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Liberalizing Capital Flows in India: Financial Repression, Macroeconomic Policy, and Gradual Reforms

After decades of resistance to international economic integration, India has recently made significant progress in liberalizing trade and access to foreign investment, beginning in 1993. These policy changes reflect widespread concern that India's past inward orientation inhibited economic growth, especially in comparison with the developing countries of East Asia. The acceptance of economic liberalization and reform has allowed the relaxation of restrictions on foreign direct investment and inward portfolio capital flows. India retains tight controls on outward portfolio capital flows, restricting the access of residents to foreign capital markets and domestic markets in foreign currency–denominated securities. The relaxation of these controls and further liberalization of the capital account remain controversial policy issues for India.

The round of economic reforms in response to the balance-of-payments crisis in 1991 led to the publication of the Report of the Committee on Capital Account Convertibility (the Tarapore Report) in 1997.[1] This report, published by India's central bank, the Reserve Bank of India, outlined a plan for achieving full capital account convertibility. Ironically, the Tarapore Report appeared on the eve of the East Asian financial crises. It is not surprising that the absence of contagion effects on the Indian economy during these crises was taken as affirmation of the wisdom of India's controls on outward capital flows. Although capital account convertibility in developing countries became more controversial in the wake of the Asian crises, the liberalization of inward capital flows to the Indian economy has continued in the last few

1. Tarapore (1997).

years, and the prospects for further capital account liberalization in South Asia appear to be improving again.

The strong theoretical case for international capital market integration for developing countries has received increasing scrutiny in empirical research. Empirical studies support the view that financial crises in recently liberalized economies are mainly to blame for the ambiguous net gains from capital account convertibility in emerging market economies. They also reveal that domestic capital market development, together with prudent regulation and improved quality of governance in the public and the private sectors, raises the potential benefits from international financial integration and reduces the incidence and severity of crises. Crises in developing countries over the last two decades have repeatedly revealed that the transition from financial repression to financial liberalization often leads to a crash in an inadequately regulated financial system.[2] The financial crises of East Asia emphasized the important role of poor regulation and supervision of domestic financial activity and of public sector guarantees of banking sector liabilities in engendering crises in recently liberalized economies.[3] Crises elsewhere, notably in Latin America, attest to the importance of macroeconomic imbalances in provoking capital account crises that reverse economic growth.

A critical issue in the debate over capital account convertibility for India is this vulnerability of a previously financially repressed economy to capital account crisis after financial integration. Two related issues are, first, what policy reforms need to be undertaken before liberalizing controls on outward capital flows, and, second, what policy measures might protect an open Indian financial system from crisis. This paper considers the challenges to capital account liberalization for India and the vulnerability of the Indian economy to capital account and financial crises as it liberalizes. The level and growth of public sector debt and the state of the domestic banking sector are central issues. Many papers have focused on the need for fiscal reform and the growth of public debt in India, and others have surveyed in detail the challenges for banking reform.[4] The theme of this paper is how macroeconomic policy and the legacy of financial repression in the Indian

2. This observation by Díaz-Alejandro (1985) was particularly prescient for the 1990s.

3. Indeed, the banking crisis that began in the 1990s in one of the world's most advanced economies, Japan, attests to the impact that weak prudential regulation and supervision can have on any economy with a bank-centered financial sector (see Dekle and Kletzer, 2003).

4. Recent detailed analyses of fiscal policy in India include Pinto and Zahir (2003) and Singh and Srinivasan (2004). Bhattacharya and Patel (2004) provide a detailed analysis of financial sector reform and banking in India.

economy interact, and why they matter for sequencing economic reforms and for India's financial integration with the world economy.[5]

The first section of this paper places the international financial integration of the Indian economy in perspective by briefly reviewing the theoretical and recent empirical literature on the benefits of capital account liberalization for developing countries. The second section gives an interpretive overview of lessons learned from recent crises and the literature on capital account crises, to frame the discussion of the vulnerabilities of the Indian economy to future crises. The third section discusses India's recent liberalization of inward capital flows and the impact of these reforms. The fourth section, which is the core of the paper, discusses the vulnerabilities of the Indian economy to financial and balance-of-payments crises and the importance of the legacy of financial repression. The fifth section summarizes the risks for capital account convertibility, and the sixth discusses the appropriate policy sequence for liberalization. The last section concludes by arguing that India is in a good position to undertake further liberalization, and that efforts to meet the as-yet-unmet preconditions for capital account convertibility in India are desirable financial and macroeconomic policy reforms in their own right.

The Gains from International Financial Integration

The basic theoretical argument for the liberalization of capital flows is well known. Just as there are gains from contemporaneous trade in goods and services, so, too, should there be gains from trade in commodities across time. In neoclassical growth models, capital flows from relatively capital-abundant countries to a developing country allow higher rates of investment and economic growth in the latter, without a greater sacrifice of current consumption. Capital inflows allow the recipient country to invest and consume more than it produces when the marginal productivity of capital within its borders is higher than in the capital-rich regions of the world. Comparative advantage implies that capital-poor regions should borrow and that they should repay their debts only after their capital stock and output per capita have converged toward those in the advanced economies. By reallocating savings and resources toward the most productive investment opportunities, capital flows should result in welfare gains for both borrowers and lenders.

5. Roubini and Hemming (2004) also discuss the crisis vulnerability of the Indian economy, concentrating on comparisons with recent crisis economies.

The theoretical literature is not conclusive about the magnitude of the gains from this convergence of factor abundance ratios. Robert Lucas argues that neoclassical growth models imply larger international capital flows and higher rates of convergence of GDP per capita than are observed.[6] Pierre-Olivier Gourinchas and Olivier Jeanne, however, calibrate a simple neoclassical growth model and find welfare gains from free international capital mobility of between 1 and 2 percent of GDP for capital-poor countries.[7] This estimate is approximately the same as that for the benefits of eliminating economic fluctuations in developing countries. Convergent growth models that assume away domestic financial market imperfections might be expected to underestimate the impact of financial market integration.

Recent empirical research on economic growth finds that factor productivity differences dominate differences in factor abundance as a source of variation in growth rates of income per capita across countries.[8] Percentage differences in total factor productivity between advanced industrialized countries and developing countries such as India substantially exceed percentage differences in capital stocks. This empirical evidence suggests that the importance of liberalization for growth may well rest on the relationship between international financial integration and productivity growth. Countries that are financially integrated do attract more foreign direct investment, which can contribute to productivity growth through technology transfer and through spillovers of know-how from foreign-owned to other domestic firms. Interactions between financial integration and factor productivity could be more important than increasing net capital inflows.

Financial integration can raise welfare and accelerate growth by allowing the sharing of risk between savers and investors across borders. Access to international financial markets allows domestic residents to diversify their investment risks, possibly increasing their saving rates, and gives diversified foreign investors access to risky investment projects with high expected returns. Maurice Obstfeld develops an endogenous growth model with consumption risk that predicts recurrent gains from full international financial integration for developing countries of between 0.5 and 5.3 percent of GDP.[9] Eswar Prasad and coauthors survey studies of the gains from international risk diversification and estimate the gains separately for more and less financially integrated economies.[10] The estimated gains for the former (which today include India) exceed 2.5 percent of GDP, and those for the latter are about

6. Lucas (1990).
7. Gourinchas and Jeanne (2003).
8. For example, Hall and Jones (1999).
9. Obstfeld (1994).
10. Prasad and others (2003).

6 percent of GDP. These theoretical gains rely on financial integration reducing consumption volatility while allowing output volatility to rise. National consumption volatility typically exceeds output volatility. For India the volatilities of consumption growth and output growth were 5 percent and 3 percent, respectively, between 1960 and 1999, and the ratio of consumption growth volatility to output growth volatility rose from the 1980s to the 1990s.[11] Ayhan Kose and coauthors show that, contrary to the theoretical models, financial openness (as measured by capital flows) raises this ratio, whereas trade openness lowers it, for a large sample of developing countries.[12]

In recent years equity market reform in India has opened foreign access to investment in domestic stocks and given domestic firms access to foreign stock markets. Cross-country empirical studies find positive but small effects of international equity market liberalization on growth of income per capita. These studies also show that equity market liberalization reduces the volatility of both production and consumption.[13]

Capital account liberalization may also provide a means for forcing an end to financially repressive policies. The ability of financial resources to move across borders in response to current or anticipated future taxation of capital earnings or unsustainable fiscal or financial policies may impose discipline on public authorities, enhancing domestic financial intermediation and investment. The adverse impact of raising effective rates of taxation on financial intermediation and on the earnings of capital can be much greater in an open economy than in a financially closed economy. Access of domestic savers to international capital markets also limits the capacity of the public sector to borrow domestically at low rates of interest. International financial integration thus enhances the incentives for tax reform and deficit reduction.

Liberalization and the Risk of Crisis

The capital account crises in emerging market economies over the last decade have raised doubts about the net benefits of capital account liberalization for developing countries. In several cases the liberalization of financially repressed economies led to rapid capital inflows followed by sudden

11. From Kose, Prasad, and Terrones (2003).

12. Kose, Prasad, and Terrones (2003).

13. Bekaert, Harvey, and Lundblad (2002) and Henry (2003) find that liberalizing foreign equity investment raises growth of income per capita by between 1 and 2 percentage points a year over a five-year horizon. Bekaert, Harvey, and Lundblad also find that capital account liberalization raises consumption volatility and output volatility in emerging market economies.

reversals and financial crises. Such crises are costly for economic growth. However, in spite of the crises of 1997–98, compound growth rates of GDP per capita in most of the liberalized economies of East Asia, including South Korea, Malaysia, and Thailand, have exceeded that in India since India began its gradual reforms in the mid-1980s.[14] The experience with capital account liberalization indicates that its benefits depend upon the vulnerability of the recently liberalized economy to financial crisis. The vulnerability of India to capital account crisis following further liberalization is a central concern of this paper.

The debate on the empirical effects of capital account liberalization on economic growth is not very conclusive. How one constructs indicators of capital account openness can significantly affect the results, raising doubts about evidence that capital account liberalization fails to promote economic growth. Some provisional conclusions do emerge, however. Opening the capital account under conditions of significant macroeconomic imbalance reduces the net gains and raises the prospects of subsequent crisis. Countries tend to benefit from liberalization when they are better able to absorb capital inflows by virtue of having higher levels of human capital, more developed domestic financial markets, and greater transparency in financial and corporate governance and regulation. Measures of the prevalence of corruption also have a significant relationship with the benefits of openness. For example, greater transparency in governance and control of corruption in developing countries are associated with higher levels of inward foreign direct investment and larger growth benefits from that investment.[15]

Several causes of crises in emerging markets have been identified. The first is that fiscal and external imbalances, and in particular unsustainable fiscal policies, frequently lead to a rapid currency depreciation, which then precipitates a financial crisis. Under a pegged exchange rate regime, if monetization of public sector budget deficits occurs to a degree that is inconsistent with the pegged rate of depreciation, sooner or later a sudden outflow of international reserves will force abandonment of the regime. If unsustainable deficits and public debt lead market participants to expect them to be met by future monetization, it can lead to the collapse of a currency peg before the required monetary expansion

14. This statement is verified by data in Maddison (2003) and elsewhere.

15. These conclusions are drawn from Prasad and others (2003), who survey the cross-country evidence on capital account liberalization. Rodrik (1998) initiated the current debate by finding an absence of benefits from financial openness. Arteta, Eichengreen, and Wyplosz (2001) discuss the importance of how one measures capital account openness.

or fiscal reform begins. Anticipated future monetization of unsustainable government debt can also induce capital flow reversals and rapid reserve losses under a managed float when the central bank intervenes to resist depreciation.

