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India: Selected Issues and Statistical Appendix

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INDIA

Selected Issues and Statistical Appendix

Prepared by a staff team consisting of Kalpana Kochhar, Yougesh Khatri, Petya Koeva, Ranil Salgado (all APD); Dong He (MAE); and Jean-Pierre Chauffour (PDR)

Approved by Asia and Pacific Department

June 13, 2002

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List of Acronyms

AMC	-	Asset Management Company
ARC	-	Asset Reconstruction Company
ATC	-	Agreement of Textile and Clothing
BIFR	-	Board for Industrial and Financial Restructuring
BIS	-	Bureau of Indian Standards
CBI	-	Central Bureau of Investigation
CDR	-	Corporate Debt Restructuring
CII	-	Confederation of Indian Industry
CVC	-	Central Vigilance Commission
CVD	-	Countervailing Duties
CRR	-	Cash Reserve Requirement
CSO	-	Central Statistical Organization
DFI	-	Development Finance Institution
DRT	-	Debt Recovery Tribunal
EAC	-	Prime Minister's Economic Advisory Council
EPCG	-	Export Promotion Capital Good
ERC	-	Expenditure Reforms Commission
EXIM	-	Export-Import
FDI	-	Foreign Direct Investment
FII	-	Foreign Institutional Investment
GSP	-	Generalized System of Preference
ICICI	-	Industrial Credit and Investment Corporation of India
ICRIER	-	Indian Council of Research on International Economic Relations
IDBI	-	Industrial Development Bank of India
IFCI	-	Industrial Finance Corporation of India
MAI	-	Market Access Initiative
MFA	-	Multi Fibre Arrangement
MFN	-	Most Favored Nations
NASSCOM	-	National Association of Software and Services Companies
NPA	-	Non-Performing Assets
NPL	-	Non-Performing Loans
NPV	-	Net Present Value
NTB	-	Non-Tariff Barriers
OBU	-	Offshore Banking Unit
PDS	-	Public Distribution System
PSB	-	Public Sector Bank
QR	-	Quantitative Restriction
RBI	-	Reserve Bank of India
SBI	-	State Bank of India
SICA	-	Sick Industrial Companies Act
SME	-	Small and Medium Size Enterprise
SEZ	-	Special Economic Zone
SLR	-	Statutory Liquidity Requirement
SSI	-	Small-Scale Industry
TAMC	-	Thai Asset Management Corporation
TFP	-	Total Factor Productivity
WTO	-	World Trade Organization

I. Overview

1. **In the early 1990s in India, wide-ranging structural reforms yielded notable gains, and by several measures, India's economic performance during the decade compared favorably with most other developing countries.** The reforms started the process of unshackling and opening up the Indian economy and resulted in a significant boost to growth, investment, and exports, and in a marked reduction in poverty. Growth in the 1990s was second only to China in the region. India's performance was also favorable on some measures of macroeconomic stability—namely inflation and current account deficits.

Selected Countries—Growth Performance

(Average, in percent per annum)

	Real GDP Growth		Per Capita GDP Growth	
	1992–2001	1996–2001	1992–2001	1996–2001
India	6.0	5.4	4.0	3.5
China	9.5	7.8	8.5	7.0
Asian developing Countries	4.2	2.1	2.4	0.4
ASEAN-4	3.8	0.9	2.1	-0.7
All developing countries	5.4	4.6	3.8	3.1

Source: World Economic Outlook (WEO) database.

Selected Countries—Inflation and External Current Account Balances

	CPI Inflation (In percent per annum)		Current Account (In percent of GDP)	
	1992–2001	1996–2001	1992–2001	1996–2001
India	7.6	6.6	-1.0	-0.8
China	7.3	0.3	1.4	2.5
Asian developing Countries	8.9	9.4	-0.8	2.8
ASEAN-4	9.0	10.6	1.0	5.6
All developing countries	20.3	7.9	-1.2	-0.3

Source: WEO database.

2. **However, by another critical measure of macroeconomic stability—namely the public finances—India's performance is notably worse than other developing countries.** India's fiscal deficit has been one of the highest among a sample of developing countries, with only Albania, Lebanon, Mongolia and Zimbabwe having general government deficits that are as large or larger than in India. Moreover, the fiscal situation has proven to be an intractable problem.

Selected Developing Countries: General Government Balances

(In percent of GDP)

	1992–2001	1996–2001
Albania	*-11.6*	*-10.6*
Argentina	-2.5	-3.5
Bolivia	-4.0	-4.5
Brazil	-5.2	-6.6
Chile	0.9	0.0
China	-2.7	-2.9
Czech	-2.0	-2.8
Ecuador	-2.4	-2.5
Hungary	-5.5	-3.9
India	**-9.7**	**-10.0**
Indonesia	-1.2	-1.9
Jamaica	-2.9	-6.9
Lebanon	*-18.1*	*-21.0*
Malaysia	0.0	-1.0
Mexico	-3.9	-6.8
Mongolia	*-11.3*	*-9.2*
Pakistan	-6.5	-6.0
Philippines	-2.3	-2.9
Poland	-3.8	-3.6
Russia	-5.9	-2.8
S. Africa	-4.5	-2.7
Sri Lanka	-8.0	-8.3
Thailand	-0.1	-1.7
Uganda	-2.5	-1.9
Zimbabwe	*-9.0*	*-10.1*

Source: WEO database.

3. **This set of selected issues brings together staff work over the past year on key policy issues in India.** These are: growth and investment; the fiscal problem; India in the global economy; and the financial sector.

4. Chapter II presents an analysis of **recent trends in growth and investment** in the 1990s, with a focus on the slowdown in growth during the second half of the 1990s.

5. Chapter III discusses the fiscal situation, outlining the key reasons for the **deterioration in fiscal balances**, how the fiscal situation compares with other developing countries, and the key lessons from countries that managed successful fiscal consolidation.

6. Chapter IV contains an assessment of **India's opening to global trade** and factors that may be affecting India's export performance.

7. Chapter V examines the impact of **the financial sector reforms since the early 1990s on the performance of commercial banks in India**. The paper analyzes the behavior of industry concentration, cost of intermediation, and profitability of the banking sector, with a focus on public sector banks, the dominant segment of the banking system.

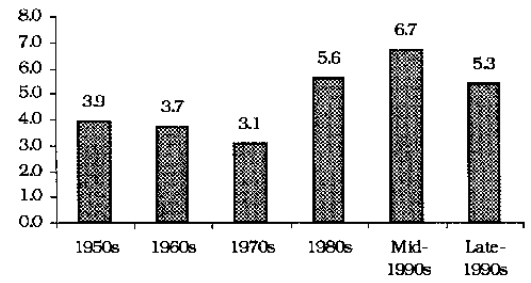
8. Chapter VI reviews **the nature of nonperforming assets (NPAs) in the Indian banking system and discusses the key design features of an asset reconstruction company** to ensure effective resolution of NPAs. The analysis draws upon recent regional and cross-country experiences in dealing with impaired assets during periods of financial crises.

II. Recent Trends in Growth and Investment[1]

A. Introduction

1. **Following the policies implemented in response to the 1991 balance-of-payments crisis, economic growth in India accelerated in the mid-1990s** (Figure II.1).[2] Annual GDP growth (at factor cost) in the five years to 1996/97 was 6¾ percent, the highest five-year average (based on a moving average) recorded in India since 1950/51. Economic strength during this period has been largely ascribed to the fiscal consolidation and structural reforms that were initiated after the 1991 crisis (e.g., see Callen, *et al.*(2001) and Chopra, *et al.* (1995)). Reforms included delicensing and deregulation of the industrial sector, liberalization of private and foreign investment and trade, tax reforms, and measures to liberalize and strengthen the supervision of the financial sector. The benefits of reform were most evident in private fixed investment growth, which surged to an average of 15¼ percent in the period.

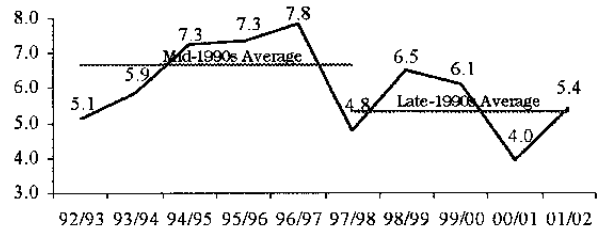
Figure II.1. Annual GDP Growth
Since 1950s
(At factor cost, in percent)



Source: Central Statistical Organization (CSO).

2. **In the late-1990s, however, economic activity weakened substantially**. Growth in 2000/01 was only 4 percent, and in the five years to 2001/02 averaged 5¼ percent (Figure II.2).[3] Moreover, growth

Figure II.2. GDP Growth
(At factor cost, in percent)



Source: CSO.

[1] Prepared by Ranil Salgado (x34182), who is available to answer questions.

[2] In this chapter, the mid-1990s are defined as 1991/92–1996/97 (the period of India's 8th Five-Year Economic Plan), the late-1990s as 1996/97–2001/02 (the period of the 9th Five-Year Economic Plan), and the post-crisis 1990s as the combination of the two periods. Data presented in this chapter reflect official data released through May 2001.

[3] National accounts data for 2001/02 are based on advance estimates (released in January 2002) from the Central Statistical Organization (CSO) and are only available for GDP at factor cost and some output components. Data of GDP at market prices and expenditure components are through 2000/01 (the latest available). As national accounts data on an expenditure basis in India are very limited, the analysis is partly based on staff estimates.

during this period may have been overestimated by about ¼ percentage point a year on average because of the impact on growth estimates of civil service wage hikes related to the Fifth Pay Commission awards.[4] While this growth rate still compared favorably with most other developing countries, it fell short of the government's 6½–7 percent target (based on the objectives of the 9th Economic Plan) and the estimated 8 percent annual growth needed to meet the government's ambitious poverty reduction objectives.[5] The slowdown during the late-1990s was also broad-based across sectors, particularly in agriculture and industry. On the demand side, it largely reflected lackluster private fixed investment growth—which plummeted to an average of only 3¾ percent.

