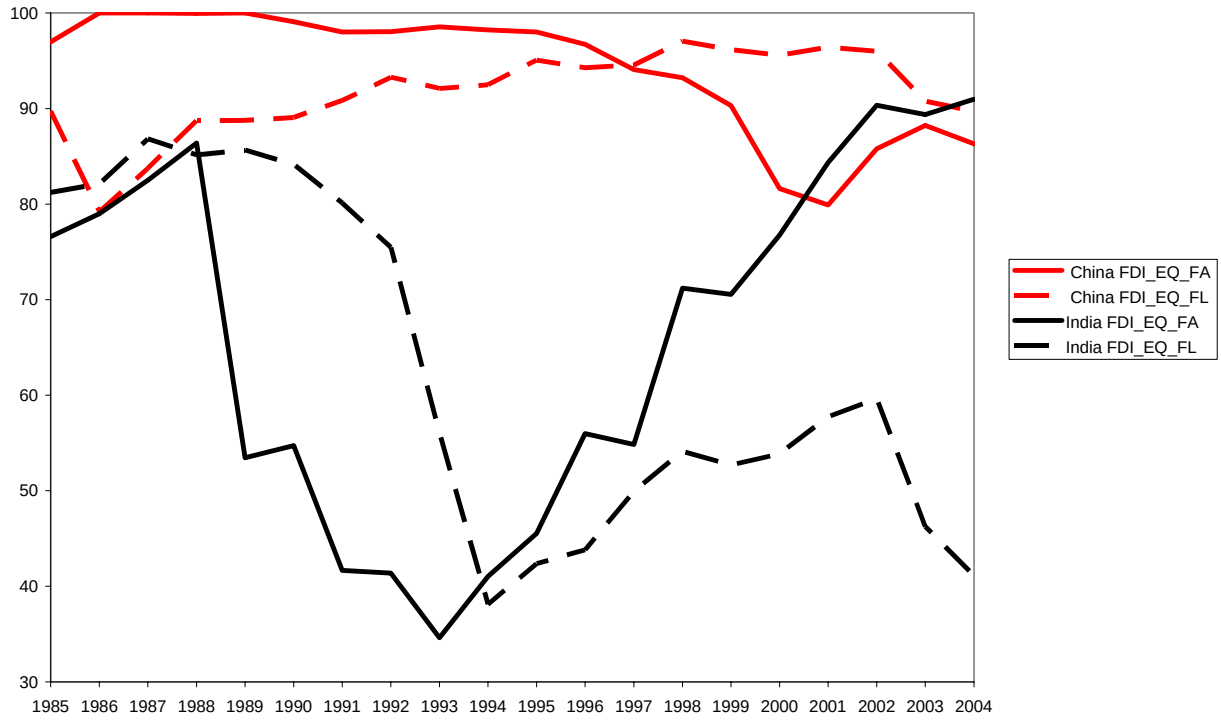

Figure 22: China and India: FDI share in Foreign Equity Assets and Liabilities, 1985-2004.

Note: Source: .