Another aspect of financial crises in emerging market economies is the occurrence of banking crises. Although the association between banking and currency crises has received much attention because of the frequency with which they occur together, banking crises often follow financial liberalization without a currency crisis and are exacerbated by access to foreign capital inflows.[16] The deterioration of the banking system in a recently liberalized economy typically results from the combination of inadequate prudential regulation, supervision, and enforcement with an increase in the potential volatility of bank deposits. Not only are emerging market financial crises that involve banking crises costly in terms of economic growth, but costly banking crises following financial liberalization are not confined to developing countries or to pegged exchange rate regimes. The Japanese banking crisis that began in the 1990s was central to Japan's poor economic performance over the last decade, and regulatory forbearance is largely responsible for that country's banking sector problems.[17]

The fiscal impact of a banking crisis can contribute to a financial crisis. Contingent liabilities of the public sector are seldom counted in measures of the outstanding stock of public debt. Prominent among these liabilities in emerging market economies are public guarantees, explicit or implicit, on deposits in domestic banks and other financial intermediaries. In the East Asian crisis countries, deposits that had not been subject to deposit insurance or other explicit guarantees (for example, household deposits in finance companies in Thailand) were guaranteed by the government after the fact.[18] These contingent liabilities can be realized suddenly in the event of a crisis, leading to a sudden increase in public debt, which then justifies the expectation of future monetization. Further, the possibility that the government will bail out depositors creates a moral hazard in banking, as banks lose their incentive to protect against those losses that will be correlated

16. Kaminsky and Reinhart (1999) show that twin crises have larger effects on output on average than do banking or currency crises alone and that banking crises often precede macroeconomic crises.

17. Dekle and Kletzer (2003) discuss this argument and present a model for how a banking crisis can evolve without a fixed exchange rate. Bhattacharya and Patel (2002) propose an extension of Dekle and Kletzer's (2002) moral hazard model of endogenous banking crises under exchange rate pegs to India.

18. See Dekle and Kletzer (2002) for a survey.

with losses in the rest of the banking system. Under a pegged exchange rate, this extends to incentives to hedge against foreign currency risk, so that the banking system will choose to carry foreign currency–denominated liabilities against assets denominated in domestic currency.

Weak financial sector regulation and regulatory forbearance allow banks to accumulate net contingent claims against the government under deposit insurance schemes. Since experience shows that the forswearing of public sector bailouts of the domestic financial system is not credible, regulation of the financial system is necessary to ensure against the accumulation of off-budget contingent liabilities that become on-budget liabilities in the event of a crisis. The reduction or elimination of capital account restrictions expands the resource base from which domestic banks can draw in generating implicit contingent claims against the government. The relationship in emerging market economies between financial crises and poor financial regulation and prudential supervision implies the observation that better governance will result in lower macroeconomic volatility under an open capital account.

One of the major roles of financial intermediation is to transform short-maturity deposits into long-maturity investments. Banking necessarily involves the management of maturity risk, and a major reason for bank regulation is to ensure that this risk is adequately hedged. The problem of maturity mismatch also arises for other types of international capital flows to developing countries. Lending at short maturities arises endogenously in simple theoretical models in the presence of investment gestation lags. With such lags, a reversal of short-term lending can lead to a liquidity crisis even if the country could repay its debt in full if the reversal had not occurred. In such cases long-maturity loans are welfare improving, but short-maturity lending allows creditors to exit before the country is forced to restructure its debt. With short-term debt in the market, long-maturity debt becomes risky, and lenders can demand a large risk premium, leading debtors to borrow at short maturities.[19] Under strict capital controls, a capital account reversal is impossible, and so there is no gain from shortening maturities. The implication is that debt maturities are endogenous to capital account liberalization. This point extends to public sector borrowing with policy uncertainty. Capital account liberalization may shorten the maturity of government debt. Similarly, developing country governments face difficulty in issuing international debt denominated in domestic currency, if they can do it at all.

19. Rodrik and Velasco (2000) present a simple model demonstrating this.

The volatility of capital flows to emerging markets motivates the widespread view that foreign direct investment is a more desirable form of capital inflow. Direct investment generates equity claims in firms that match the maturity of the investment and are denominated in the same currency as the firm's sales and expenses. Foreign direct investment flows are less vulnerable to sudden reversals, and they bring with them the potential growth benefits associated with technology transfer. Foreign direct investors, however, can hedge against their domestic currency assets in the foreign exchange market, and, under a fully liberalized capital account, they can repatriate their earnings and liquidate investments into foreign currency if they anticipate a depreciation. Portfolio borrowing by domestic corporations and foreign direct investment are fungible to a significant extent. In the case of India, repatriation and liquidation of domestic investments into foreign currency by nonresidents are now unrestricted, so that reversals are possible.

One aspect of financial crises in emerging market economies has been a tendency to peg the exchange rate. Banking crises and fiscal crises can occur under floating exchange rates, but exchange rate pegs can greatly exacerbate such crises by diminishing the incentives of banks and corporations to hedge their foreign currency risk. The risk of an eventual large devaluation rather than of daily exchange rate fluctuations should also affect the incentives of foreign creditors to hedge risk and the maturity of the assets they acquire. There has been a strong tendency in India to resist exchange rate movements, just as Guillermo Calvo and Carmen Reinhart have observed in many other emerging market economies.[20] A managed float removes the implicit guarantees of a fixed exchange rate regime, but resistance to fluctuations can still create incentives, in countries with integrated capital markets, to take on currency risk that creates contingent liabilities for the government.

Capital account liberalization allows rapid reversals of foreign capital inflows that force the contraction of domestic consumption or investment, or both. The recent experience of crises in emerging market economies implies that sustainable fiscal policies, financial reform and regulatory improvement, and flexible exchange rate regimes reduce the likelihood of capital account crisis. Each of these reduces the incentives of foreign creditors and domestic residents to withdraw credit suddenly from an emerging market economy and reduces the potential exposure of the government to unhedged risk.

20. Calvo and Reinhart (2000).

Economic Reform in India and Capital Inflows

After independence, India had a comparatively unrestricted financial system until the 1960s, when the government began to impose controls for the purpose of directing credit toward development programs. Over the 1960s, interest rate restrictions and liquidity requirements were adopted and progressively tightened. The government established the state banks and by the end of the decade had nationalized the largest commercial banks, giving authorities broader control over the allocation of credit across sectors and enterprises. Through the 1970s and into the 1980s, directed credit took a rising share of domestic lending, and interest rate subsidies for targeted industries became commonplace. With the start of economic reforms in 1985, the government began to reduce financial controls by partly deregulating bank deposit rates. In 1988 these controls were reinstated, and the government began to relax ceilings on lending rates of interest. Progressive relaxation of restrictions on both bank deposit and lending rates of interest and the reduction of directed lending had begun by 1990. The gradual reduction in interest rate controls and directed lending proceeded throughout the 1990s.[21]

Until reforms began in the late 1980s, international capital inflows and outflows were restricted by administrative controls or outright prohibition on the purchase of foreign assets by residents, direct investment by foreigners, and private external borrowing. After India encountered balance-of-payments difficulties in 1991, the authorities began to gradually relax restrictions on inward capital flows and on currency convertibility for current account transactions. The rupee was made fully convertible for current account transactions in August 1994, when the government agreed to the obligations of Article VIII of the Articles of Agreement of the International Monetary Fund. Trade liberalization also proceeded during the 1990s, with tariff rates reduced substantially.

Over the last several years, restrictions on foreign direct investment, portfolio borrowing, and foreign portfolio equity ownership have been relaxed. This marked a significant turnaround from banning foreign investment and ownership to actively seeking it (at least in the case of direct investment). Restrictions on the share of foreign ownership in enterprises

21. Demetriades and Luintel (1996, 1997) estimate the impact of banking controls on economic growth in India and conclude that they had a negative effect. Their index of financial repression for India based on quantitative restrictions on financial intermediation displays an upward trend from 1969 through 1984, followed by a decreasing trend beginning in 1988.

have been removed in most sectors, and the upper bounds for automatic approval of direct and portfolio investments have been progressively raised. The procedures for investments over these thresholds have also been simplified and clarified in an effort to reduce delays and arbitrary rulings. Foreign investment income is fully convertible to foreign currency for repatriation. External commercial borrowing has been relaxed but is regulated with respect to maturities and interest rate spreads.[22]

Effective restrictions remain on residents' acquisition of foreign financial assets and on currency convertibility for capital account transactions. Recently, these restrictions have been slightly eased to allow domestic residents to invest in foreign equities. It is also apparent that some domestic investment, notably in equity, by domestic residents is intermediated through Mauritius to take advantage of favorable tax treatment under India's reciprocal tax agreement with that country. Direct deposits and equity and bond holdings by nonresident Indians are subject to favorable treatment but remain small relative to the size of the financial sector.

The imposition of controls on cross-border financial transactions in the 1960s paralleled deep government intervention in domestic financial intermediation. As in other countries, the initial motivation for financial controls was to direct savings toward investment in certain targeted sectors as part of a development plan. State ownership of intermediaries, interest rate restrictions, foreign exchange controls, and directed credit schemes were all part of a policy of financial repression. The government also required, and continues to require, that banks hold a large share of their assets in public debt instruments. These instruments paid below-market rates of interest, imposing an implicit tax on financial intermediation and providing a significant source of revenue for the government. Indeed, the role of financially repressive policies evolved over the decades, from one of addressing development objectives to one of fiscal necessity, as it has in a number of other developing countries.[23] As analyzed below, liberalization has brought about a decrease in the fiscal revenue generated by financial repression.

Policies of financial repression impose an implicit tax on saving and investment, one that can vary widely by source and activity. Such policies can significantly distort and discourage capital accumulation and slow economic growth.[24] Capital controls distort different financial activities to

22. The Reserve Bank of India describes the restrictions on direct investment, portfolio investment, and bank borrowing in detail in its *Annual Report, 2002–03*, and *Report on Currency and Finance, 2002–03*.

23. This observation is documented by Fry (1988, 1997) and Giovannini and de Melo (1993), among others.

different degrees when they essentially eliminate private international financial transactions, as they did in India in the 1970s and 1980s. The selective imposition and partial relaxation of controls (the current situation in India) also distorts financial activities in myriad ways, which may not be recognized or easily quantified. Because the differences in rates of return to different saving and investment vehicles can have large effects on the size of financial flows, the microeconomics of capital controls can have macroeconomic impacts.

One of the focal points of inward capital account liberalization in India has been, as already noted, the encouragement of foreign direct investment. Total flows of foreign direct investment into India increased sixty-fold in dollar terms from 1990–91 to 2001–02, to over $6 billion, and inward portfolio investment was $2 billion in 2001–02. However, foreign direct investment inflows to India remained less than 6 percent of total foreign direct investment entering the developing countries of Asia in 2001.[25] The high growth rate of direct investment inflows is unsurprising given that it started from nothing in the late 1980s.