3. **This chapter examines the slowdown in output and private investment growth during the late-1990s**. The analysis suggests that while cyclical and exogenous factors—such as poor weather conditions, a weak external environment, and natural disasters—contributed to the deceleration in activity, there was also a slowdown in trend growth, perhaps reflecting lingering structural distortions—including high real interest rates (partly associated with large fiscal deficits), severe infrastructure bottlenecks, and remaining industrial and agricultural controls. Private investment growth, particularly, appears to have been affected adversely by the deteriorating quality of public expenditures, in addition to structural factors, such as the legal and regulatory framework and labor market rigidities. Results based on production function and filtering methods indicate that trend or potential output growth may have fallen to 6 percent or less, even assuming some rebound in productivity and investment growth under the premise of modest fiscal reform and consolidation and a pickup in the pace of structural reform.

4. **The rest of this chapter is organized as follows**. The next section examines the slowdown in GDP growth in the late-1990s, particularly some of the factors behind it and to what extent the deceleration in activity was cyclical versus structural. Section C presents an analysis of the slowdown in private investment. Section D examines future growth prospects, primarily by estimating potential output growth using a production function framework. Section E provides some concluding remarks.

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[4] The CSO estimates government services (identified as public administration and defense in the national accounts) using the government's wage bill (with arrears counted in the year that they are paid) deflated by the consumer price index for industrial workers Acharya (2001) calculates that this incorrect deflation of government services created a "spurious" addition to growth of about ½ percentage point a year during the three years from 1997/98 to 1999/00. This estimate is roughly consistent with growth excluding government services, which averaged 5 percent during the late-1990s.

[5] The initial target for the 9th Plan, approved by the National Development Council in January 1997, was 7 percent. This target was subsequently revised down to 6½ percent in 1998/99, based on the weak outcome for the previous year—the first year of the Plan.

B. The Growth Slowdown

The Composition of the Slowdown

5. **On a sectoral basis, the slowdown in growth was most apparent in the agriculture and industrial sectors, while growth in the service sector was comparatively resilient** (Figure II.3a and Table II.1). Agricultural growth slowed to an average of 2 percent in the late-1990s—less than half the rate in the mid-1990s—and industrial sector growth also decreased substantially to 4½ percent. Growth in these sectors was undermined, inter alia, by increasing infrastructure constraints and remaining agriculture and industrial controls, including on storage, production, and movement of agricultural products; on bankruptcy, restructuring, and labor market rules; and with small-scale industry reservations. Service sector growth remained buoyant, although annual growth, excluding government services, declined slightly. The slowdown in the second half of the 1990s more than reversed the improvement in agriculture and industrial sector growth made in the earlier part of the decade compared to 1980s, making the economy even more reliant on the service sector (which accounted for almost 50 percent of GDP in 2001/02). It should be acknowledged, nonetheless, that the comparative strength of the service sector may reflect the limited applicability of product and factor market regulations on firms in the sector and greater progress with reform (e.g., deregulation of telecommunications and insurance), which also allowed India to develop comparative advantage in providing IT services.

6. **On an expenditure basis, private domestic demand was particularly weak, while net exports—notwithstanding the turbulent external environment—and public spending supported growth** (Figure II.3b). Although private fixed investment contributed the most to the decline in GDP growth, the growth rate of private consumption also fell by about a third to an average of 4 percent, and its contribution to the overall slowdown is comparatively large because it accounts for about 65 percent of GDP. In contrast, estimated real export growth increased from 9½ percent to 16½ percent, and overall, net exports contributed an average of ½ percentage point to GDP growth in the late-1990s compared to negative 1 percentage point in the earlier period. Growth in public expenditure also increased substantially—in particular, the growth rate of real public consumption growth more than doubled to an average of 10½ percent. As this surge in expenditure had only limited spillovers to the private economy, it raises questions about the inefficiency of public expenditures, and also suggests that public sector dissaving in recent years may have crowded out the private economy.

Figure II.3a. Contributions to Annual GDP Growth
Output Components (In percentage points)

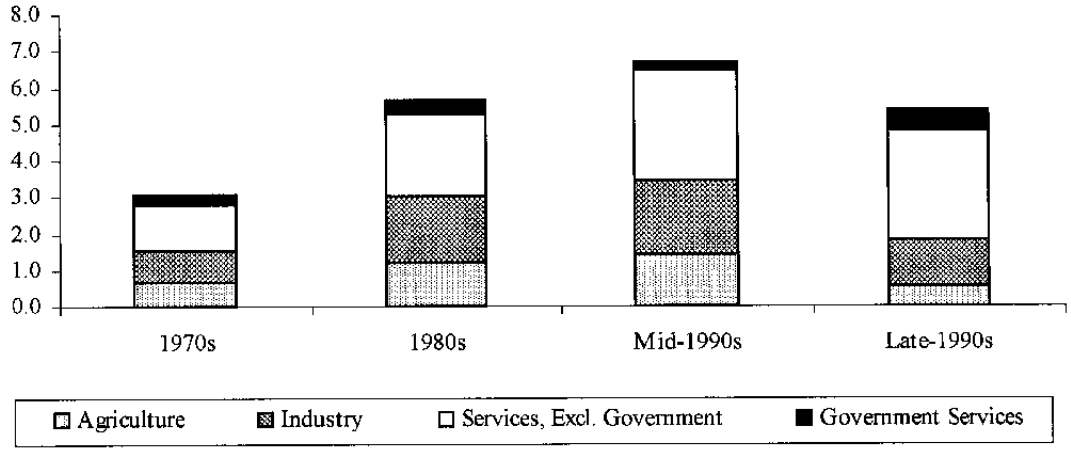
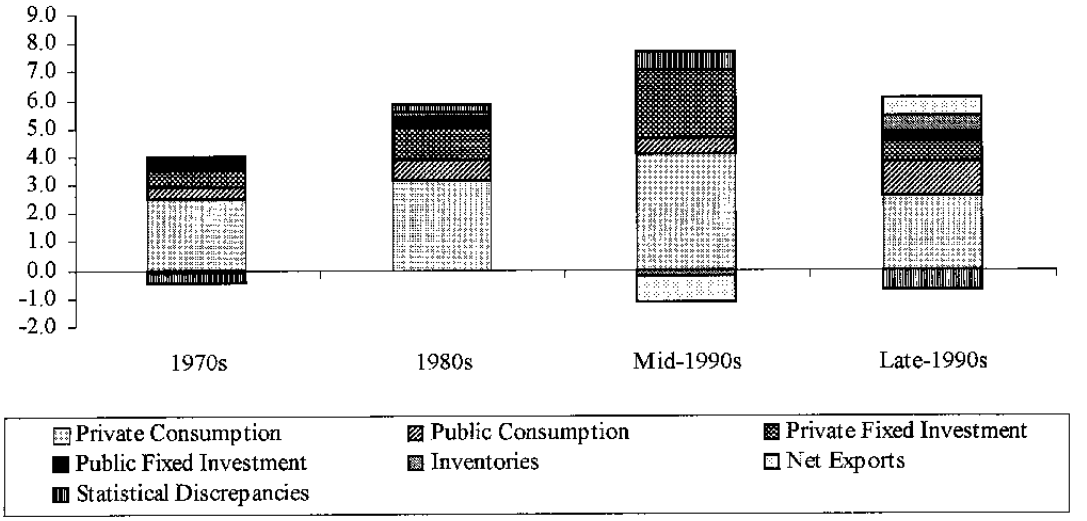


Figure II.3b. Contributions to Annual GDP Growth 1/
Expenditure Components (In percentage points)



Source: Staff estimates based on data provided by the CSO.

1/ Private consumption includes statistical discrepancy on consumption. Private investment and inventories include pro-rated errors and omissions on investment.

Table II.1. Growth of Real GDP and Components

(Annual averages, in percent)

	1970s	1980s	Post-Crisis 1990s	Mid-1990s	Late-1990s
GDP at factor cost	3.1	5.6	6.1	6.7	5.3
Agriculture	1.5	3.4	3.1	4.7	2.1
Industry	4.0	7.1	6.3	7.6	4.5
Services, excl. government	4.2	6.8	7.9	8.1	7.5
Government	5.4	6.5	6.7	3.9	9.5
GDP at factor cost, excl. government	3.0	5.6	6.0	6.8	5.1
GDP at market prices	3.0	5.8	6.0	6.5	5.4
Private consumption 1/	3.2	4.3	5.1	6.0	3.9
Public consumption	4.3	6.8	7.2	4.6	10.6
Private investment 2/	4.2	8.2	10.3	13.4	6.6
of which: fixed investment 2/	4.9	7.8	10.0	15.3	3.7
Public investment	4.7	5.0	3.7	1.7	6.2
Of which: fixed investment	5.9	4.7	2.7	0.5	5.5
Exports	...	5.5	12.6	9.6	16.6
Imports	...	4.3	13.0	15.8	9.6

Source: Staff estimates based on data provided by the CSO.

1/ Includes statistical discrepancy on consumption.

2/ Includes pro-rated errors and omissions on investment.

Factors behind the Slowdown: Are they Cyclical or Structural?

7. **An approach used in the macroeconomic literature and applied in this chapter to estimate trend growth is to smooth the underlying series using the Hodrick-Prescott (1997) filter**, which is designed to filter out business cycle fluctuations.[6] One difficulty with this approach is that trends become poorly defined at the beginning and end of the sample period. To address this problem, trend growth was also estimated by extending the sample period based on forecasts of GDP growth.