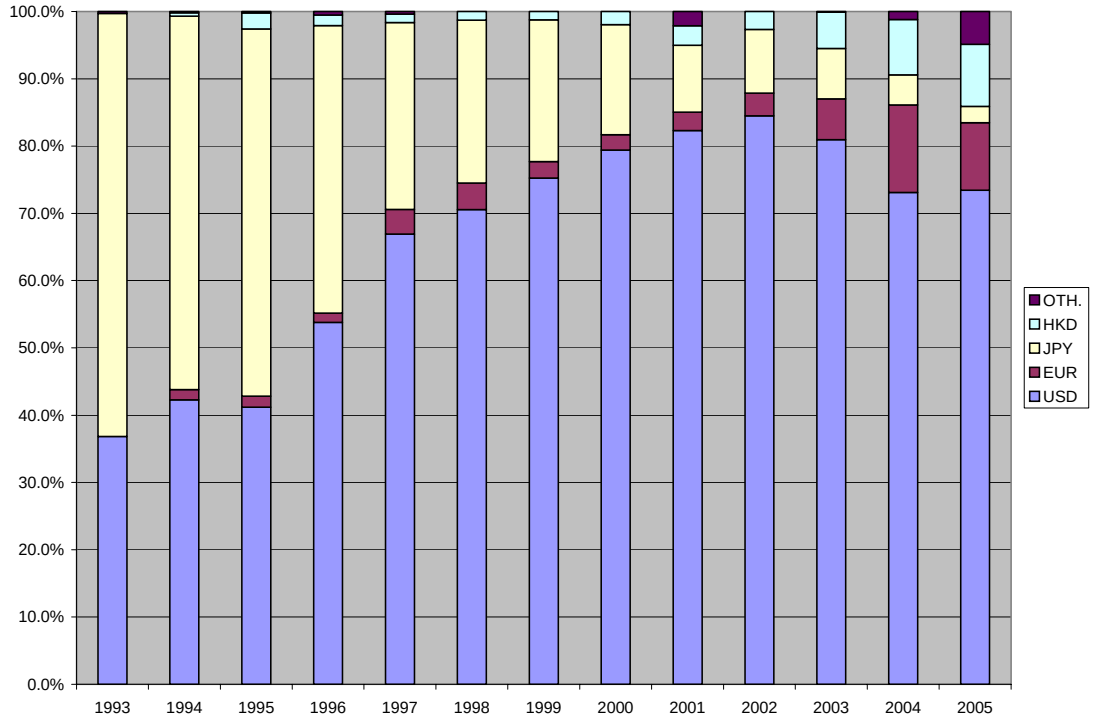

Figure 23: China: Currency Composition of International Bond Issues, 1993-2005. Note: Source: Author's calculations based on BIS data.

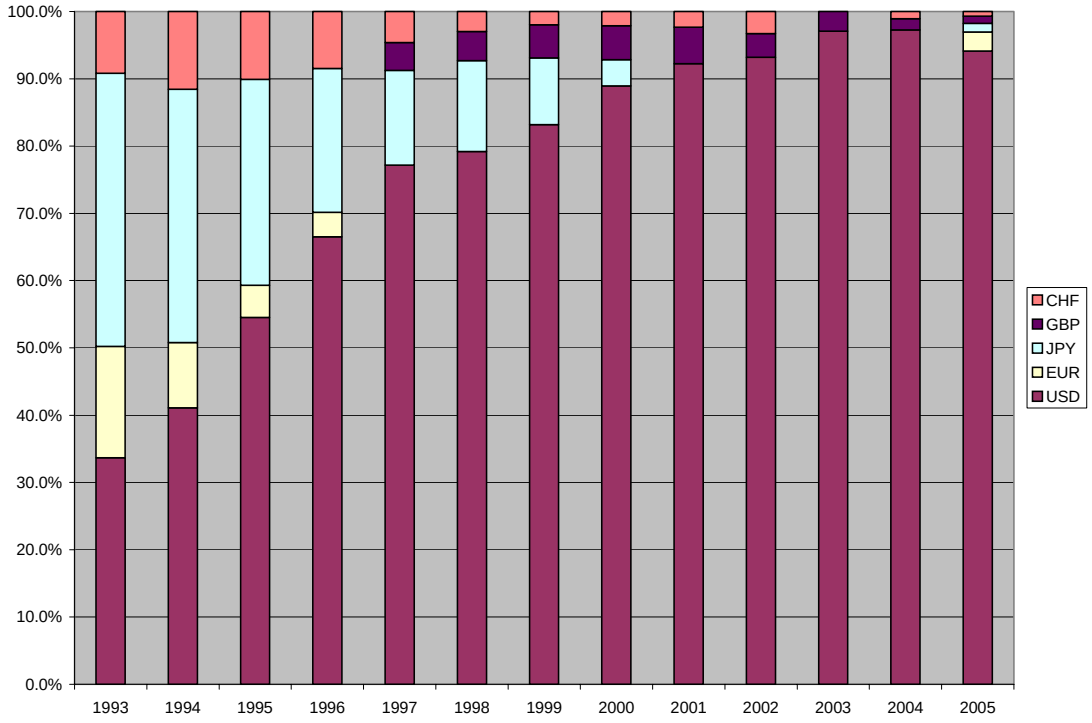

Figure 24: India: Currency Composition of International Bond Issues: 1993-2005. Note: Source: Author's calculations based on BIS data.