Comparisons with foreign direct investment in China are frequent in official reports and in the Indian press—evidence of concern that foreign direct investment is not higher. In 2001 foreign direct investment inflows were equivalent to 33.2 percent of GDP for China and 5.6 percent of GDP for India; flows per capita were four times greater for China than for India, and as a share of gross capital formation they were half as great in India as in China.[26] The proper concern may be that, although foreign direct investment is rising rapidly in India and the share of growth in the capital stock attributable to foreign investment is rising, total investment as a share of GDP remains much lower in India than in China. Impediments to investment and disincentives to save, along with remaining restrictions on access to foreign capital, might explain lower rates of foreign direct investment. Shang-Jin Wei argues that a lack of transparency in governance and control of corruption in China and India inhibits inward foreign direct investment to both countries.[27] Along with red tape, widely varying taxes and regulatory policies in India and across the states of India may inhibit foreign direct investment. Further, gradualism itself, by creating uncertainty about the timing and nature of future reforms, could make direct investment

24. There is a copious literature on this topic, which is surveyed by Fry (1988, 1997).

25. Data are from Reserve Bank of India, *Report on Currency and Finance, 2002–03*, tables 6.6 and 6.4.

26. Reserve Bank of India, *Report on Currency and Finance, 2002–03*, chapter 6.

27. Wei (1999).

riskier. The importance of fiscal and regulatory distortions is readily evidenced by the dominance of capital inflows from Mauritius in total inflows, alluded to above. Foreign direct investment inflows from Mauritius were three times as great as flows from the second largest contributor, the United States. Inhibition of direct investment by European, East Asian, and North American corporations is unlikely to raise capital inflows and technology transfer.

Vulnerabilities of the Indian Economy to Crisis

Three primary challenges for the success of capital account liberalization in India can be identified. The first is the high and rising ratio of outstanding public debt to GDP despite recent high growth rates of GDP. The second is the uncertain capacity of the domestic financial system to absorb foreign capital inflows. The third is the potential vulnerability of the financial sector to capital account crisis as capital outflows are liberalized. All three challenges have a common theme: the legacy of financial repression and its role in fiscal and financial policy in India. Recent economic reforms in the presence of financial repression provide the initial conditions for further liberalization and have implications for the potential vulnerabilities of the economy to capital account crisis.

Fiscal Sustainability

India's large outstanding public sector debt and large primary deficits of the central and state governments have led to frequent calls for fiscal reform to facilitate deficit reduction. Compared with those of other emerging market economies, India's external sovereign debt is low in proportion to GDP. However, domestic public debt is high, so that the total outstanding public debt exceeds 80 percent of GDP. The combined deficits of the central and state governments are about 10 percent of GDP, and the combined primary deficit, which excludes interest payments, averaged 3.5 percent of GDP from 1997 through 2002. Table 1 shows the combined central and state debt and deficit ratios since the early 1990s. The short-lived fiscal retrenchment during the middle of the 1990s and the rising deficits of the last several years are both apparent.

The pattern of public debt accumulation for India suggests that the current financing path of public expenditure may not be sustainable over a long horizon. Indeed, this possibility has been noted frequently by others.[28] For

TABLE 1. Consolidated Debt and Deficits of Central and State Governments
Percent of GDP

Fiscal year	*Public debt*	*Gross deficit*	*Primary deficit*	*Interest payments*
1990–91	64.0	9.8	5.2	4.6
1991–92	62.9	7.3	2.4	4.9
1992–93	62.5	7.2	2.2	5.0
1993–94	64.6	8.5	3.4	5.2
1994–95	62.4	7.4	2.0	5.4
1995–96	60.3	6.8	1.6	5.2
1996–97	58.5	6.6	1.3	5.3
1997–98	60.3	7.5	2.2	5.3
1998–99	61.3	9.3	3.8	5.5
1999–2000	64.0	9.8	4.0	5.9
2000–01	67.0	9.7	3.8	6.0
2001–02	73.0	10.6	4.1	6.4
2002–03	77.5	9.8	3.2	6.8

Sources: Reserve Bank of India, *Handbook of Statistics on the Indian Economy, 2002*; and Reserve Bank of India, *Bulletin, June 2004.*

example, Montek Ahluwalia points out that the growth of public debt in India has equaled or exceeded that in Russia, Turkey, and Argentina before those countries' recent crises.[29] Willem Buiter and Urjit Patel formally tested and rejected the hypothesis that India's public debt was sustainable over the earlier period of rising public sector deficits that parallels the current increase.[30] However, the recent high growth rates of real GDP and low international real rates of interest can change even back-of-the-envelope calculations. Nouriel Roubini and Richard Hemming argue that the current level of public debt is sustainable and will continue to rise toward a steady state.[31] However, their conclusion is based on the assumption that the international macroeconomic environment of the past few years is a good approximation of the long-run environment for fiscal policy sustainability—an assumption that is probably inappropriate.

The sustainability of public debt is typically assessed by a simple calculation of the dynamics of debt using recent growth rates, interest rates, and primary public sector balances. The standard calculation uses the public sector flow budget identity, which equates the change in the debt-to-GDP ratio to the sum of the debt-to-GDP ratio, multiplied by the difference between the real interest on public debt and the growth rate of real GDP, and the pri-

28. Recent examples include Pinto and Zahir (2003), Roubini and Hemming (2004), and Srinivasan (2002).
29. Ahluwalia (2002).
30. Buiter and Patel (1997).
31. Roubini and Hemming (2004).

TABLE 2. Real Interest Rates and Interest Payments on Government Debt
Percent

Fiscal year	Weighted-average real interest rate[a]	Ratio of interest payments to debt: Deflated by wholesale price index	Ratio of interest payments to debt: Deflated by GDP deflator	Real annual GDP growth
1990–91	1.1	−3.2	n.a.	6.0
1991–92	−1.9	−5.9	n.a.	2.1
1992–93	2.4	−2.0	1.4	4.2
1993–94	4.2	−0.4	2.2	5.0
1994–95	−0.6	−3.9	−1.1	6.8
1995–96	5.7	0.5	1.8	7.6
1996–97	9.1	4.5	−2.4	7.5
1997–98	7.6	4.4	2.2	5.0
1998–99	6.0	3.1	1.5	5.8
1999–2000	8.5	6.0	4.1	6.7
2000–01	3.8	1.8	2.9	5.4
2001–02	5.8	5.2	5.2	4.0
2002–03	n.a.	4.3	6.2	4.7

Sources: Reserve Bank of India, *Handbook of Statistics on the Indian Economy, 2002*; and International Monetary Fund, *World Economic Outlook*, 2004.

a. Weighted average of annual interest rates on central government debt, deflated by the wholesale price index.

mary surplus of the public sector (as a proportion of GDP). Table 2 reports real interest rates on domestic public debt in India and real GDP growth. The first column reports average real interest rates for internal government debt, calculated as the difference between the weighted-average nominal interest rate for central government securities and the wholesale price inflation rate.[32] These interest rates are representative of other indices of interest rates on central and state public debt reported by the central bank. The second column reports a similar calculation using the ratio of interest payments to outstanding domestic public debt. The third column repeats this calculation using data from the IMF *World Economic Outlook* database, also used by Roubini and Hemming. This column, therefore, reports the real interest rate calculated using the GDP deflator. The fourth column reports the real GDP growth rate calculated from the same source.

The current general government debt of about 82 percent of GDP and the primary deficit of about 3.6 percent of GDP are sustainable only if the growth rate of real GDP exceeds the real interest rate on government debt

32. The calculations in this column are reported by Mohan (2002) and use data from Reserve Bank of India, *Handbook of Statistics on the Indian Economy, 2002*.

by 4.4 percent. This is clearly not the case. For the calculated real rates of interest reported in the first column of table 2, the growth-adjusted interest factor (the real interest rate minus the real growth rate) averages 0.95 percent for the fiscal years 1997–98 through 2000–01. This implies that the debt-to-GDP ratio would remain constant if the primary balance improved from a deficit of 3.6 percent of GDP to a surplus of almost 0.8 percent of GDP. The fiscal gap, which is the amount by which the primary surplus must rise to keep the debt-to-GDP ratio constant, equals 4.4 percent of GDP using recent weighted averages of interest rates on central government debt. This standard calculation leaves out seignorage revenue that accrues to the government. India's monetary base grew at an average annual rate of 10 percent from 1997 through 2002. Seignorage revenue as a fraction of GDP during this period averaged about 1.4 percent (see table 4 below for data and sources). This revenue—the revenue realized from expansion of the monetary base to meet growth and modest inflation—should be added to the primary surplus of the consolidated public sector. This reduces the estimate of the fiscal gap to about 3 percent, and the implied growth rate of the public debt-to-GDP ratio equals 3.6 percent a year. Using these interest rates, current fiscal and monetary policies are not sustainable.

The alternative of using the ratio of interest payments to outstanding debt and deflating yields an estimate of the real rate of interest that is 1.9 percentage points lower than the average growth rate over the period from 1997 through 2003. This implies that a debt-to-GDP ratio of 82 percent is sustainable if the primary balance improves by 2 percent of GDP to a deficit of 1.6 percent. When seignorage revenue is again subtracted, these interest rate estimates imply that an improvement in the primary surplus by 0.6 percent of GDP is needed to stabilize the debt-to-GDP ratio at 82 percent. The excess of the growth rate over the interest rate also implies that the debt-to-GDP ratio will continue to rise until it reaches 116 percent of GDP.[33]

A simple lesson from the public sector budget identity is that a positive debt-to-GDP ratio and a positive primary deficit are sustainable only if the long-run real rate of interest on government debt is less than the real growth rate of the economy. This condition will hold in a dynamically efficient economy only if the interest rate on government debt is less than the opportunity interest rate, adjusted for risk. In this case the government imposes an implicit tax on its creditors. The difference between the opportunity

33. Roubini and Hemming (2004) use the negative growth-adjusted interest rate term and calculate debt sustainability for several standard scenarios for primary deficits and GDP growth.

interest rate and the public sector borrowing rate, multiplied by the outstanding public debt, equals the revenue collected through this implicit tax. Therefore, assessing long-run sustainability using an approximation of the long-run real interest rate that is less than the long-run growth rate of the real economy means that a portion of tax revenue is counted in the interest on government debt and not in the primary surplus. Such implicit revenue is approximated below.

The two calculations clearly indicate that the choice of the long-run real rate of interest, even if the recent rapid growth of the Indian economy is expected to continue, is critical and prone to error. It is not particularly realistic to assume as permanent at least two characteristics of the current interest rates paid on government debt in India: first, global real rates of interest are at historically very low levels, and second, India enjoys concessional terms on a significant share of its foreign public debt.[34] Excluding interest on foreign debt from these calculations and using yields on public debt issued domestically may give a better estimate of future public debt sustainability than those implied by using aggregate data. An important characteristic of countries suffering repeated macroeconomic crises is the volatility of fiscal policy. The primary balances for India shown in table 1 do not display very much historical volatility, but the rising trend of the primary deficit as a share of GDP makes a sufficient case for fiscal adjustment.