8. **The results suggest that the slowdown had both cyclical and structural factors** (Table II.2):

- Trend GDP growth fell to under 6 percent—and perhaps as low as 5 percent—in 2001/02.
- Trend GDP growth reached a peak in the mid-1990s, but at 6.1 percent was substantially below the average growth rate of 6¾ percent in that period.
- On a sectoral basis, trend growth fell most significantly in the industrial sector. As noted above, estimates of trend growth are poorly defined at each end of the sample period, particularly if there are sharp changes in growth around the end points. As such, the relatively low estimate of services sector trend growth based on the unextended series (compared to the extended series) reflects this end-period problem, along with the sharp drop in service sector growth in 2000/01.

Table II.2. Trend Growth Based on Hodrick-Prescott Filter 1/

(In percent)

	Not Extended		Extended
	Mid-1990s	2001/02	2001/02
GDP	6.1	4.9	5.7
Agriculture	3.3	2.6	2.9
Industry	6.5	4.7	5.3
Services	7.8	6.1	7.4

Source: Staff estimates.

1/ Estimated using $\lambda = 100$, the standard value for annual observations. Sample period was 1950/51 - 2001/02 (or 2007/08 for the extended series).

9. **One important exogenous factor affecting agricultural growth that could have contributed to the slowdown was weather conditions, although weak growth in the agriculture sector may also reflect structural factors**. Agriculture remains very vulnerable to the monsoon. The correlation (from 1970/71 to 2001/02) between rainfall during the monsoon season and agriculture growth was 0.70, and econometric analysis suggests that rainfall was a significant explanatory variable for agriculture growth (Box II.1). Moreover,

[6] This method is particularly useful when there are data limitations. For India, time series of GDP and its components are generally limited to annual observations. Quarterly data of GDP at factor cost and some output components are available, but only for data since 1996/97.

Box II.1. Agriculture Sector Growth in India

Agricultural growth remains vital to overall economic performance in India. Spillovers from growth in the sector to other components of domestic demand continue to be substantial, even though the share of agriculture in GDP fell from over 55 percent (in real terms) in 1950/51 to about 24 percent in 2000/01. In particular, the long-run correlation between private consumption growth and agricultural growth was over 0.75, reflecting the large share of the population that is still rurally based (Table).

This box examines the determinants of agriculture sector growth—especially the influence of rainfall during the monsoon season. Growth in the sector was particularly weak in a number of recent years, with the poor performance often attributed to weather conditions. Indeed, over the long run, rainfall and agricultural growth were highly correlated (Figure). To assess the importance of rainfall and other factors in explaining agricultural growth, a model (all variables are in logs) was estimated on annual data from 1950/51 to 2000/01, using ordinary least squares with White heteroskedasticity-consistent standard errors (T statistics are given in parenthesis). The estimation result was:[1/]

$$\underset{}{\text{Agr}} = \underset{(-7.55)}{-0.81} - \underset{(-5.53)}{0.47}\ \text{Agr}(-1) + \underset{(8.07)}{0.41}\ \text{Rain} + \underset{(3.82)}{0.21}\ \text{Pagr}(-1) - \underset{(-1.90)}{0.84}\ \text{Stock}(-1)$$

R-squared = 0.69; Adjusted R-squared = 0.67; Durban *h*-statistic = 1.78;

where Agr was agricultural output growth, Rain was an All-India index of rainfall during the monsoon (in cm.), Pagr was the relative price of agriculture (defined as the agriculture output deflator in the national accounts divided by the GDP deflator), and Stock was the change in agriculture stocks (or inventories).

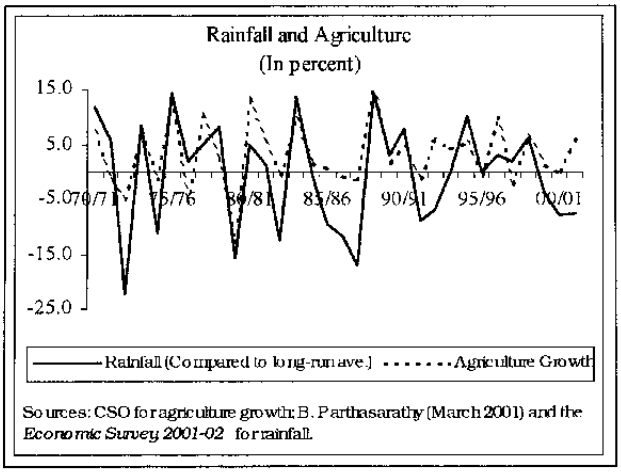
The results indicate that rainfall and the relative price of agriculture had significant and positive effects on agriculture output growth, while lagged agricultural growth and agriculture stocks had negative effects. While these findings confirm the importance of weather conditions, they also highlight the negative impact of high food stocks and the importance of food prices in explaining growth in the sector.[2/] Although this equation may be too simple to provide definitive conclusions on the impact of the Public Distribution System (PDS) on agricultural growth, the data does suggest that increased food stocks (which are likely to be mainly foodgrains and not other commodities that are not covered by the PDS) tend to depress growth in the next period.

Correlations with Agriculture Sector Growth

	1950/51-2000/01	1970/71-2000/01
GDP growth (at market prices)	0.84	0.81
Private consumption growth	0.77	0.75
Private fixed investment growth	0.21	0.42
GDP growth (at factor cost)	0.89	0.86
Industrial sector growth	0.28	0.33
Service sector growth 1/	0.20	0.23
Government services growth	-0.12	-0.18

Source: Staff estimate.

1/ Excluding government services.



Sources: CSO for agriculture growth; B. Parthasarathy (March 2001) and the *Economic Survey 2001-02* for rainfall.

1/ The Q-statistic and LM test indicated no significant serial correlation of the residuals.

2/ The spatial and temporal distribution of rainfall could also affect agricultural growth, but these cannot be tested in this estimation framework.

although agricultural output accounts for only about a quarter of GDP, the impact of agricultural activity is magnified through its effect on rural incomes and consumption, as more than 70 percent of the population is rural. Thus, the overall correlation between rainfall and GDP growth (at factor cost) was 0.67. It is notable, nonetheless, that rainfall during the monsoon season has been considered normal (or within 10 percent of the long-run average) for the past 13 years. This suggests weakness in the agriculture sector was also partly structural in nature, reflecting weak rural investment, high food stocks, limited agricultural diversification, and continuing regulations on production, storage, and transport.

10. **Another factor that could have contributed to the deceleration in economic activity was the external environment, although the direct impact on total exports was limited**. During the late-1990s, global trade was adversely affected by a number of shocks—including the East Asian crisis, a significant oil price shock, weak commodity prices, and the recent global growth slowdown (Figure II.4a). Notably, though, real export market growth (real merchandise and services import growth of India's trading partners weighted by their share in India's merchandise exports) declined only modestly through 2000/01, partly reflecting the comparatively robust growth of India's main export markets—the United States (21½ percent of India's merchandise exports) and the United Kingdom (6 percent).[7] In addition, services export growth surged, reaching an average of 26 percent (in dollar terms) in the late-1990s to 2000/01 (Figure II.4b).[8] Thus, the dollar value of total exports declined only slightly, and in volume terms, exports are estimated to have increased.

Table II.3. Correlations with Industrial Output Growth
(In percent)

	Long Run 1/	Post-Crisis 1990s
Annual Change in:		
Real merchandise exports	32.3	23.5
Terms of trade	34.5	8.0
Export prices	5.4	81.8
Oil prices	-22.8	19.1

Sources: RBI; and World Economic Outlook database.

1/ 1977/78-2000/01

11. **The external environment might, nonetheless, have negatively affected the economy through terms of trade and exchange rate effects**. These effects may have been most felt in the industrial sector. In particular, over the long run, industrial sector growth was positively correlated with changes in the terms of trade and negatively correlated with changes in oil prices (Table II.3). In the 1990s, industrial sector growth

[7] The importance of the United States and the United Kingdom in India's trade may be underestimated in the estimate of the export market growth as the weights used in the calculation are based on merchandise trade. According to the National Association of Software and Services Companies (NASSCOM), an umbrella organization for IT software and services companies in India, over 60 percent of exports of IT-related services in 2000/01 were to the United States, while over 10 percent were to the United Kingdom.

[8] In first three quarters of 2001/02 on a balance-of-payments basis, merchandise exports fell by 1 percent (in dollar terms, compared to the same period in 2000/01), while services exports increased by 17 percent.