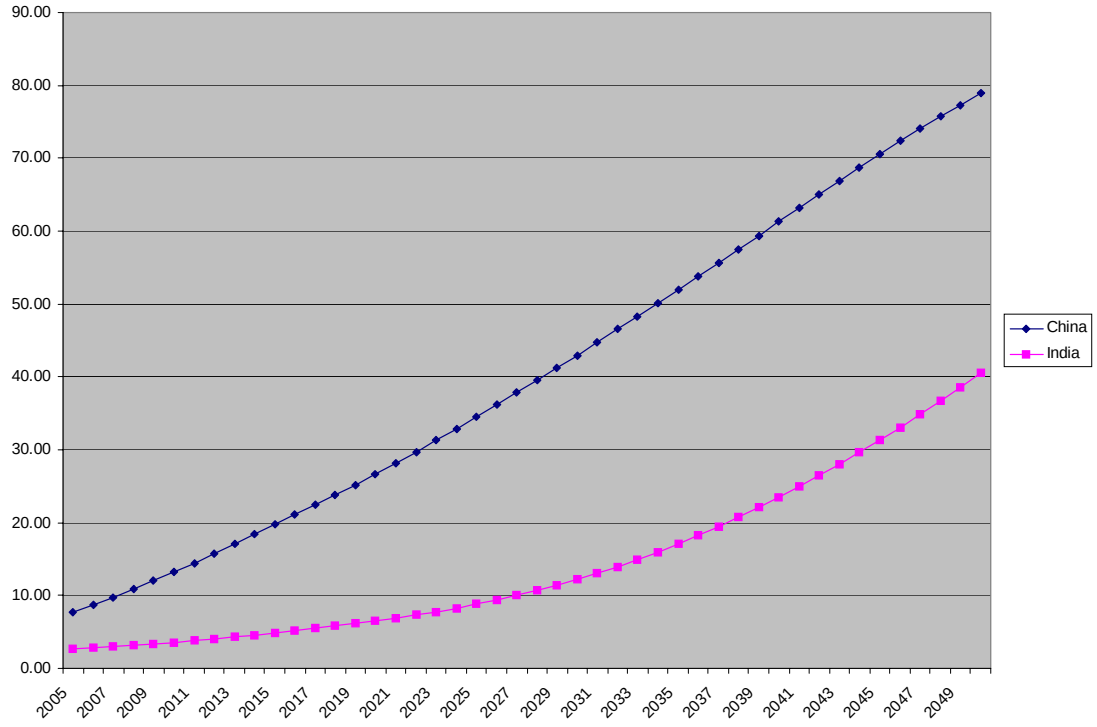

Figure 25: GDP Projections for China and India, 2005-2050. Note: Ratios to G-7 GDP. Source: Goldman Sachs.