Moreover, the budget balances for the combined central and state governments do not give a complete accounting of public sector liabilities. In addition to unfunded pension liabilities and various contingent liabilities, the government guarantees debt issued by unprofitable public enterprises. The largest of these losses are those of the State Electricity Boards. Inclusion of these ongoing additions to public sector liabilities increases the consolidated deficit by between 1.0 and 1.5 percent of GDP.[35] Additional explicit debt guarantees include those on borrowing through special-purpose vehicles for irrigation projects, and lending by banks and other nonbank financial institutions under state guarantees. The total contingent guarantees of the state and central governments are estimated to amount to 11.5 percent of GDP for 2002–03.[36] Brian Pinto and Farah Zahir report that pension liabilities for both the central and state governments are growing at

34. Reynolds (2001) also uses a simple growth model to argue that India took advantage of low real interest rates to sustain the growth of public debt after 1996.

35. This estimate is from Pinto and Zahir (2003) based on data from the Planning Commission.

36. Reserve Bank of India, *Annual Report, 2002–03*, table 4.16.

TABLE 3. Gross Private Capital Formation
Percent of GDP

Year	Total	Private
1991	27.8	14.1
1992	24.2	13.9
1993	23.4	15.0
1994	22.8	15.6
1995	21.3	16.7
1996	20.6	18.3
1997	18.8	17.7
1998	17.2	16.6
1999	16.4	16.5
2000	15.9	17.0
2001	15.2	17.2
2002	15.0	17.3
2003	14.5	17.9

Source: International Monetary Fund, *World Economic Outlook*, 2004.

approximately 20 percent a year, although current pension expenditure is only about 2 percent of GDP.[37] The implicit and explicit deposit insurance guarantees of the public sector can be estimated by the net nonperforming assets of the banking sector after loan-loss provisions are subtracted, and are less than 2 percent of GDP.[38]

The large public debt and large public sector budget deficits, in the presence of tight restrictions on international capital outflows from the private sector, suggest that domestic capital formation is being crowded out. Table 3 reports the ratios of gross private capital formation and of total (private and public) gross capital formation to GDP for India since 1990. The table shows that private capital formation has increased modestly, although public investment has contracted substantially. The decrease in public investment has a counterpart in the increase in the share of interest payments in public expenditure. Because inward foreign investment rose as restrictions on financial inflows were relaxed over the past several years, the very slight increase in the share of private capital formation in GDP may reflect increasing crowding out by public sector borrowing on top of the decline in the share of public infrastructure spending.

37. Pinto and Zahir (2003).

38. Data from Reserve Bank of India, *Report on Trend and Progress of Banking in India, 2002–03*.

Fiscal Consequences of Gradual Reforms

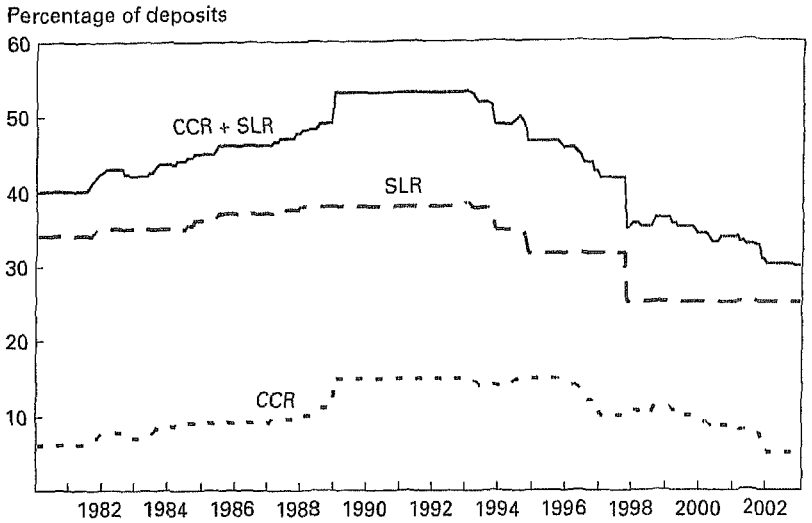
As part of its financial sector reforms over the past decade, the government has progressively relaxed interest rate ceilings, reduced the requirements of commercial banks to invest in government debt, and actively encouraged a domestic market in government debt instruments. These reforms have been part of the progressive reversal of the financially repressive policies adopted during the 1960s.

By the 1980s financial repression had become an important means of financing public expenditure in India. The imposition of reserve requirements on commercial banks has played an important role in raising public resources by implicitly taxing domestic financial intermediation. The cash reserve ratio and the statutory liquidity ratio impose minimum levels for holdings of cash assets and public sector interest-bearing debt, respectively, as proportions of deposits in scheduled commercial banks. These ratios have varied significantly over time, revealing their use as active measures of monetary and fiscal policymaking, and both have been reduced in recent years (figure 1). Interest rate restrictions were also substantially reduced in the 1990s, and government debt now trades on the domestic financial market. These policy reforms imply that the implicit rate of taxation on financial intermediation has eased since 1993. Although the statutory liquidity ratio was set at 25 percent of deposits, the scheduled commercial banks held over 40 percent of their deposits in approved public sector securities at the end of 2003. Together, the scheduled commercial banks held over 60 percent of the consolidated central and state government debt at the end of 2002. Additional amounts are held by nonbank financial intermediaries and by the Life Insurance Corporation of India, which alone held an additional 20 percent of government debt, equal to more than 70 percent of its assets, at the end of 2002. Two institutions, the State Bank of India and the Life Insurance Corporation of India, together held 52 percent of government debt in 2003.[39] These holdings indicate a significant preemption of private sector loan resources by the government.

Policies of financial repression allow governments to finance public sector budget deficits through domestic credit creation at lower rates of inflation than would be possible in a financially liberalized economy. Even in the absence of interest rate ceilings and the presence of market-determined yields on primary issues of government debt, capital controls

39. Data reported in this paragraph are from the Reserve Bank of India, *Report on Trend and Progress of Banking in India, 2002–03;* and *Handbook of Statistics on the Indian Economy, 2002.*

FIGURE 1. Cash Reserve Ratio and Statutory Liquidity Ratio, 1980–2003



Source: Data from Reserve Bank of India, *Handbook of Statistics on the Indian Economy, 2002*, table 41.

provide the public sector with a captive capital market and allow the government to pay interest rates on its debt that are below the opportunity rate. The fact that banks and other financial institutions hold more public debt than required by statute should not be taken as evidence that financial repression no longer plays a role in public finance. The commercial banking sector is dominated by government-owned banks (which hold about 80 percent of deposits), and regulations mandate holdings by other financial entities. The Reserve Bank of India reports that real rates of interest for fiscal years 1996–97 through 2001–02 averaged 6.8 percent for the central government, 12.5 percent for other borrowers, and 1.9 percent for depositors.[40] Although positive real rates of interest on public sector borrowing reveal the effects of financial liberalization, the high real rates of interest facing large corporate investors and the significant interest rate differential favoring government debt imply that intermediation remains hampered.

There has, however, been a decline in the collection of implicit government revenue from financial repression. Table 4 reports calculations of public sector revenue from domestic public borrowing through financial

40. Mohan (2002).

TABLE 4. Estimated Public Sector Revenue from Financial Repression
Percent of GDP

	Implicit interest subsidy		
Year	*On consolidated public debt*	*On central government debt*	*Seignorage*
1980	2.60	2.28	2.00
1981	8.36	7.18	0.92
1982	4.57	4.04	1.12
1983	6.99	6.14	2.68
1984	13.98	12.24	2.53
1985	2.16	1.91	1.06
1986	7.42	6.60	2.13
1987	0.90	0.81	2.45
1988	10.69	9.53	2.25
1989	10.27	9.13	3.01
1990	6.45	5.71	1.79
1991	27.50	24.22	1.79
1992	0.82	0.72	1.51
1993	11.87	10.44	3.25
1994	−0.80	−0.70	3.02
1995	7.25	6.31	2.12
1996	0.29	0.25	0.40
1997	5.04	4.36	1.74
1998	4.32	3.69	1.89
1999	−0.71	−0.59	1.10
2000	2.88	2.40	1.08
2001	−0.39	−0.33	1.51
2002	−3.18	−2.66	1.31

Sources: Author's calculations using data from International Monetary Fund, *International Financial Statistics*, 2004; World Bank, *Global Development Finance*, 2003; Reserve Bank of India, *Handbook of Statistics on the Indian Economy, 2002*; and Reserve Bank of India, *Annual Report*, 2002–03.

repression in India for the period 1980–2002, after estimating the interest subsidy realized by the government on its borrowings on domestic financial markets. This subsidy decreased significantly after 1991, leading to the decline in revenue from financial repression shown in the table.[41] The implicit subsidy is calculated by estimating the difference between the average interest rate for government debt issued in India in rupees and the average opportunity interest rate for government borrowing from abroad. The opportunity interest rate is estimated by first dividing external interest payments on nonconcessional long-term debt by the sum of nonconcessional long-term debt and new disbursements. This gives the opportunity interest

41. The estimates revise and update those made by Kletzer and Kohli (2001). The methodology is adapted from Giovannini and de Melo (1993).

rate for government borrowing in dollar terms. Actual rupee depreciation (from end of year to end of year) is used to convert this average dollar interest rate to a rupee-equivalent rate under the assumption that uncovered interest parity holds ex post. The interest rate on domestic government debt is calculated by dividing current-year interest payments by current-year outstanding government debt. The estimated interest rate differential is then multiplied by the ratio of consolidated central and state government debt to GDP and by the ratio of central government debt alone to GDP to obtain the numbers in the first and second columns, respectively, of table 4.

Revenue from financial repression also includes the inflation tax and a portion of traditional seignorage revenue. The real capital losses to the holders of government bonds due to inflation are included in the estimates of the real interest subsidy for public debt issued in rupees, shown in the first two columns of table 4. This includes the anticipated inflation tax, to the extent that interest rates are controlled, as well as the unanticipated inflation tax. The impact of the inflation tax is illustrated by the effect of the depreciation of the rupee in July 1991 on revenue from financial repression. Seignorage revenue is reported in the last column of table 4. This is calculated as the change in reserve money as a ratio to GDP. Seignorage revenue, however, includes revenue from the growth of output and financial deepening along with revenue generated by the imposition of reserve requirements on the banking system.

The estimates reveal an important trend. Revenue from financial repression clearly fell with the advancement of financial reform beginning in 1993. Average revenue from the implicit subsidy to the government for 1980–93 was about 8.2 percent of GDP. Average revenue from the estimated interest differential fell to 1.6 percent of GDP for 1994–2002. These calculations, however, cannot account for any missing currency risk premium. Another way to look at the interest differential between the external opportunity cost and the domestic cost of public borrowing is to compare international interest rates with rates on government-guaranteed bond issues, such as the Resurgent India Bonds issued by the State Bank of India in 1998 to attract capital inflows from nonresident Indian investors. The interest spread on the dollar-denominated portion of these bonds over five-year treasuries was 2.49 percentage points, despite a reported lower spread over the London interbank offered rate (LIBOR) for comparable bonds issued by similarly rated emerging market countries.[42]

42. Reserve Bank of India, *Report on Currency and Finance, 2002–03*, p. 170.

Seignorage revenue has also declined in recent years; the average over the entire period was slightly less than 2 percent of GDP, but it was only 1.4 percent of GDP over the period from 1997 through 2002. These declines coincided with a fall in actual inflation, but they also suggest a decline in repressed inflation as financial restrictions were relaxed. The decrease in public sector revenue from financial repression is large and indicates significant progress in financial policy reform.