Figure II.4a. The External Environment 1/ 2/
(Percent change)

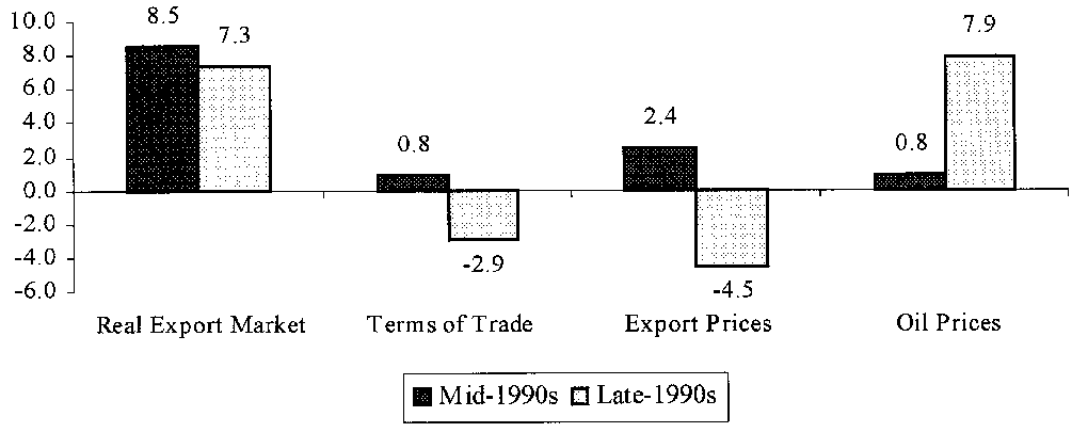
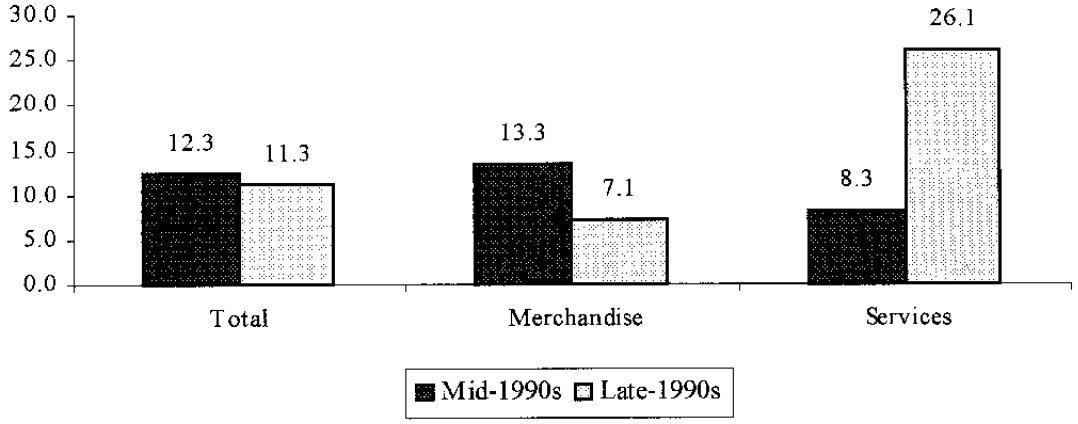


Figure II.4b. Exports Growth 1/ 3/
(In dollar value, percent change)



Sources: World Economic Outlook database; and Reserve Bank of India (RBI).

1/ Data through 2000/01.
2/ IMF estimates. Export and oil prices in dollar terms. Real export market is estimated based on real goods and services imports of trading partners weighted by their share of India's exports, and terms of trade and export prices on trade prices weighted by the commodity composition of India's trade.
3/ Balance-of-payments basis.

was also highly correlated with export prices. These relationships may reflect the impact on industrial sector profits of changes in these prices. In addition, merchandise export growth, which decreased in dollar terms from 13¼ percent in the mid-1990s to 7 percent in the late-1990s (through 2000/01), could have been adversely affected by the surge in services exports during the latter part of the decade, as the strength of these exports might have kept the rupee stronger than would have been otherwise.

C. The Slowdown in Private Investment Growth

12. **Following a secular rise starting in the early 1950s, the domestic investment rate in India stagnated in the 1990s** (Figure II.5a). The investment rate peaked in 1995/96 at 27 percent of GDP and subsequently fell to 24 percent of GDP in 2000/01. In real terms, the decline was smaller (from 27¼ percent of GDP to 26¼ percent of GDP) during the same period, reflecting the decrease in the relative price of investment goods. In particular, the private fixed investment rate (in real terms) fell by 1¼ percent of GDP to under 18½ percent of GDP in the late-1990s, and the private corporate fixed investment rate dropped from 11 percent of GDP to 6¾ percent of GDP (Figure II.5b). This section of the chapter examines some of the potential causes of the slowdown in investment.

13. **The literature suggests a number of macroeconomic, microeconomic, and structural factors that could influence investment decisions and aggregate investment rates**. Macroeconomic factors include domestic and foreign output growth (and expectations of growth), direct costs related to funding investment (the real interest rate, relative price of investment goods, and other input costs), credit availability (real growth of private sector credit), leverage levels (debt in relation to GDP or equity), and macroeconomic policies and policy uncertainty (including related to political stability).[9] Microeconomic and structural factors include the regulatory and legal framework (including entry and exit policies), labor market flexibility, openness to trade, infrastructure, and transactions costs related to the regulatory burden, governance, and corruption. Many of these structural factors cannot be measured directly (and even indirect measures are generally not available on a time series basis), but surveys provide strong evidence that they are impediments to investment—particularly in India.[10]

14. **A model of private investment growth in India was estimated starting with a broad set of potential variables**. The regressions were estimated based on annual data from 1970/71 to 1999/2000 and using ordinary least squares with White heteroskedasticity-consistent standard errors. A number of the variables—including lagged output growth, lagged investment growth, inflation, real interest rates, real credit growth were found to

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[9] For example, see Serven and Solimano (1993).

[10] See Goswami, *et al.* (2002) for a recent study on the investment climate in India, which covers many of these factors.

Figure II.5a. Domestic Investment Since the 1950s 1/
(In percent of GDP)

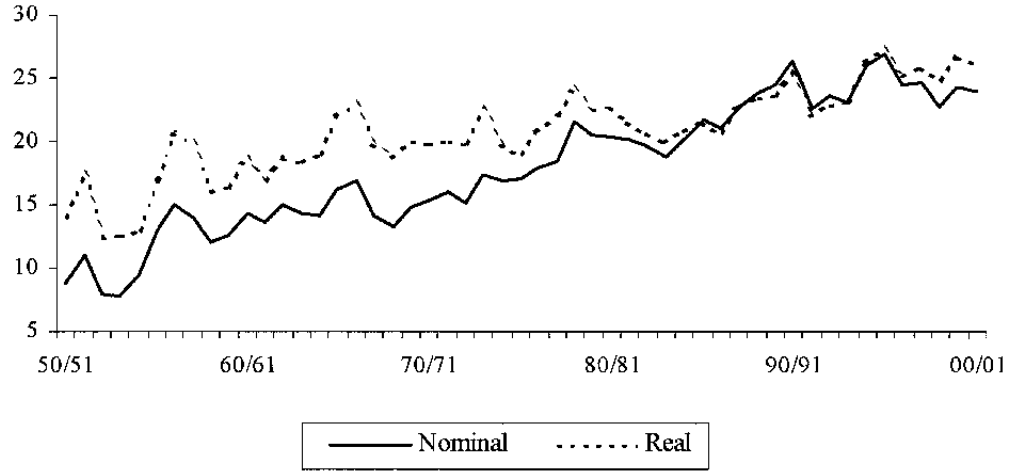
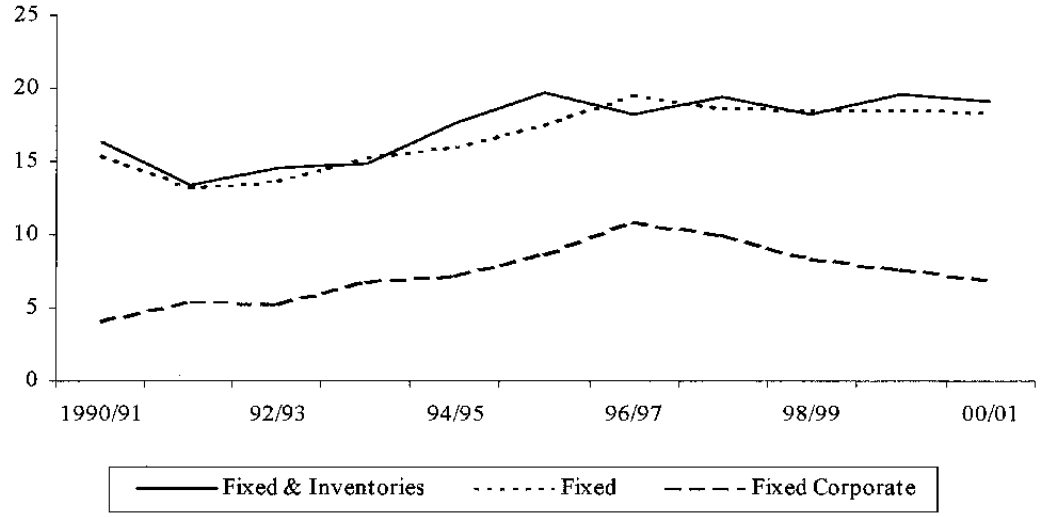


Figure II.5b. Real Private Investment in the 1990s 1/
(In percent of GDP)



Source: CSO.

1/ Including pro-rated errors and omissions on investment.

be insignificant. The final estimation result was:[11]

$$IP = 0.07 - 0.92\ IG + 4.56\ WGDP + 0.93\ IGinfra(-1) - 0.70\ ExG(-1) - 0.07\ VINFL$$
$$(0.07)\ (-3.05)\quad (1.81)\quad (3.41)\quad (-1.73)\quad (-2.03)$$

R-squared = 0.46; Adjusted R-squared = 0.35; DW statistic = 2.30.

Where IP was private investment growth (in logs), IG was public sector investment growth (in logs), WGDP was world output growth (in logs), IGinfra was public sector infrastructure investment growth (in logs), ExG was public expenditure growth excluding infrastructure investment (in logs), and VINFL was the monthly variance of WPI inflation. Private investment included inventories and errors and omissions; government investment included inventories; and infrastructure investment was investment in agriculture, electricity, gas, and water, and transportation, storage, and communication.

15. **The estimation results indicate that**:

- Of all public sector expenditures, only public sector investment in infrastructure had a positive effect on private investment behavior.[12] Higher growth in public consumption or other public investment inhibited private investment growth.

- World GDP growth had a positive effect on private investment growth, while uncertainty related to inflation volatility had a negative effect.

- Almost 70 percent of the slowdown in private investment in the late 1990s was attributed to a deterioration in the composition of public expenditures, which shifted towards public consumption and non-infrastructure investments after 1995/96 compared to the earlier part of the decade (Table II.4). This estimate is based on the regression results for the model of private investment and made by multiplying the regression coefficients by the change in the explanatory variables between the early part of the 1990s (before 1995/96) and the later part of the decade. The estimated impact is roughly divided equally between the negative effect of weaker growth of public infrastructure investments (lagged IGinfra) and of faster growth of other public spending (IG and lagged ExG).