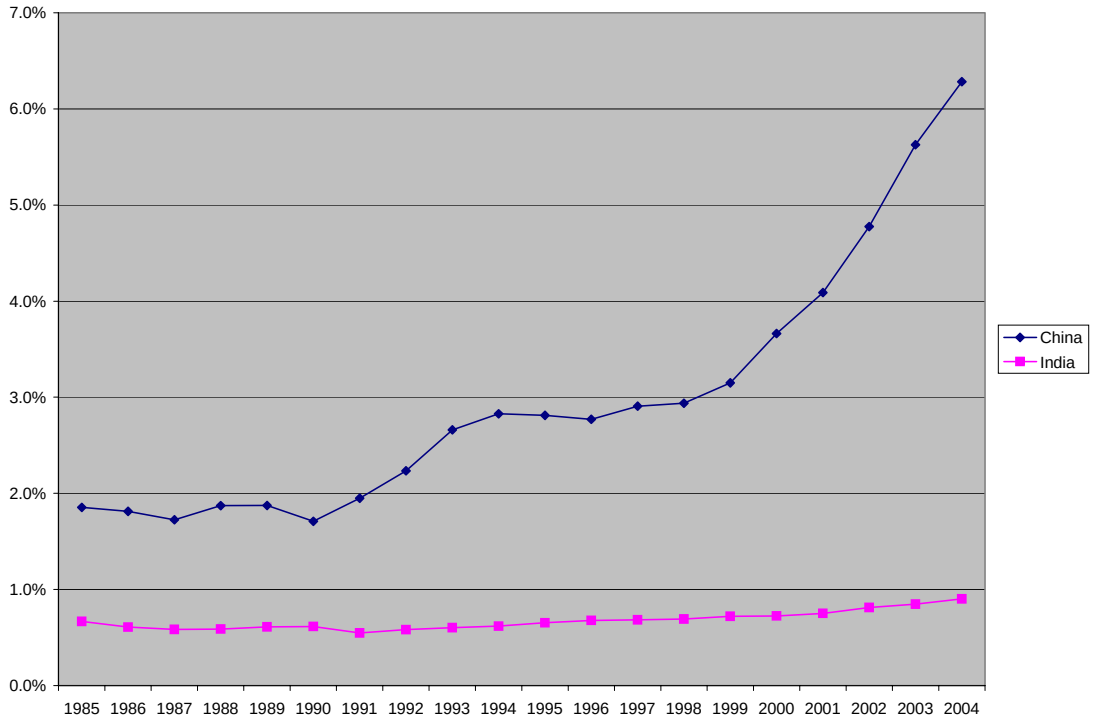

Figure 26: China and India: Share of World Trade, 1985-2004. Note: Trade is measured as sum of exports and imports. Source: Author's calculations, based on trade data from XXX.

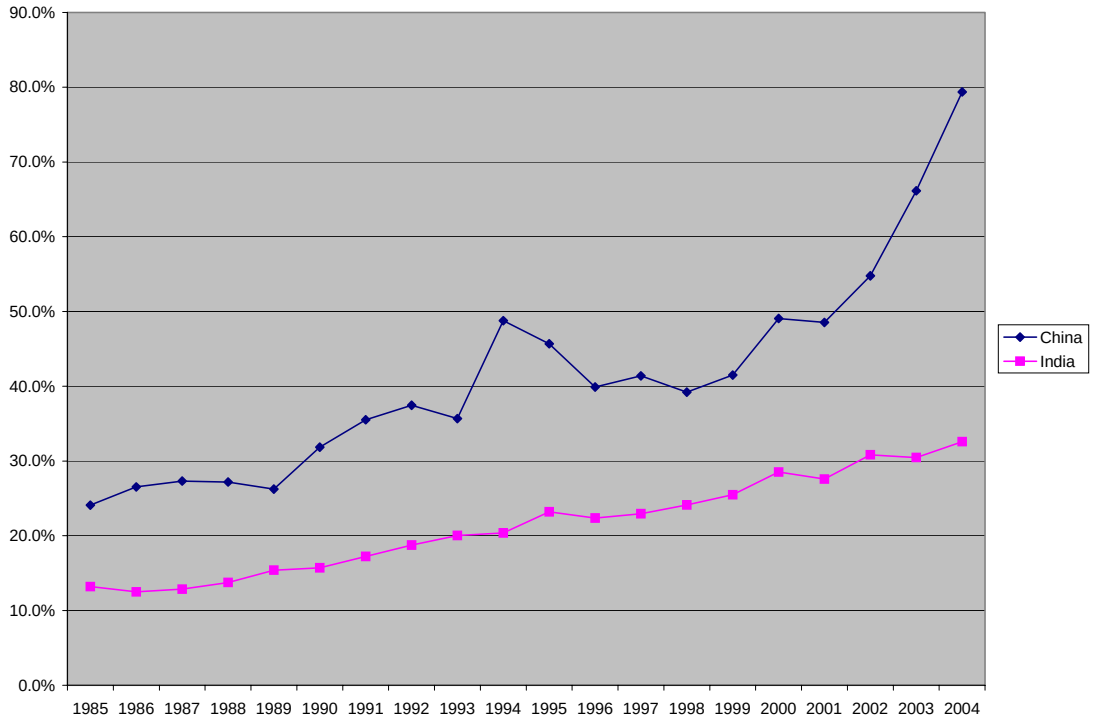

Figure 27: China and India: Trade/GDP Ratios, 1985-2004. Note: Trade measured as sum of exports plus imports. Source: Author's calculations based on data from XXX.