The decline in revenue from financial repression followed financial sector reforms that have come in advance of (as yet unaccomplished) fiscal reforms needed to broaden the tax base, improve tax compliance, and reduce tax distortions. The significant reduction in revenue from the taxation of financial intermediation, a highly distortionary source of revenue, without replacement through less distortionary taxation has contributed significantly to the growth of the general government budget deficit and the rise in the public debt-to-GDP ratio. The rise in domestic borrowing by the government (perhaps coupled with incentives for banks to invest in government securities), however, continues to contribute to the repression of financial intermediation and capital formation. Completing the task of reducing financial repression will require fiscal reform, because the substantial holding of government debt by financial intermediaries not only crowds out private investment, but also inhibits the efficient matching of saving with investment. The capacity of banks to evaluate and monitor borrowers, diversify investment risk, and diversify maturity structure risk between assets and liabilities is underutilized when bank assets are dominated by public debt. The creation of a public debt market in India has been insufficient, simply because the participants in this market are overwhelmingly state-owned financial intermediaries.

Financial repression is important for the growth of public debt in India because capital controls allow the government to avoid monetizing its deficits by borrowing in a closed capital market. Liberalization of the capital account would reduce the capacity of the government to preempt domestic financial savings and realize a real interest rate below its opportunity interest rate. This could worsen the public debt problem by raising the real interest rate on public debt as the government relaxes its hold on a captive domestic institutional market for that debt. India's increasing public debt-to-GDP ratio must eventually lead either to fiscal reform to close the fiscal gap, or to monetization of public sector budget deficits, or a combination of the two. Liberalization of international financial transactions will raise pressure for inflationary monetary growth and make the need for fiscal reform more urgent.

Vulnerabilities of the Financial System

The legacy of financial repression hampers domestic financial intermediation and raises the vulnerability of the banking system to crisis as international financial integration increases. Policies of financial repression have included the preemption of assets by government borrowing, interest rate controls, and directed lending to priority sectors. The scheduled commercial banks, which dominate financial intermediation in India, hold a large share of their assets in public sector debt, as already noted, and in loans made to government-mandated priority sectors. At the end of March 2003, gross nonperforming assets of the commercial banks equaled 9.5 percent of bank advances, according to the Reserve Bank of India. Nonperforming assets exceeded banks' provisions against losses on those assets by 4.5 percent of bank advances. Directed credit to priority sectors accounted for about 31 percent of commercial banks' assets, but about 40 percent of their nonperforming assets.[43] In addition to the concentration of government debt in the assets of banks and nonbank financial intermediaries, directed credit leaves the financial system of India with limited resources for investment in growing industries.

Nonperforming assets of the banking system net of loan-loss provisions are not large in proportion to GDP (about 2 percent) compared with those of the post-crisis countries of East Asia, but neither are these a modest share of bank assets net of government debt. Further, Saugata Bhattacharya and Patel argue that the official estimates may undercount the actual share of nonperforming assets on bank balance sheets by as much as half.[44] In addition, regulatory forbearance and state ownership of the banking sector could imply hidden contingent liabilities for the public sector. Regulatory forbearance may also be an important problem, whose potential impact is masked by the large share of assets held in government debt by the banks and required to be held by other financial intermediaries.

The experience with capital account liberalization elsewhere suggests that opening domestic financial markets to international capital flows exacerbates imprudent banking practices under weak regulation or regulatory forbearance. Nonperforming assets are a burden to financial intermediation as well as an indicator of how crisis-prone the banking sector might be. The share of net nonperforming assets in the financial sector could rise significantly with international financial integration and rapid growth in domestic

43. Numbers given are for March 2003 and are reported in Reserve Bank of India, *Report on Trend and Progress of Banking in India, 2002–03.*

44. Bhattacharya and Patel (2004).

financial intermediation. However, as Bhattacharya and Patel point out, the nonperforming assets of the Indian commercial banks are concentrated in industry, infrastructure projects, and priority sectors rather than in loans for real estate and equity purchases as in the crisis countries of East Asia.[45] Corporate governance and transparency as well as prudential regulatory enforcement will be important for maintaining financial sector stability and avoiding the rapid growth of contingent liabilities that followed financial liberalization in East Asia. Bhattacharya and Patel apply the model of Robert Dekle and Kenneth Kletzer for the East Asian crisis and noncrisis economies to the Indian economy and argue that financial regulatory forbearance is a similar source of concern in India.[46]

The predominance of state-owned banking and the holding of government debt by these banks in excess of statutory requirements not only suggest that the public sector is a preferred borrower. They also imply that regulatory efforts and procedures may be adapted to the situation in which the government as shareholder is liable for losses. They could be poorly suited to regulating new private banks and nonbank financial intermediaries that borrow in an integrated capital market and whose shareholders face limited liability. Further, there is no reason to expect that the short-term external debt exposure of the Indian economy will remain at its current very low level. Financial liberalization and the integration of emerging market economies with private international financial markets tend to increase the short-term debt exposure of the financial system and the public sector. The capacity of Indian governments to borrow domestically at medium to long maturities and the very low levels of short-term external indebtedness may be viewed as outcomes of financial repression and a holdover from the preliberalization environment. The level of public indebtedness, its rate of increase or decrease, and the potential for growing contingent liabilities with capital inflows may be better indicators of the vulnerability of a postliberalization economy to financial crisis.

Because India's banks hold over 40 percent of their assets in public sector liabilities, treasury transactions are a primary activity of bankers and, in recent years, have generated the bulk of bank profits. The long maturities and fixed nominal interest rates on government securities make these risky assets for banks to hold in the presence of interest rate volatility. The recent declines in interest rates generated capital gains on government securities held by the commercial banks and by other financial institutions

45. Bhattacharya and Patel (2002).
46. Bhattacharya and Patel (2002); Dekle and Kletzer (2002).

(for example, in insurance). Prudent banking practices require that banks hedge against their holdings of fixed-interest-rate public debt either by issuing deposit liabilities with inflexible interest rates or by trading in interest-based derivatives. The liberalization of rates on many deposits and their large holdings of government debt expose the banks to interest rate risk that must be hedged. Ila Patnaik and Ajay Shah analyze a sample of bank balance sheets and find the extent of unhedged interest rate exposure in the Indian banking system to be substantial.[47] They conclude that the banking system is exposed to significant interest rate risk. Unhedged interest rate exposure of financial intermediaries implies the need for improved regulatory oversight and prudential regulation as the financial system is further liberalized and opened to entry.

An overview of the literature on the costs and benefits of capital account liberalization reveals that general measures of governance and regulatory institutions in domestic finance are significantly associated with positive gains from liberalization.[48] Financial sector reform should address the inheritance of nonperforming assets from directed credit programs in the state-owned banks and the roles of prudential regulation and enforcement in providing incentives to manage risk as the banking system is opened to competition.

External Vulnerabilities

India's external debt-to-GDP ratio was 20 percent in 2003, 40 percent of which consisted of government borrowing from official creditors primarily on concessional terms (37 percent of gross external debt carried concessional terms). External commercial borrowing accounted for 21 percent of gross external debt in 2003. The government of India has not issued sovereign bonds on international markets, although corporate sector bond and bank borrowing has increased as restrictions have been relaxed. India is rated a speculative grade borrower, with ratings of BB and Ba2 by Standard and Poor's and Moody's, respectively. Compared with other emerging market economies with similar bond ratings, India has a low ratio of external debt to GDP but a high ratio of public debt to GDP, as shown along with several other indicators by Roubini and Hemming.[49] Importantly, the average maturity of India's external debt is about nine years, and the average share of short-term debt in total external debt was only 4.6 percent from

47. Patnaik and Shah (2004).
48. See Prasad and others (2003) for a thorough survey.
49. Roubini and Hemming (2004).

1997 through 2002, consisting of trade-related credits and deposits of non-resident Indians.[50]

The Indian economy appears to be far from vulnerable to a capital account crisis. The outstanding debt of the public sector is primarily held by domestic residents and is denominated in domestic currency. The outstanding foreign currency–denominated liabilities of the economy are small in proportion to GDP, and the external debt of 20 percent of GDP is well below the 30 percent threshold for potential debt problems in emerging market economies observed by Reinhart, Kenneth Rogoff, and Miguel Savastano.[51] Further, the share of short-term debt in total external debt in the mid-1990s in the East Asian economies that suffered crises in 1997–98 ranged between 20 and 50 percent, far higher than India's small share.

The external position of the Indian economy suggests a favorable environment for relaxing capital controls further and moving forward with capital account convertibility. The stock of international reserves has risen rapidly over the past several years, to 17.6 percent of GDP ($113 billion) at the end of March 2004.[52] This stock of reserves rose during a period in which the current account was mostly in (small) deficit, although the current account balance recently became positive. (Table 5 reports the accumulation of reserves and foreign debt and the short-term debt exposure of India over the 1990s.) That implies that reserves were accumulated through foreign capital inflows and do not represent a net accumulation of foreign assets by the economy. This is not particularly relevant to the question of India's crisis vulnerability, although it does raise questions about whether the capital inflows are being put to best use. The international liquidity position of the central bank is strong by standard measures: reserves cover at least nine months of imports and are about twenty times the country's short-term external indebtedness. Indeed, liquid international reserves are being accumulated against longer-maturity liabilities of the domestic corporate and financial sectors. The Reserve Bank of India's 2002–03 *Report on Currency and Finance* contains a thorough analysis and international comparison of liquidity measures for the Indian economy.

The large accumulation of reserves by the Reserve Bank of India provides insurance against rapid capital outflows, but at the cost of forgone interest earnings. Assets held by the central bank are offset by government debt held by the public. The difference in opportunity interest rates (not

50. Figures are from Reserve Bank of India, *Annual Report, 2002–03, Report on Currency and Finance, 2002–03*, and *Handbook of Statistics on the Indian Economy, 2002*.

51. Reinhart, Rogoff, and Savastano (2003).

52. Reserve Bank of India, *Bulletin*, June 2004.

TABLE 5. Reserves, External Debt, and Current Account Balance
Percent of GDP

Fiscal year	International reserves	Foreign debt		Current account balance
		Total	Short term	
1990–91	2.1	26.8	2.7	–3.2
1991–92	3.2	28.7	3.0	–0.4
1992–93	4.5	38.7	3.2	–1.8
1993–94	8.0	37.5	2.7	–0.4
1994–95	9.2	33.8	1.3	–1.1
1995–96	6.7	30.8	1.3	–1.7
1996–97	7.6	27	1.4	–1.2
1997–98	7.7	24.5	1.8	–1.4
1998–99	8.4	24.3	1.3	–1.0
1999–2000	9.3	23.6	1.0	–1.1
2000–01	9.5	22.1	0.9	–0.6
2001–02	12.0	22.4	0.8	0.3
2002–03	16.0	20.9	0.6	0.7

Sources: Reserve Bank of India, *Handbook of Statistics on the Indian Economy, 2002*; and Reserve Bank of India, *Bulletin*, June 2004.

necessarily the distorted market rates under capital controls) between domestic public debt and foreign treasuries represents a quasi-fiscal cost of sterilizing capital inflows. This difference adds to the consolidated public sector deficit, and hence to depreciation pressure if markets anticipate a future monetization of government liabilities. Large reserve holdings can be more costly than beneficial and thereby induce a depreciation. Kletzer and Ashoka Mody discuss these offsetting risks and the use of reserves as a self-protection mechanism against crises.[53]

A modest note of caution may be all that is needed, but full liberalization of the capital account should be expected to change the maturity structure of external debt and perhaps its currency composition. Currently India's debt is dominated by government borrowing from private sources, and capital inflows to private domestic capital markets are small and subject to continued restrictions. It would seem imprudent to assume that the average maturity of new publicly guaranteed and nonguaranteed borrowing by domestic financial markets will not decline as capital markets become more integrated and entry into India's domestic financial markets increases. Managing the foreign currency and maturity exposures of a liberalized banking system that is likely to enjoy the explicit and implicit guarantees of the public sector seen in other emerging market economies will be an emerging policy challenge for capital account liberalization.