- As noted above, many variables, particularly structural factors, that influence the investment climate are not directly observable and thus could not be tested. This may explain the relatively low explanatory power of the estimation results.

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[11] T statistics are given in parentheses. Tests of serial correlation—the Q-statistic and LM test—indicated no significant serial correlation of the residuals. Data were from the CSO, the Reserve Bank of India (RBI), the World Economic Outlook database, and the International Financial Statistics database.

[12] The *Report on Currency and Finance, 2000–01* also found a similar result.

Table II.4. The Private Investment Slowdown

	Averages (In percent)		Contribution to Change in Investment Growth 1/ (In percentage points)
	1991/92-1995/96	1995/96 1999/00	
Private investment growth (IP)	17.0	6.1	
Public sector investment growth (IG)	2.9	4.6	-1.5
World GDP growth (WGDP)	3.0	3.7	2.9
Public sector infrastructure investment growth (IGinfra) 2/	3.4	-0.4	-3.4
Public expenditure growth (ExG) 2/ 3/	3.0	6.2	-2.2
Monthly variance of WPI inflation (VINFL)	0.4	0.5	-0.8

Sources: Staff estimates; CSO; World Economic Outlook database; and International Financial Statistics database.

1/ Based on the regression results for the model of private investment and made by multiplying regression coefficients by the change in the explanatory variables (in logs, except for VINFL) between the early part of the 1990s (before 1995/96) and the later part of the decade.
2/ Lagged one year.
3/ Excluding expenditures on public sector infrastructure investment.

D. Future Growth Prospects

16. **Estimates of potential output growth are regularly used to access growth prospects in an economy**. A difficulty, however, is that potential output is not well defined and also problematic to measure.[13] In broad terms, the economic literature proposes two distinct definitions of potential output—one in the Keynesian tradition and the other in the neoclassical one. In the former, business cycles are related to changes in resource utilization as output deviates from its underlying potential due to movements in aggregate demand in relation to a more slowly-moving level of aggregate supply. In the latter, exogenous productivity shocks to aggregate supply determine trend and long-run growth, and the lagged impact of rational agents reacting to unexpected shocks determines short-run or business-cycle fluctuations. The literature also presents a number of methods to estimate potential output, including purely statistical ones—such as smoothing filters (e.g., the Hodrick-Prescott filter) and unobservable components methods—and structural methods—such as aggregate production functions, structural vector autoregressions (e.g., Blanchard and Quah (1989)), and demand-side models related to direct measures of spare capacity in the economy (Bayoumi (2000)).

17. **In this chapter, potential output for India was estimated based on the aggregate production function methodology**. As a first step, estimates of total factor productivity (TFP) were derived residually using historical data. It was assumed that the production function has a Cobb-Douglas specification, in which output, Y, depends on the level of technology (or TFP), A, and factor inputs L, the labor force, and K, the stock of physical capital:

$$Y = AL^{\alpha}K^{\beta}$$

Where α and β sum to one and are, respectively, the labor share of income and the capital share of income.[14] Under this specification, it was assumed that the aggregate production technology has constant returns to scale, labor and capital are homogeneous and fully employed, and (factor and product) markets are competitive.[15] To the extent that these assumptions are incorrect, inputs and outputs are mismeasured, and hours per worker change over time, the derived level of TFP will be an inaccurate measure of the underlying or trend

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[13] See Scacciavillani and Swagel (1999), Cerra and Saxena (2000), and Lee and Khatri (2001), including for details on other methods to measure potential output.

[14] Factor income shares are not available or are difficult to measure in most developing countries, including India. In the literature, estimates or assumptions of the labor share of income range from 0.6 to 0.7 (Collins and Bosworth (1996)). In this chapter, the results were estimated with the labor share parameter assumed to be in this range.

[15] Alternatively, if markets are not competitive, the parameters α and β could be assumed to be factor elasticities of output.

level of technology. In this chapter, as an alternative, the specification was also extended to account for changes in human capital or the education-level of workers. For this specification, the benefits of education were assumed to be embodied in labor.

18. **Table II.5 summarizes the historical data underlying the estimates of TFP.**

- Annual labor force growth accelerated in the 1990s to about 2¼ percent, even though annual population growth fell to under 2 percent.

- The comparative increase in labor force growth reflected a decreasing dependency ratio, as the labor force participation fell during the 1990s compared to the 1980s.

- While net capital stock growth increased in the first part of the 1990s, the growth rate decelerated in the latter part of the decade, reflecting a lower total investment rate.

19. **Table II.6 summarizes the derived estimates of TFP growth.**

- By most measures (labor force only or labor force augmented for average years of schooling), TFP growth was roughly unchanged (or increased slightly) in the post-crisis 1990s compared to the 1980s.[16]

- The derived TFP growth rate decreased substantially in the late-1990s. It is important to note, however, that this decline, which occurred over a short-time horizon, may have partly reflected changes in the utilization rates of labor and physical capital, and thus may have been partly cyclical in nature.[17]

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[16] By construction, the differences between TFP growth estimates based on labor force only and labor force augmented for schooling are equivalent to the contributions to growth of increased schooling or human capital. Also it is notable that average TFP growth rates during the 1990s, including the 1990/91 crisis year (averages not shown), were lower than during the 1980s.

[17] Directly measured time-series data of unemployment, hours per worker, or capacity utilization are unavailable in India on an aggregate basis. The *Report on Currency and Finance, 2000–01* presented estimates of indirect measures of capacity utilization (using the Wharton Index and the Minimum Capital-Output Ratio Measure) in the industrial sector that suggest that capacity utilization decreased substantially in manufacturing, but increased in electricity and, to a lesser extent, in mining and quarrying during the late-1990s. Nitsure and Joseph (1999) estimated capacity utilization of the private corporate industrial sector for five years in the 1990s based on data from 802 medium and large-scale companies. These estimates indicated that industrial sector capacity utilization increased from 1993/94 to 1996/97 before falling slightly in 1997/98.

Table II.5. Selected Macroeconomic Data

(Annual averages, in percent)

	1960s	1970s	1980s	Post-Crisis 1990s	Mid-1990s	Late-1990s
Labor force growth	1.9	2.3	1.9	2.2	2.2	2.3
Population growth	2.2	2.3	2.1	2.0	2.0	1.9
Labor force participation rate 1/	79.4	77.4	74.0	72.1	72.0	72.3
Dependency ratio 2/	77.8	77.2	71.8	66.1	67.0	64.5
Real net capital stock growth	4.0	3.6	4.5	5.2	5.5	4.9
Growth of average years of schooling						
15 years and older	3.1	3.7	2.3	2.1	2.0	2.3
25 years and older	2.7	3.7	3.1	2.6	2.5	2.7

Sources: Labor force and dependency ratio from World Bank World Development Indicators database; population and capital stock from the CSO; and average years of schooling from Barro and Lee (2000).

1/ Labor force as a percent of working-age (ages 15-64) population.
2/ Dependents as a percent of working-age population.

Table II.6. TFP Growth 1/

(Annual averages, in percent)

Specification	1960s	1970s	1980s	Post-crisis 1990s	Mid-1990s	Late-1990s
Labor share of income (α) = 60 percent						
Labor force only	0.9	0.3	2.6	2.6	3.1	1.9
Labor force and schooling (15 years and older)	-0.9	-1.9	1.2	1.3	1.8	0.6
Labor force and schooling (25 years and older)	-0.7	-1.9	0.8	1.0	1.5	0.3
Labor share of income (α) = 65 percent						
Labor force only	1.0	0.3	2.7	2.7	3.2	2.1
Labor force and schooling (15 years and older)	-0.9	-2.0	1.2	1.3	1.9	0.6
Labor force and schooling (25 years and older)	-0.7	-2.0	0.7	1.0	1.6	0.3
Labor share of income (α) = 70 percent						
Labor force only	1.1	0.4	2.9	2.9	3.4	2.2
Labor force and schooling (15 years and older)	-1.0	-2.1	1.3	1.4	1.9	0.6
Labor force and schooling (25 years and older)	-0.8	-2.1	0.7	1.0	1.6	0.3

Sources: Staff estimates.

1/ Specification: L = labor force or labor force multiplied by average years of schooling in the production function equation above.

20. **Based on these calculations of TFP growth and the corresponding underlying production function model, potential output growth was estimated.** The estimates were based on long-run (post-crisis 1990s) averages and, alternatively, short-run (late-1990s) averages of TFP growth and capital stock growth.[18] Labor force growth was assumed to average 2.0 percent, based on World Bank projections of annual working-age (ages 15–64) population growth in India during 2000–05.[19] The growth rate of human capital or schooling was assumed to remain the same as in the 1990s.

21. **Estimates of potential output growth that were based on these assumptions are presented in Table II.7 and lie in the range of 5 to 6 percent.**

- These estimates were essentially insensitive to the inclusion of the human capital or schooling variables (not shown). When human capital is excluded in deriving the estimate of TFP, the contribution of human capital to growth is included in TFP growth (as TFP is derived residually), and thus generally does not affect the calculation of potential growth.

- The estimates were also only slightly sensitive to different assumptions of the labor share of income.

- The sensitivity of the estimates to different assumptions of capital stock growth was limited. The capital stock growth rate assumptions varied by only about ¼ percentage point, and the contribution of capital stock growth to potential growth is weighted by the income share of capital (or a maximum

Table II.7. Potential Output Growth 1/

(In percent)

Specification	Post-Crisis 1990s	Late-1990s
Labor share of income (α) = 60 percent	6.0	5.2
Labor share of income (α) = 65 percent	5.9	5.2
Labor share of income (α) = 70 percent	5.9	5.1

Sources: Staff estimates.

1/ Specification: Labor share as noted; Capital stock and TFP growth are based on averages for the post-crisis 1990s or the late-1990s.

[18] Note that TFP and capital stock trend growth rates based on the Hodrick-Prescott filter and the peak decadal growth rates fall within the range of these assumptions. For the growth rate of the capital stock, the assumptions are also broadly consistent with projected investment growth rates.

[19] A regression of the labor force participation rate on a constant and trend from 1960 to 2000 indicated that labor force participation in India declined by about ¼ percentage point a year. However, the labor force participation rate rose slightly during the 1990s. For the exercise in this chapter, the participation rate was assumed to be constant.

of 0.4 in this exercise). So at most, the differences in capital stock growth assumptions explained only about a tenth of a percentage point of the variation in potential growth estimates.

- The estimates of potential output growth were most affected by assumptions of TFP growth. Since the assumptions based on short-run averages were more likely to be affected by cyclical factors (as discussed above), estimates based on the longer-run averages may better reflect the underlying structural growth rate. However, to achieve growth rates near 6 percent, TFP and investment growth rates would need to accelerate from current levels.

- The estimates of potential output growth based on an aggregate production function were similar to estimates of trend growth made by smoothing historical data (e.g., using the Hodrick-Prescott filter). This is not surprising as estimates of TFP growth were derived residually and essentially smoothed.

E. Concluding Remarks

22. **Economic activity weakened in India during the late-1990s**, with average growth rates falling to 5¼ percent compared to 6¾ percent during the earlier part of the decade. The slowdown was broad-based across sectors, and on the demand side, largely reflected weak growth in private fixed investment.

23. **This chapter examined the growth and private investment slowdown in India during the late-1990s**. The analysis indicated that both cyclical and structural factors contributed to the deceleration in growth. In particular, poor weather conditions, along with weak rural investment, high food stocks, limited agricultural diversification, and continuing regulations on production, storage, and transport, led to lackluster agriculture growth with spillovers to the rest of domestic demand. The direct impact of a weaker external environment was limited; however, changes in relative trade prices could have adversely affected growth, especially in the industrial sector. Private investment appeared to have been inhibited by the deteriorating quality of public expenditures—namely, the shifting of expenditures from infrastructure investments to consumption and other investment—in addition to structural factors, such as the legal and regulatory framework and labor market rigidities.

24. **Results based on production function and filtering methods indicate that potential output or trend growth may have fallen to 6 percent or less**. Even this estimate presumes some rebound in productivity and investment growth under the premise of modest fiscal reform and consolidation—including improved composition of public sector expenditures—and a pickup in the pace of structural reform.

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III. The Fiscal Situation in International Perspective[1]

A. Introduction

1. **The fiscal situation has long been the key macroeconomic challenge facing India.** Consequently a vast body of literature has emerged, assessing various aspects of the fiscal problem in India—tax performance, the composition and control of expenditure, states finances, fiscal federal arrangements, the debt build-up and associated sustainability analysis.[2] This Chapter briefly summarizes key fiscal developments of the last decade, and focuses on India's fiscal position in an international perspective, and options for fiscal consolidation.

2. **The rest of the Chapter is organized as follows**: Section B presents key fiscal developments during the past decade. Section C compares India's fiscal position with other emerging markets. Section D discusses other countries' experiences with fiscal consolidation with a view to gleaning some lessons that may be applicable in India. Section E presents some illustrative fiscal consolidation scenarios and Section F concludes.

B. Key Fiscal Developments During the Last Decade

3. **Fiscal consolidation was undertaken in the early 1990s in the context of Fund-supported adjustment and reform program.**[3] The consolidated general government deficit that reached a peak of 9.6 percent of GDP in 1990/91, was reduced to around 6.7 percent of GDP by 1995/96 (see Figure III.1).[4] The consolidation relied mainly on cuts in expenditure (relative to GDP) by the central government on defense, subsidies, and capital expenditure, as well as modest expenditure reductions by the states. Over this period, the general government current (or revenue) deficit declined from 4 percent of GDP in 1990/91 to 3¼ percent of GDP in 1995/96, and the corresponding primary deficit fell from 5 percent of GDP in 1990/91 to 1½ percent of GDP in 1995/96.

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[1] Prepared by Yougesh Khatri (x35494), who is available to answer questions.

[2] Recent IMF studies include, Chopra et al. (1995), Tzanninis (1996, 1997), Muhleisen (1997, 1998), Cashin et al. (1998), Reynolds (2001), and Callen et al. (2001). Other studies include Buiter and Patel (1992), Joshi (1998), Srinivasan (2000), Shome (2000), Acharya (2001), and Ahluwalia (2002).

[3] The adjustment program included monetary tightening, fiscal consolidation, a sharp devaluation of the rupee, and structural reforms including trade liberalization, tax reform, and financial sector reform.

[4] The fiscal year in India runs from April to March. The authorities' definition of general government includes central government and states governments, and treats privatization receipts as revenues above-the-line. Staffs' definition of general government (reported here) also includes the oil pool account balance and treats privatization receipts below-the-line as financing items.

4. **The fiscal improvement however proved to be short-lived, and by 2001/02, the various deficit measures were back at their pre-crisis levels**. Expenditure increases—without corresponding increases in revenues or offsetting measures elsewhere—led to renewed deterioration in the central government deficit, from 4.3 percent of GDP in 1995/96 to over 6 percent of GDP in 2001/02. The same trend emerged in the states' deficits, which deteriorated sharply beginning in 1998/99 (see Figure III.1). By 2001/02, the general government overall deficit was over 10 percent of GDP; the primary deficit was back up to around 5 percent of GDP; while the current deficit is estimated at about 6 percent of GDP.

5. **The deterioration in the fiscal position in the second half of the 1990s relates to three main factors**:

- **The substantial increase in the wage bill**. The Fifth Pay Commission led to large pay increases and generous changes to pension benefits.[5] However, the corresponding reduction in staff numbers recommended by the Pay Commission was not initially implemented, and thus central government expenditure on wages and salaries rose from 1.4 percent of GDP in 1996/97, to 1.7 percent of GDP in the two subsequent years. Pay revisions following the Pay Commission also led to a deterioration in state finances.[6]

- **The "transition costs" associated with the structural reforms**. Up until the early 1990s, a significant portion of the government deficit was financed through financial repression, with high reserve deposit and statutory liquidity requirements inducing banks to hold government bonds at below market rates. Such a system allowed the government to run large deficits for a long period, but contributed to the weakening of the banking system. Financial sector reforms in the early 1990s resulted in deficit financing at closer to market rates which, in the context of high primary deficits, resulted in continuous increases in the interest bill (from less than 4 percent of GDP in 1990/91 to

[5] Pay scales for central government civil servants are determined on the basis of recommendations of the Pay Commission, a constitutionally mandated body that is established about every 10 years. The Fifth Pay Commission report of January 1997 recommended a three-fold increase in basic pay scales and downsizing by 30 percent in each governmental department and agency. While state governments are not obligated to adopt the Pay Commission recommendations, in practice they have tended to follow central government pay revisions with a lag of about one year. See Shome (2000) for a more detailed discussion.

[6] Employment by state governments increased by over a third between 1980/81 and 1997/98; and state budget subsidies increased by an average of 9 percent per annum in real terms for most of the 1980s (Tzanninis, 1997).

4¾ percent of GDP by 2000/01). Reductions in tariffs also had a larger than anticipated impact on customs collections.[7]

- **The stagnation of the revenue-GDP ratio in the 1990s, notwithstanding major tax reforms**. The post-crisis tax reforms were based on the recommendations of the Tax Reforms Committee (the Chelliah committee). More recently, an Advisory Group on Tax Policy and Tax Administration was appointed to make recommendations for the next phase of tax reforms, both at the center and state levels. Its report (the Shome report) was completed in May 2001. The main objectives of the reforms were to improve the buoyancy of tax revenue and to increase the share of direct taxes in total revenues. The reforms were successful at bringing about a shift in the composition of revenue towards direct taxation. However, gross tax revenue to GDP fell by around 1 percentage point of GDP over the decade.

Table III.1. India: Central Government Tax Revenues, 1990/91-2000/01

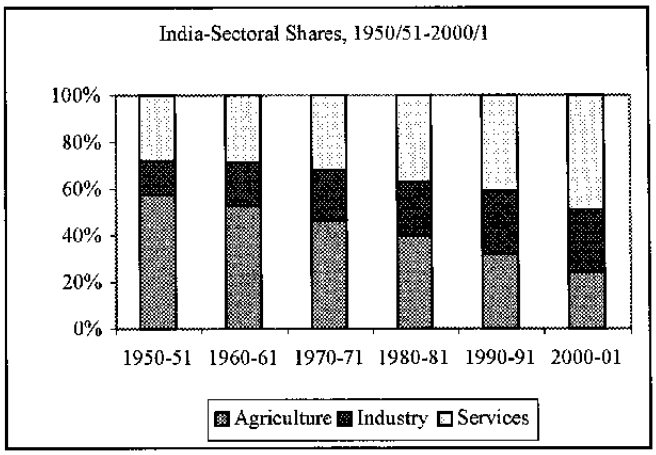
(In percent of GDP)

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Gross tax revenue	10.1	10.3	10.0	8.8	9.1	9.4	9.4	9.1	8.3	8.9	9.0
Corporate tax	0.9	1.2	1.2	1.2	1.4	1.4	1.4	1.3	1.4	1.6	1.7
Income tax	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.1	1.2	1.3	1.5
Excise taxes	4.3	4.3	4.1	3.7	3.7	3.4	3.3	3.2	3.1	3.2	3.3
Customs duties	3.6	3.4	3.2	2.6	2.6	3.0	3.1	2.6	2.3	2.5	2.3
Other taxes	0.3	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2
VDIS	...	...	...	...	...	...	...	0.7	...	...	...
Less: States' share	2.6	2.6	2.7	2.6	2.5	2.5	2.6	2.9	2.2	2.3	2.5
Net tax revenue	7.6	7.7	7.2	6.2	6.7	6.9	6.8	6.3	6.0	6.6	6.6

6. **Changes in the sectoral composition of the Indian economy have proven to be a headwind to increasing the revenue to GDP ratio**. Tax revenue in India is derived predominantly from the industrial sector, particularly income and excise tax which have become relatively more important as customs revenue has fallen as a share of total revenue. However, the industrial sector has remained relatively stagnant during the past two decades. Agriculture remains largely untaxed, and its share in GDP has been shrinking. In contrast, the service sector

[7] For a detailed discussion of tariff reforms and trade liberalization upto 1997, see Chapter IV of *India—Selected Issues* (IMF Staff Country Report No. 97/74, September 1997).

has expanded rapidly but taxes on services account for only a small fraction of revenue (as the service sector remains largely unorganized). The declining customs revenue has only been partially off-set by the increase in revenue resulting from increase in the number of tax assessees (to around 24 million by 2001/02).