53. Kletzer and Mody (2000).

Exchange Rate Management and Financial Repression

Capital controls allow policymakers to manage the nominal exchange rate and influence domestic rates of interest as independent objectives of monetary policy. When the capital account is liberalized, the government can no longer use monetary policy to target interest rates and resist exchange rate movements indefinitely. The tendency for authorities in emerging market economies to manage exchange rate movements even in the absence of a formal peg is well documented, and currency crises were central to many recent financial crises in emerging markets.

The behavior of the nominal exchange rate during the last decade under a managed float may be an indicator of the importance of limiting exchange rate movements in India. After the 17.4 percent devaluation of the rupee in July 1991, the rupee was again pegged to the dollar until March 1993, when it was devalued another 19.2 percent. The formal exchange rate regime was then changed to a managed float. However, the rupee was virtually unchanged against the dollar until August 1995, suggesting a de facto peg. From late 1995 to early 2003, the rupee depreciated at an annual average rate of 2.5 percent, although the growth rate of the monetary base exceeded the rate of real GDP growth by about 7 percent annually. The standard deviation of monthly percentage changes in the rupee-dollar exchange rate from August 1995 to the end of 2003 was 1.33. This is comparable to the standard deviation for Malaysia from 1990 to the onset of the Thai currency crisis in 1997, and it is almost twice the average for the East Asian crisis countries excluding the Philippines.

The Reserve Bank of India has intervened in the foreign currency market in a number of ways. Although short-term fluctuations are reduced through forward intervention (reported monthly as changes in net foreign sales of foreign exchange), it can be argued that the government implicitly pursues sterilized intervention. As argued and formally modeled by Kletzer and Renu Kohli,[54] some of the means of financial repression also allow the central bank to influence the movement of the exchange rate. The cash reserve and statutory liquidity ratios were managed actively over the 1990s, changing private sector holdings of outstanding public debt. Bank credit to the government is surprisingly closely correlated with changes in official reserves in the second half of the 1990s. During that period official foreign reserves grew rapidly, along with commercial bank credit to the public sector. The correlation between monthly increases in commercial bank credit to the government and reserve inflows over the entire period from August

54. Kletzer and Kohli (2001).

1995 to October 2003 is 0.40.[55] This suggests that increases in the holdings of public debt by the financial sector have partly sterilized capital inflows. Patnaik tests this sterilization hypothesis and finds that changes in international reserves and holdings of government debt by the commercial banks do indeed move together.[56] These results imply that the accumulation of reserves is a by-product of the sterilization of capital inflows to manage the exchange rate. The willingness of state-owned banks to hold government debt in excess of the statutory liquidity ratio appears to play an important role in exchange rate management in India.

Past exchange rate management in India displayed a resistance to currency depreciation consistent with the experience of many other emerging market economies, especially in East Asia. The adoption of a floating exchange rate, albeit one that is managed relatively tightly, reduces a country's vulnerability to crisis. The government can resist exchange rate movements while offering no guarantee of exchange parity as under a pegged exchange rate (or crawling peg or narrow target zone). The uncertainty thereby induced, especially for short-term rates of change in the exchange rate, could lead to private sector hedging against currency risk. A possible source of concern is the revealed tendency of the government to lean against exchange rate movements that could result in sudden losses of reserves and capital account reversals under an open capital account.

The Risks of Capital Account Convertibility for India

Capital controls are instrumental to financial repression in India in that they separate domestic financial intermediation from international financial markets and capture domestic savings for the financing of public sector budget deficits. The preemption of domestic financial resources for public finance interferes with the mobilization of savings toward domestic capital accumulation and reduces the incentives for banks to facilitate investment and innovation. Directed lending, interest rate restrictions, and various restraints on lending have left India's commercial banks with a burden of nonperforming assets and the public sector with unrealized contingent liabilities with uncertain risks. Capital controls and various approval procedures themselves impose widely varying implied rates of taxation on different

55. Data for this calculation are from International Monetary Fund, *International Financial Statistics* (January 2003), where deposit bank credit to the government is converted to dollars using contemporaneous exchange rates.

56. Patnaik (2003).

activities, distorting the allocation of resources and weakening incentives to save and invest. The distortionary impact of capital controls on investment and saving gives a sufficient reason for reducing and eliminating impediments to capital flows. The risk of crisis in emerging market econmies also gives a sufficient reason for preparing to manage an open capital account.

The vulnerability of the Indian economy to crisis, with or without further relaxation of capital controls, rests on the impact of financial repression on domestic financial markets and fiscal policy. The two are linked. The high level of government indebtedness is sustained through borrowing on closed domestic financial markets. High levels of government debt impede the mobilization of household and enterprise savings for capital accumulation and leave bank balance sheets dominated by public debt instruments. When state-owned banks, hampered by lending to the government and high transactions costs, are exposed to international competition, the result could well be to increase the cost of contingent public liabilities in the financial sector. The deposit base of the banks could easily shrink as savings seek higher returns from more efficient intermediaries. This in turn could reduce the capacity of the government to borrow domestically at long maturities in domestic currency. Together, the liabilities of the government could rise even as its need to borrow internationally or monetize its debt increases.

The elimination of controls on outward capital flows could easily lead to rising capital inflows and entry in the financial sector. At the same time, the capacity of the government to borrow on domestic financial markets on favorable terms should contract. The current favorable terms for public sector borrowing from the commercial banks and other financial institutions include long maturities, large negative interest spreads compared with those on private lending, rupee denomination, and, perhaps, underpriced risk premiums over international rates of interest in major currencies. One consequence of rising real rates of interest for government debt arises from the long average maturity of public debt held by the commercial banks. The exposure to interest rate risk observed by Patnaik and Shah implies that financial opening could lead to net capital losses for the banks as interest rates rise on both deposits and public debt.[57] These losses could ultimately become a liability for the government. Liberalization could raise this risk by increasing competition for deposits and eliminating low and fixed interest rates on the liability side of bank balance sheets, or it could induce banks to hedge more on deeper markets.

57. Patnaik and Shah (2004).

Capital account convertibility would expose the public sector to international terms on its large debt and significant annual financing requirements. India's public debt burden, underestimated at 82 percent of GDP because of excluded losses of state-owned enterprise and contingent liabilities, is greater than in most countries that have suffered financial crises after liberalization.[58] However, the long maturity structure of India's rupee-denominated public debt means that a sudden crisis cannot materialize. The existing debt and fiscal policies are important to the extent that ongoing deficits need to be financed and existing public debt that is coming due needs to be refinanced. Therefore, the capacity of the government to raise tax revenue for deficit reduction, reduce electricity board losses and other off-budget liabilities, and avoid large contingent losses in the banking sector will determine the impact of the public debt burden on macroeconomic stability following capital account liberalization. Given the maturity structure of its rupee-denominated debt, the government may have the incentive to inflate that debt away. However, most Indian government debt is held by institutions that either are publicly owned or enjoy guarantees. Thus the government has little to gain—and much to lose in reputational capital in international and domestic financial markets—from unanticipated inflation.

Domestic financial intermediaries suffer from their role as the primary creditors of the public sector and from the incentive structure in state-owned banking. Ending capital controls will not eliminate the burden of financial repression without a reduction in the lending requirement imposed on the banking system by the government. Fiscal reforms are necessary to improve the stability of the banking system following a significant reduction in capital controls. The elimination of capital controls may also be necessary to improve financial intermediation, possibly through both entry and exit of intermediaries, by forcing a solution to the public sector finance problem.

Prudential regulation and enforcement are important for a stable financial environment. Capital controls can be forgiving of regulatory forbearance, because the losses of the banking sector must accumulate through flows from domestic savings to domestic investment. Two-way international transactions allow cross-border stock shifts, which can rapidly change financial sector balance sheets. Liquidity runs in a closed capital market are easier to contain than runs by foreign depositors. However, many countries

58. This comparison is made by several authors, most recently by Roubini and Hemming (2004), including publications of the Reserve Bank of India, such as the *Report on Currency and Finance, 2002–03*.

have managed to regulate open financial sectors successfully, and international standards provide reasonable guidelines for doing so. Detailed financial restrictions may inhibit financial instability at the cost of capital accumulation, but sound regulatory institutions and transparency in financial sector corporate governance (and corporate governance in general) can provide similar stability and a more efficient allocation of capital.

Sequencing Liberalization and Reform in India

The rapid liberalization of a financially repressed economy often leads to large capital inflows and rapid expansion of domestic financial markets, followed by a capital account crisis and economic contraction. The "Washington consensus" prescription for the sequencing of economic liberalization and international integration puts capital account convertibility last, after liberalizing trade, other current account transactions, and domestic financial markets. This prescription, however, is frequently observed in the breach.[59] The domestic political economy of reform is the first explanation that comes to mind. It may be difficult to form a coalition to support each step in a gradual reform, whereas the sudden expansion of opportunities for financial transactions creates market support. The elimination of capital controls exposes domestic capital markets and macroeconomic policies to the discipline of international capital markets, starting a race between financial reform and crash.

Indian policy is following a determinedly gradual path toward economic liberalization and international integration. Following the liberalization of transactions on the current account, restrictions on capital inflows have been relaxed steadily, with an emphasis on encouraging long-term investment and lending. The relaxation of interest rate regulation and similar controls on domestic financial intermediation has partly reduced the impact of financial repression on domestic finance and is complemented by reforms in the equity market and development of a public debt market. The relaxation of restrictions on portfolio capital inflows has been notable for its gradualism. Ceilings on interest rate spreads, which differ by debt maturity, are imposed to discourage short-term and volatile foreign portfolio inflows, and restrictions on equity flows have been relaxed substantially. Liberalization of capital inflows has followed a pattern of gradually raising quantitative restrictions on inflows and increasing the size of flows that are automatically

59. Williamson and Maher (1998) discuss the record of putting capital account liberalization last versus first.

approved. The gradual relaxation of restrictions on capital outflows would logically follow, and restrictions that discourage short-term inflows are part of the current policy agenda.

The size of the public debt and of the combined state and central government deficits is cause for concern, as is the interaction between public debt and domestic financial intermediation. Proper sequencing alone cannot ensure the smooth integration of the Indian economy with international financial markets. Although India's external debt is well within the range among countries with sustainable foreign debt, the public debt-to-GDP ratio and the primary deficits of the public sector are very high, and fiscal reform is needed to ensure that the debt is sustainable. The macroeconomic crisis of 1991 played out slowly, with an essentially closed capital account. Reserves would have had to be very low relative to GDP for any sudden reversal of deposits by nonresident Indians (which were a small share of total deposits) to provoke a balance-of-payments crisis. With an open capital account, the potential outflow of funds from domestic capital markets would be many times greater, because domestic residents could withdraw from domestic banks and from the bond and equity markets along with foreign investors. Any tendency to resist currency depreciation could raise the probability of a capital account reversal, although debt sustainability still matters for macroeconomic performance and growth under a pure float.

Capital controls mean that the government borrows on a captive domestic financial market regardless of any financial reforms that have been implemented. The real interest rate paid on government debt must be lower than it would be if domestic households had access to international financial markets. Partial liberalization appears to contribute to the primary deficit of the public sector, and full liberalization could drive the financing costs of public debt higher. Large public sector deficits do not simply substitute for domestic investment as a destination for domestic and foreign savings in the Indian economy; they appear to raise the cost of domestic financial intermediation and retard financial deepening as well.

International financial integration typically leads to both inward and outward gross capital flows. Gross capital flows, indeed, are much larger internationally than net flows. With capital account liberalization, India could well experience a large outflow of domestic savings from high-cost domestic financial intermediaries to international capital markets. As experience elsewhere has shown, these gross outflows could be offset by lending and direct investment from abroad at lower intermediation costs. Taking advantage of foreign financial markets can be beneficial to the extent that higher-

income countries have comparative advantage in financial intermediation, but tax distortions can also induce capital flight and offshore intermediation. The end result of high domestic public debt and deficits under capital account convertibility is likely to be an exodus of domestic savings, a contraction of domestic financial intermediation, and a fiscal crisis accompanied by rising inflation.

As argued above, high levels of public debt interact with capital controls in India. Reducing financial repression increases the urgency of already desirable fiscal reforms. Prospective international financial integration increases the need for fiscal reform and containing public debt expansion. The priority in the approach to capital account convertibility should be fiscal reform and reduction of the combined deficits of the central and state governments. Fiscal reform not only is needed for fiscal sustainability, to avoid macroeconomic crisis, but is conducive to financial reform and deepening as well.

With the exception of the public finances, the initial conditions for capital account convertibility in India are fairly strong. The very low exposure to short-maturity foreign debt, the low overall foreign debt, the large stock of foreign reserves, and a flexible exchange rate place the Indian economy in a favorable position compared with other, similar countries. One should expect that the average maturities of foreign and public debt will fall with international financial integration, but a prospective rise in short-term debt does not justify capital controls. The stock of foreign reserves is several times current external short-term debt. Liberalization and further opening of the banking system will require regulatory improvement, but the present level of nonperforming assets of the banking system is not excessive in comparison with other emerging markets.

The process of opening the Indian economy to foreign capital inflows is not complete, and making India more attractive to foreign direct investment will require more than the relaxation of constraints on inflows and foreign ownership. Domestic policy distortions and regulatory uncertainty can inhibit investment inflows, perhaps significantly. Opening the capital account to outflows could also enhance foreign direct investment. To the extent that profitable investment uses the transfer of foreign technologies and skills, domestic savings that flow abroad might be seen as financing foreign investment in general equilibrium. Domestic savings that go to foreign equity markets could find their way back in investments that transfer technologies, and that may make foreign investors feel more secure against the risk of adverse policy changes in an internationally integrated domestic financial market.

Conclusion

Capital controls play a central role in financial repression in India. They provide the government with the opportunity to sustain high levels of domestic debt by limiting competition for domestic financial savings. A closed capital account facilitated the taxation of financial intermediation and hence reduced incentives for tax reform to enhance revenue and promote efficiency in domestic investment. A large public debt and repression of domestic financial intermediation are mutually reinforcing. India's public debt burden poses a risk for capital account liberalization, creating a barrier to financial liberalization. Continued controls on international financial outflows reduce the incentives for deficit reduction.

The gradual liberalization of capital controls and the reform of the financial sector in India are having an effect. Financial sector reform has already reduced the impact of public debt on financial intermediation. Reduced taxation of financial intermediation contributes to public sector deficits and is beginning to break the link between public finance and financial repression and raise political pressure for deficit reduction. The relaxation of inward capital controls has been successful in the sense that capital inflows are rising and gradual liberalization appears to be becoming the status quo.

Although fiscal imbalances pose a risk for capital account liberalization, a capital account crisis in India, if one occurred, might play out slowly given the long maturity structure of the large share of the public debt denominated in domestic currency and issued at fixed interest rates, and given the current low proportion of foreign currency debt and of short-maturity foreign debt. Financial integration does pose two fiscal challenges. The first stems from the borrowing requirement of the government, consisting of the primary deficit and the existing public debt coming due, which would need to be financed on international terms under an open capital account. The second is that the banking system holds the overwhelming majority of the public debt, and with international financial integration, this debt becomes a risky asset for the banks to hold. Any gain to the government from currency depreciation or rising interest spreads on public debt would be negated by losses by the banks. These holdings thus pose a threat to the banking system, and a capital account crisis could begin with exit by domestic depositors. In this case deposit insurance could reduce the exposure of the banking system to crisis. Limiting the contingent liability of the government created by deposit insurance so that it just offsets the capital gains to the public sector will require institutional reform to ensure successful prudential regulation.

The potential benefits for India from completing capital account liberalization could be significant. India has much to gain from foreign direct investment and access to foreign savings for domestic investment. The liberalization of capital inflows is not complete. Debt reduction may not be necessary before India proceeds with the elimination of outward capital controls, but fiscal reform to achieve deficit reduction probably is. The vulnerability of the banking sector to crisis implies that institutional reform, both fiscal and prudential, is needed.

Comments and Discussion

Stanley Fischer: Ken Kletzer's paper does an excellent job both in summarizing the literature and in applying its lessons to India. Ken starts with a general discussion of the costs and benefits of capital account liberalization and then discusses the Indian case. Let me follow that order.

It has been very hard to show major benefits of capital account liberalization, either in cross-country regressions or in calibration exercises using growth models. But it is generally difficult to produce robust results using cross-country regressions and even more difficult to produce big costs as a result of distortions in calibration exercises. It is not clear what to make of these difficulties. Ken says that the benefits of capital account liberalization are approximately equivalent to—and in some cases larger than—the benefits of eliminating trade cycle fluctuations, as calculated by Lucas. However, Lucas's calculations implied that the trade cycle really did not matter. In my view, these results, rather than telling us something about the world, suggest that there is something wrong with this way of approaching the issue.

There is another way of thinking about policy choices, namely revealed preference. It is amazing that, despite the devastation of the 1997 crisis, despite everything that academic economists have said, no one—and I mean no country—has withdrawn from the international financial system as a result. No country, not even Malaysia, imposed controls of major magnitude for any length of time. Malaysia reformulated its controls within a year and has gradually been easing back into the system.

My views have also been influenced by discussions with some Latin American finance ministers during the crises of the 1990s. When I asked whether they wanted to impose capital controls, their answer was that they had tried that in the 1980s and they were not going to do it again. They said that capital controls were inefficient and bred corruption and that it took a long time to recover from their imposition. Those conversations are not hard evidence, but they made a big impression on me.

It seems to be generally accepted that the Malaysian imposition of controls was successful. I do not know how that can be established. Those controls were imposed almost exactly at the moment that exchange rates in all

the crisis countries were at their most depreciated levels. Malaysia pegged its exchange rate at that depreciated level, which made the currency increasingly undervalued relative to those of its neighbors, all of whose currencies appreciated subsequently. Capital did stop flowing out of Malaysia following the imposition of the controls, but that happened also in the other Asian crisis countries. So, I do not think the Malaysian experience shows a whole lot about the efficacy of capital controls.

I was surprised by one successful aspect of Malaysian controls. When the controls were imposed, I expected that they would be used to slow the process of financial reconstruction and the reform of the banking system. But the Malaysian authorities did not do that. Their banking system reforms were as rapid following the imposition of controls as those anywhere else. So the political economy suspicion that I had was not right.

Some changes—two in fact—did take place as a result of the 1997 crisis. The first was the general move toward flexible exchange rates. All the crisis countries had pegged their currencies, formally or informally, before the crisis. By "pegged," I mean that it was presumed by market participants that the exchange rate would be stable. That presumption played a major role in the behavior of the actors in the economy leading up to the crisis. Subsequently all the crisis countries except Malaysia allowed their exchange rates to become more flexible.

The second development is that although there has been no fundamental change in emerging market countries' desire to integrate into the global financial system, there has been a greater willingness to find ways of breaking the link between the domestic and foreign interest rates, or onshore and offshore interest rates. This has long been done by Singapore, which discouraged the use of its currency in international transactions and discouraged economic agents from taking positions in the currency.

There are a variety of ways of doing that, all of which build on the fact that if you are going to hedge yourself against exchange rate changes, at some point you need to have access to the domestic banking system to purchase the local currency. The authorities can impose controls to make that very difficult, without interfering with other transactions in the currency. Such changes have been imposed in Thailand and to some extent in Indonesia, the latter not very successfully.

Returning now to India: Ken presents the standard view, which is that capital flows should be liberalized only when the financial systems and policies are sufficiently strong. That view draws on both theory and bitter experience, and by and large it is valid. The most relevant macro weakness

in India is the large and growing public debt. That problem needs to be fixed in any case.

It is sometimes argued that delaying capital account liberalization until the preconditions are in place only delays action on the preconditions. The suggestion is that by setting a schedule for capital account liberalization, the authorities would force themselves to fix the financial and fiscal systems. Well, that is a very delicate and dangerous argument. Think for instance about Mexican *tesebonos*. They were introduced to persuade potential investors that Mexico would not devalue, because the costs of doing so would be extremely high. The threat was very credible, and ex post the costs were extremely high. The problem with policy choices that suggest that something will be done because the costs of failure are high is that sometimes failures will occur, and the price will have to be paid.

It would be much better if India's fiscal and debt problems were put on a road to solution soon. So far the problem has not been attacked. That is the major disappointment of Indian macro policy in the last decade. Dealing with the fiscal problem is also a structural issue, one that will require a change in relations between the center and states, because as is well known, at least half of the general government deficit is due to state governments.

Turning to the banking system: the Indian banking system is in better shape than the financial systems of the East Asian countries were on the eve of their crisis. Ken states that the NPA ratio is around 6 percent, which would not be a cause of major distress if the capital account were opened. But it must be recognized that a crisis that put the banking system under stress could increase the NPA ratio significantly. Looking at other vulnerability indicators, India's short-term external debt ratio is very low. Further, Indian financial regulators are fully aware of the banking system difficulties in the Asian and other crises, and they should be able to maintain strong precautionary control over the system.

There is one other key difference between India and the Asian crisis countries: the exchange rate regime. The Indian exchange rate is flexible. The importance of that in terms of the likelihood of suffering a financial crisis—and in terms of the cost of a crisis were one to occur—cannot be overestimated. The Brazilian crisis in 2002 illustrates the benefits of having a flexible exchange rate. It is simply inconceivable that Brazil could have avoided a massive financial crisis if it had had a pegged exchange rate in 2002.

The key is flexibility of the exchange rate, rather than free floating. That means that in a crisis the authorities could both allow the exchange rate to depreciate and intervene to moderate the extent of the depreciation. That must be why the authorities are holding such large reserves. I do not believe that in a crisis managing the exchange rate is necessarily undesirable, provided that it is possible. But there is a cardinal sin that has to be avoided, which is to target a fixed exchange rate or a narrow range of rates. If a country with free capital flows tries to do that in a crisis, it will fail and pay a high price.