7. **Non-tax revenue declined from 3 percent of GDP in 1992/93 to 2.7 percent of GDP by 1996/97, but has since trended upwards**. Non-tax revenue is predominantly interest receipts on government loans to states and public enterprises (around 60 percent in 2000/01) and dividends and profits (including from the RBI). The growth in dividends and profits in recent years (from around 12 percent of total non-tax revenue in 1996/97, to 25 percent in 2000/01), seems to be driving the trend in non-tax revenue.

8. **Another characteristic of India's fiscal position is the fact that revenue targets have persistently been missed and expenditure (particularly on capital) is compressed to compensate for revenue shortfalls**. Figure III.2 shows that actual revenue has generally fallen short of budgeted revenue, reflecting a tendency for overly optimistic assumptions on GDP growth, buoyancy, and base year outcomes. Typically, attempts are made to compensate for revenue shortfalls by compressing expenditures. However, the degree of compression has not been enough to offset the revenue shortfalls in recent years—reflecting the rigidities in current expenditure due to the large share of sending devoted to wages, interest payments, and subsidies. Moreover, the efforts to minimize deviations from the deficit targets have resulted in a tendency to compress capital expenditure. Capital expenditure declined from over 4 percent of GDP in 1987/88, to 1¾ percent of GDP in 2000/01—with obvious potentially adverse consequences for infrastructure and growth (see Chapter II).

9. **Fiscal imbalances have not spilled over into inflation or external imbalances.** A key reason is the increase in private savings-investment balance.[8] Private savings increased as a share of GDP through the 1990s, from around 20 percent in 1991/92 to 25 percent in 2000/01. During the same period, private investment remained stagnant, rising initially as the economy recovered from the crisis, but then falling since 1998/99. Although a definitive conclusion can only be reached with more analysis, it is possible that the major part of the increase in private savings during this period was used to finance the increase in the fiscal deficit, resulting in crowding out of private investment. As Acharya (2001) puts it: "It is quite uncanny how the deterioration of 3 percentage points of GDP in the consolidated revenue deficit between 1995/96 and 1999/00 is

[8] Acharya (2001) and Ahluwalia (2002) make the same point.

reflected almost exactly in the worsening of aggregate savings and investment ratios over the period. It would be hard to find more telling presumptive evidence of the adverse impact of fiscal deficits on savings and investment."

Table III.2. Savings, Investment and the Current Account Balance, 1990/91-2000/01

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Gross domestic saving	23.1	22.0	21.8	22.5	24.8	25.1	23.2	23.1	21.7	23.2	23.4
Private	22.0	20.1	20.2	21.9	23.2	23.1	21.5	21.8	22.7	24.1	25.0
Public	1.1	2.0	1.6	0.6	1.7	2.0	1.7	1.3	-1.0	-0.9	-1.7
Gross investment	26.3	22.6	23.6	23.1	26.0	26.9	24.5	24.6	22.7	24.3	24.0
Private	17.0	13.7	15.1	14.8	17.3	19.2	17.5	18.0	16.1	17.2	16.9
Public	9.3	8.8	8.6	8.2	8.7	7.7	7.0	6.6	6.6	7.1	7.1
Current Account	-3.2	-0.4	-1.2	-0.4	-1.0	-1.7	-1.2	-1.3	-1.0	-1.1	-0.6

C. India's Fiscal Situation in an International Context

Revenue

10. **Tax and total general government revenue relative to GDP in India are low by international standards** as shown in Figure III.3.[9] Both tax revenue and total revenue (relative to GDP) are significantly below the unweighted average of all countries for which data is available (Table III.3). While total revenue to GDP in India is well below the average, non-tax revenue is similar to the average over the decade. As for the broad categories of taxes, the ratio of taxes on income and profits relative to GDP are much lower and trade (import) related taxes are considerably higher in India compared to the respective averages. Moreover, the ratio of tax revenue to GDP in India has declined over the decade, while the average has increased slightly.

Table III.4. Consolidated Central Government: Total Tax Revenue Selected Asian Countries

(In percent of GDP)

	Average 1990-94	Average 1995-99
China, P. R.: Mainland 1/	3.9	5.4
India	**9.7**	**9.1**
Indonesia	16.0	15.7
Malaysia	20.0	19.5
Philippines 1/	15.2	16.0
Singapore	16.7	16.0
Sri Lanka 1/	18.0	16.0
Thailand	16.7	15.7
Unweighted average (All available Asia)	***14.6***	***14.7***

Sources: GFS, IFS; and WEO.

1/ Budgetary central government.

11. **Asian countries generally have lower tax and total revenue to GDP ratios**. Looking at a larger sample of countries for which consolidated *central* government data is available, and categorizing countries into groups according to

[9] A representative sample of key emerging markets is chosen from the countries in the IMF Fiscal Affairs Department (FAD) Revenue Database, for which general government data are available. The findings are similar if all available countries are considered.

Table III.3a. General Government: Tax Structure for Non-OECD Countries, 1990-94

(In percent of GDP)

	Sample Size	Total Revenue	Tax Revenue	Other Revenue	Taxes on Income, Profits, and Capital Gains			Social Security Taxes	Payroll Taxes	Domestic Taxes on Goods and Services			International Trade Taxes		
					Total	Of which: Individual	Of which: Corporate			Total	of which: General Sales, Turnover or VAT	of which: Excises	Total	Of which: Import duties	Of which: Export duties
Argentina	1990-94	21.0	19.1	2.0	2.5	1.9	1.0	5.3	...	3.7	2.4	1.2	1.1	0.5	0.2
Brazil	1990-94	40.2	26.3	13.9	3.9	0.2	1.1	7.3	1.2	12.4	1.6	2.4	0.5	0.5	0.0
Bulgaria	1990-94	46.4	36.4	10.0	14.7	5.2	7.9	9.7	1.0	8.3	3.7	3.7	2.1	1.7	...
Chile	1992-94	24.6	20.5	4.1	4.2	...	...	1.5	...	11.1	8.5	1.9	2.2	...	...
India	**1990-94**	**19.4**	**14.9**	**4.5**	**2.3**	**1.1**	**1.2**	**...**	**...**	**8.9**	**0.1**	**4.0**	**3.1**	**3.0**	**0.0**
Israel	1990-94	41.3	34.4	7.0	13.8	10.1	2.3	2.8	1.0	13.4	11.6	1.4	0.5	0.4	...
Malaysia	1991-94	33.0	20.9	12.0	9.2	2.3	6.8	0.3	...	6.0	2.1	2.1	4.0	2.9	1.1
Romania	1990-94	36.6	32.4	4.2	10.3	5.3	4.8	9.5	5.1	8.4	6.8	1.6	1.1	1.1	...
Russia	1994	35.6	32.2	3.4	10.9	0.0	2.8	7.5	...	9.6	4.6	0.7	3.1	0.4	0.5
South Africa	1990-94	28.5	24.8	3.8	12.8	8.9	3.6	0.4	0.0	8.9	5.8	2.8	0.8	0.7	...
Thailand	1990-94	19.4	17.6	1.8	5.0	1.8	3.1	0.2	...	8.3	3.5	3.7	3.4	3.4	0.0
Unweighted average 1/		***30.1***	***25.8***	***4.2***	***7.7***	***3.5***	***3.1***	***5.8***	***1.3***	***9.2***	***5.2***	***2.5***	***2.5***	***1.7***	***0.3***

Table III.3b. General Government: Tax Structure for Non-OECD Countries, 1995-99

(In percent of GDP)

	Sample Size	Total Revenue	Tax Revenue	Other Revenue	Taxes on Income, Profits, and Capital Gains			Social Security Taxes	Payroll Taxes	Domestic Taxes on Goods and Services			International Trade Taxes		
					Total	of which: Individual	of which: Corporate			Total	of which: General sales, turnover or VAT	of which: Excises	Total	of which: Import duties	of which: Export duties
Argentina	1995-98	22.4	20.3	2.0	4.0	2.7	1.2	4.0	...	5.4	3.7	1.6	0.9	0.8	0.0
Brazil	1997	37.0	29.0	8.0	3.9	0.3	1.5	8.7	1.2	12.7	2.1	1.9	0.6	0.6	0.0
Bulgaria	1995-99	38.4	29.8	8.7	9.0	4.3	3.6	7.4	0.8	10.0	7.4	2.5	2.1	1.8	0.0
Chile	1995-99	24.8	20.6	4.2	4.1	...	...	1.4	...	11.4	8.5	2.1	1.9	...	...
India	**1995-97**	**18.8**	**14.5**	**4.3**	**2.7**	**1.3**	**1.4**	**...**	**...**	**8.0**	**0.0**	**3.3**	**2.9**	**2.9**	**0.0**
Israel	1995-96	44.5	36.9	7.7	15.0	10.7	2.9	4.3	1.1	13.4	11.6	1.5	0.3	0.3	...
Malaysia	1995-97	28.2	20.0	8.1	8.8	2.5	6.2	0.3	...	6.4	2.1	2.3	2.9	2.5	0.5
Romania	1995-97	31.2	27.4	3.8	8.2	4.3	3.8	7.5	...	6.9	5.7	1.1	1.6	1.6	...
Russia	995, 1998-99	33.8	30.0	3.8	8.0	2.6	2.0	6.9	...	10.5	4.8	1.8	1.7	0.9	0.6
South Africa	1995-99	30.1	26.2	3.9	13.9	9.5	3.4	0.5	...	9.0	5.8	2.9	0.8	0.8	...
Thailand	1995-98	19.3	17.3	2.0	5.6	2.3	3.2	0.2	...	8.6	3.8	3.6	2.4	2.3	0.0
Unweighted average 1/		***30.7***	***26.2***	***4.6***	***6.7***	***3.7***	***2.4***	***6.1***	***0.9***	***10.1***	***6.2***	***2.4***	***1.6***	***1.4***	***0.3***

Sources: IMF Fiscal Affairs Department (FAD) Revenue Database; *Government Finance Statistics* (IMF); and *International Financial Statistics* (IMF).