There is one other reason why exchange rate flexibility matters: market participants are less likely to borrow short abroad when they know that the exchange rate is flexible. Further, once the exchange rate is flexible, hedging instruments are likely to appear. Both those developments took place in Mexico following its shift to exchange rate flexibility: Mexico's short-term debt ratio is now very low, and short- and long-term foreign exchange hedges are available in the market.

So, India should continue opening up the capital account. Doing so will bring increasing benefits over the course of time. I believe India's gradualist approach has put it on the right track. But it really is important to reduce the fiscal deficit.

Surjit S. Bhalla: The effect of capital account liberalization on growth is a much-debated subject, and Kletzer provides a very useful summary of the issues, bringing out the complexity of the Indian financial sector and the diversity of its experience. Kletzer's application to the Indian experience will serve as a reference point for other scholars.

Only on two issues does my perspective differ from the author's, but both of my disagreements serve to strengthen Kletzer's overall conclusion. The first pertains to the examination of the effect of capital account liberalization (CAL) on economic growth and so forth. Here, it would be useful to analyze the effects of CAL on growth *subject to the nature of the currency regime*. It matters whether the exchange rate is fixed, pegged, a managed float, or even a currency board. Several of the currency crises have resulted not from the fiscal deficit, and not even from CAL, but from the overvaluation of the exchange rate. Malaysia, Korea, and Indonesia had all opened up to the world, had more CAL than most, and were not crisis prone. Indeed, most if not all of these countries

were running a fiscal surplus and a managed float at the time of the financial crisis in 1997.

Thailand was a different story: its exchange rate was pegged at 25 baht to the dollar, and its fiscal house was in order—fiscal surpluses above 2 percent of GDP the last five years and an average of 2.7 percent of GDP for nine years prior to the crisis year of 1997! What differentiated Thailand from the other East Asian countries was its imbalance on the current account—around 5 percent of GDP. It is plausible that if the Thai authorities had allowed even a minimal fluctuation of the exchange rate (as was done by the East Asian crisis countries just mentioned), then some part of the imbalance would have been corrected before 1997, and (possibly) a crisis averted. In other words, it was not necessarily CAL or the banking sector—rather, it was an overvalued exchange rate. Thus it is useful to take the exchange rate and the valuation of the currency into account in analyzing CAL. If this is done, my expectation would be that the results would be even stronger regarding the benefits of CAL.

The second point pertains to financial repression. In most countries, financial repression is correctly defined as too low real interest rates. In India, financial repression has occurred through too *high* real interest rates. In regard to the high fiscal deficit, it is noteworthy that the consolidated fiscal deficit for India has ranged between 8 and 10 percent for twenty-four years (since 1980). The states' share of this deficit, however, has shown a significant trend increase—from about 30 percent of the total in the early 1990s to about 60 percent today. The story of how the states finance this deficit is one of financial repression—and nontransparent nongovernance.

The accompanying table 5 shows the interest rates given to depositors in "small savings"—a political misnomer for what can otherwise be termed (Ponzi) "scam savings." Note the large increase in the states' fiscal deficit and the collection of small savings (and prior to the Pay Commission–induced increase in 1999). Also note the increase in the real rate of interest given to such savings after 1995, which occurred because the government kept the nominal rate fixed as inflation fell. This easy source of financing of state deficits (through collections based on high rates of return to deposits) means that financial repression continues unabated. The seeds of a future financial crisis are being sown not through financial repression of the traditional type, nor through banking "problems," nor even through CAL. If a crisis occurs it will be because the government willfully pursued a "lazy" fiscal policy, one without any checks on state-level expenditures.

TABLE 5. Financial Repression, Indian Style: The High Cost of Government Borrowing
Percent, unless otherwise indicated

		Interest rates						
Year	*Inflation*	*Government securities*	*Small savings*	*Government securities real rate*	*Small savings real rate*	*Small savings deposits (rupees, billions)*	*Gross fiscal deficit of states (rupees, billions)*	*Small savings share of GFD*[a]
1990	9.8	11.4	10.3	1.6	0.5	189	188	75
1991	12.9	11.8	9.9	–1.1	–3.0	186	189	74
1992	9.6	12.5	10.2	2.9	0.6	194	209	70
1993	8.0	12.6	10.6	4.6	2.6	273	206	99
1994	11.8	11.9	11.0	0.1	–0.8	375	277	101
1995	7.8	13.4	10.8	5.6	3.0	366	314	87
1996	4.5	13.7	10.9	9.2	6.4	380	373	76
1997	4.3	12.0	11.2	7.7	6.9	518	442	88
1998	5.8	11.9	11.2	6.1	5.4	621	743	63
1999	3.2	11.8	10.6	8.6	7.4	754	915	62
2000	6.9	11.0	9.9	4.1	3.0	885	895	74
2001	3.5	8.8	8.4	5.3	4.9	904	960	94
2002	3.4	6.5	8.0	3.1	4.6	1,167	1,166	100
2003	5.3	5.3	7.9	0.0	2.6	1,243	1,162	107

Source: Government securities and small savings data are from *RBI Handbook of Statistics on State Government Finances*, various years, and *Reserve Bank of India Bulletin*, various years.

a. Before 2001 the small savings share of GFD was multiplied by .75 because 75 percent of the deposits went to the states and 25 percent to the central government.

General Discussion

Abhijit Banerjee said that the models that he finds most illuminating are those characterized by multiple equilibriums in which just the belief that the banking sector in a country may be fragile can shift the equilibrium radically. These models explain why crises may visit even a country like Korea, which is the most worrying aspect of capital account convertibility.

Expressing agreement with Banerjee, Montek Singh Ahluwalia noted that the real cost of a crisis is not just the short-term fall in incomes. In India, the likelihood of major reversal of economic reforms in the event of a crisis is very high. In any case, Ahluwalia saw absolutely no chance of any rapid movement to capital account convertibility in India; therefore he felt that the most useful approach would be to suggest what steps the Reserve Bank of India could be taking toward a staged opening up of the capital account. What warning signals should the RBI be watching for? What supplementary instruments should it begin to build into the system? For example, India lacks the hedging instruments necessary to support the opening up it already has achieved. The other important point is to avoid balance sheet mismatches, especially in the context of gradual opening up. Ahluwalia said that he was not aware that this was happening in the public sector banks but that the private sector banks were probably using good practices and would not run into that problem. However, currency mismatches may well be happening in the corporate sector. Were banks sufficiently aware that this might be happening? Were they doing something about it?

John Williamson made two points. First, to about 99 percent of the world, "capital account convertibility" means that somebody who has capital is entitled to switch in or out of any of the currencies, irrespective of the exchange rate regime. He noted two exceptions to this definition, however: Argentina, where convertibility means a fixed exchange rate, and Surjit Bhalla, who thinks convertibility means a floating exchange rate. The second point Williamson made was that Ken had identified out precisely the difficulties and dangers that come with capital account convertibility, but he had also cited many papers that mentioned gains from financial liberalization. Williamson acknowledged that there are all sorts of gains from financial liberalization; for instance, few would argue that the United Kingdom should go back on capital account convertibility. But Europe had taken thirty years to get to full convertibility. India should be thinking of the European experience. Williamson noted that he had made this point as far back as twenty-three years ago, so there had been a lot of earlier thinking on this subject.

Urjit Patel said that we must widen the definition of "nonperforming assets" (NPAs). In particular, we must bring important financial institutions such as the Life Insurance Corporation and Employee Provident Fund Organization into the calculation. He noted that the conventional estimates of NPAs typically understate the problem; a good rule of thumb once used at the IMF was to double the estimate you actually obtained. Echoing Bhalla, Patel advocated a wider definition of "public sector borrowing requirement" (PSBR) to get a better handle on the crowding out of private-sector investment. He noted that a passable PSBR measure is actually reported in the *Economic Survey*. It includes the borrowings of the State Electricity Boards (SEBs) and Public Sector Units (PSUs) and places the PSBR at 11.5 to 12 percent.

Responding to Fischer's assertion that crises had actually led the affected countries to undertake greater liberalization and reform, Arvind Panagariya said that this had not been the case in Mexico. According to his Maryland colleague Enrique Mendoza, who comes from Mexico, after the 1994 crisis reforms in Mexico came to a virtual standstill. Panagariya also noted that contrary to the view expressed by Ahluwalia, India has been moving toward capital account liberalization. Direct foreign and portfolio investment have been open for some time. Firms also are allowed to borrow abroad, subject to maturity restrictions, and resident Indians have been allowed to hold foreign currency accounts. If banks are permitted to use the resulting deposits to lend onshore in rupees, there could readily be a currency mismatch. Panagariya put forward a question for all present: "T. N. Srinivasan has said recently that India should aim to achieve full convertibility in five years' time; is it possible to outline a set of steps and the associated timeline to achieve this objective?"

Responding to Panagariya's comments, Ahluwalia said that he would dismiss the moves toward liberalization, which occurred because India had an excess of foreign exchange reserves. One should not read from the liberalization today that this opening would not get reversed if foreign exchange reserves became scarce. Ahluwalia argued that that was not liberalization. Liberalization means that when foreign exchange reserves are scarce, one still lets the rupee fall to the level where it will become undervalued and investors still will return to it. Ahluwalia saw no intellectual support for that kind of approach in India. What one has observed is that because there is a lot of money lying around, some windows have been opened, which is good. But from this one should not conclude that India is going to an open capital account in five years.

Ila Patnaik returned to the subject of hedging, nothing that the RBI now allows some agents with direct exposure to hedge. But many agents—for

example, households that are now allowed to hold foreign currency deposits—are not permitted to hedge. Today, when the RBI is keeping the rupee's volatility low, they are actually providing a public good. Those not permitted to hedge can still feel safe. But if the rupee's volatility goes up, there is no justification for the policy of denying access to hedging to any agents who feel the need. It takes time to build hedging institutions and instruments, and it is time to start thinking about them.

Kenneth Kletzer began his response by agreeing with the comment by Fischer that his paper was particularly cautionary but suggested that it is a reasonable approach. Regarding the exchange rate, he noted that there has been a strong tendency to resist its movement, though the current exchange rate regime is not what one must consider when thinking of capital account convertibility. On the banking system, Kletzer expressed agreement with Fischer that in comparison with other countries the unprovisioned nonperforming assets in the banking system in India were quite small. And they were certainly small compared with the resources available to the RBI to recapitalize them.

Kletzer defended the literature regarding the net gains from international capital mobility and international financial integration. He noted that the revealed preference of the countries—meaning the choices that countries are actually making—was one way to address the issue of whether capital account convertibility is desirable, as suggested by Fischer. However, he expressed discomfort with claiming larger gains without first looking for better ways to do the calibration exercises and cross-country regressions. The research studies and the puzzles therein relating to low gains from capital account convertibility are there, and we cannot ignore them. The fact that the gains from convertibility as measured by the existing studies are small is disturbing because it certainly runs counter to theory and is counterintuitive given the enthusiasm for liberalization that one currently sees in the world.

Moving forward, Kletzer noted that a key issue he would like to consider in his revision is identifying the danger signals as India opens up its capital account. On the question of how deficits are managed, he thought that liberalization had certainly contributed toward increasing the difficulties of the government in financing itself. Tariff liberalization had caused the loss of customs revenues. The same thing is going to happen with capital account liberalization in relation to the captive capital market for government borrowing. One can take the view that opening up the economy and a little bit of financial discipline will do the government some good. The other view, of course, is that the risk of crisis may be very bad for reform.

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