1/ For each revenue classification, only countries for which data are available are included in the calculation.
The averages reported are for the full sample of non-OECD countries reported in the FAD Revenue Database.

region[10], Asia-Pacific countries generally have a lower total revenue and tax revenue to GDP ratio than the average for all regions (Figure III.4).

12. **India's revenue to GDP ratio is low, even compared with Asian countries**. The average central government tax to GDP ratio for around 30 Asia-Pacific countries was just over 14½ percent during the1990s. In contrast, India's central government tax revenue (before transfers to the states) averaged 9¾ percent in the first half of 1990s, but declined to just over 9 percent in the second half the decade.[11] India's revenue from taxes on international trade in the first half of the 1990s was around 3 percent of GDP, compared to the average for available Asian countries—excluding Pacific Island countries—of 2.6 percent (Table III.5). The gap has widened in the second half of the 1990s to 2.8 percent and 2 percent of GDP, respectively.

Expenditure

13. **General government expenditure relative to GDP in India is above the average for the Asia[12] although it is roughly in line with the sample**. The composition of public expenditure has shifted toward consumption from investment, with potentially adverse effects on infrastructure and growth. Table III.6 shows that public consumption expenditure relative to GDP in India has been somewhat larger than the average for Asian countries. In contrast, the public sector gross fixed capital formation to GDP ratio is below the average for the Asian countries and has declined over the decade.

Deficits and Debt

14. **India has consistently run overall and primary deficits which are high by international standards**. While India's general government expenditure is comparable to the sample average, its total revenue ratio is much lower—resulting in relatively large and persistent deficits. Table III.7 highlights the increasing trend in the deficit for India. The sample of Asian countries have a much lower average deficit over the 1990s compared to India (and the full

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[10] See www.imf.org for a list countries included in each regional grouping.

[11] China's central government revenue to GDP is lower than India's, but it is more appropriate to compare general government revenue with that of India (as both are federal systems with a large amount of fiscal activity at the subnational government level). China's official fiscal statistics exclude important fiscal activity—staff estimates of general government suggest that revenue exceeded 20 percent of GDP in 2000.

[12] This observation remains valid even in the period following the Asian crisis, when many of the affected countries conducted expansionary fiscal policies to support the recovery and to reform and strengthen their financial sectors.

Table III.5a. Consolidated Central Government: Tax Structure for Non-OECD Asian Countries, 1990-

(In percent of GDP)

	Sample Size	Total Revenue	Tax Revenue	Other Revenue	Taxes on Income, Profits, and Capital Gains			Social Security Taxes	Payroll Taxes	Domestic Taxes on Goods and Services			International Trade Taxes		
						Of which:					Of which:			Of which:	
					Total	Individual	Corporate			Total	General sales, turnover or VAT	Excises	Total	Import duties	Export duties
Bhutan	1990-94	19.7	5.4	14.3	1.6	0.4	1.2	0.0	0.0	3.5	0.9	2.2	0.2	0.2	0.0
China, P. R.: Mainland 1/	1990-94	5.1	3.9	1.2	1.5	...	1.5	0.0	0.0	1.5	1.0	0.5	0.8	0.8	...
India	**1990-94**	**12.9**	**9.7**	**3.2**	**2.3**	**1.1**	**1.2**	**0.0**	**0.0**	**4.2**	**0.1**	**4.0**	**3.1**	**3.0**	**0.0**
Indonesia	1990-94	17.8	16.0	1.8	9.6	1.2	8.2	0.1	0.0	4.8	3.9	0.8	1.0	1.0	0.0
Malaysia	1990-94	27.4	20.0	7.4	9.0	2.3	6.7	0.2	0.0	5.7	2.1	2.1	4.1	2.9	1.3
Mongolia	1992-94	22.6	19.5	3.0	8.4	...	8.4	2.1	0.0	5.8	2.0	3.3	3.2	3.2	0.0
Myanmar	1990-94	8.5	5.2	3.4	1.4	1.4	...	0.0	0.0	2.5	1.7	0.0	1.2	1.2	...
Nepal	1990-94	8.7	7.0	1.7	0.8	0.6	0.2	0.0	0.0	3.3	1.9	0.9	2.5	2.4	0.1
Philippines 1/	1990-94	17.8	15.2	2.7	5.0	1.8	2.2	0.0	0.0	4.7	1.6	2.2	4.8	4.7	0.0
Singapore	1990-94	33.8	16.7	17.1	7.5	...	...	0.0	0.0	4.7	0.3	1.0	0.5	0.5	...
Sri Lanka 1/	1990-94	20.1	18.0	2.1	2.6	1.0	1.6	0.0	0.0	9.7	5.8	2.6	4.9	4.6	0.3
Thailand	1990-94	18.4	16.7	1.7	5.0	1.8	3.1	0.2	0.0	7.5	3.5	3.7	3.4	3.4	0.0
Vietnam 1/	1994	22.9	18.3	4.6	4.0	0.2	3.8	0.0	0.0	6.1	3.4	1.6	5.6	5.6	...
Unweighted average 2/		18.1	13.2	4.9	4.5	1.2	3.4	0.2	0.0	4.9	2.2	1.9	2.7	2.6	0.2

Table III.5b. Consolidated Central Government: Tax Structure for Non-OECD Asian Countries, 1995-99

(In percent of GDP)

	Sample Size	Total Revenue	Tax Revenue	Other Revenue	Taxes on Income, Profits, and Capital Gains			Social Security Taxes	Payroll Taxes	Domestic Taxes on Goods and Services			International Trade Taxes		
						Of which:					Of which:			Of which:	
					Total	Individual	Corporate			Total	General sales, turnover or VAT	Excises	Total	Import duties	Export duties
Bhutan	1995-98	18.2	6.8	11.4	3.4	0.6	2.8	0.0	0.0	3.0	1.2	1.5	0.3	0.2	0.1
China, P. R.: Mainland 1/	1995-98	5.8	5.4	0.3	0.6	...	0.6	0.0	0.0	4.3	3.3	1.0	0.4	0.4	...
India	**1995-99**	**12.5**	**9.1**	**3.4**	**2.8**	**1.3**	**1.4**	**0.0**	**0.0**	**3.4**	**0.0**	**3.2**	**2.8**	**2.7**	**0.0**
Indonesia	1995-99	17.6	15.7	1.8	9.6	4.5	4.9	0.6	0.0	4.8	3.6	0.8	0.6	0.5	0.1
Malaysia	1995-97	24.0	19.5	4.5	8.8	2.5	6.2	0.3	0.0	6.2	2.1	2.3	2.9	2.5	0.5
Mongolia	1995-99	21.1	15.0	6.1	4.0	...	4.0	3.8	0.0	5.9	3.4	1.9	1.2	1.1	0.2
Myanmar	1995-98	7.1	3.9	3.2	1.3	1.3	...	0.0	0.0	1.9	1.3	0.0	0.7	0.7	...
Nepal	1995-99	10.5	8.7	1.8	1.4	0.4	0.9	0.0	0.1	3.9	2.5	0.8	2.9	2.9	0.1
Philippines 1/	1995-99	18.1	16.0	2.0	6.4	2.5	2.7	0.0	0.0	4.9	1.8	2.2	3.9	3.9	0.0
Singapore	1995-98	36.1	16.0	20.0	6.9	...	...	0.0	0.0	4.8	1.5	0.7	0.3	0.3	...
Sri Lanka 1/	1995-99	18.6	16.0	2.5	2.4	1.0	1.5	0.0	0.0	9.8	4.5	3.0	3.0	3.0	0.0
Thailand	1995-99	17.6	15.7	1.9	5.4	2.3	3.0	0.3	0.0	7.6	3.7	3.6	2.2	2.2	0.0
Vietnam 1/	1995-99	20.2	17.2	3.0	3.9	0.4	3.5	0.0	0.0	6.3	3.8	1.5	4.9	4.7	...
Unweighted average 2/		17.5	12.7	4.8	4.4	1.7	2.9	0.4	0.0	5.1	2.5	1.7	2.0	1.9	0.1

Sources: *Government Finance Statistics* (IMF), *International Financial Statistics* (IMF); and *World Economic Outlook* (IMF).

1/ Budgetary central government.

2/ For each revenue classification, only countries for which data are available are included in the calculation.

Table III.6. Public Expenditure, Investment and Consumption,

(In percent of GDP)

	General Government, Total Expenditure and Net Lending			Gross Public Fixed Capital Formation			Public Consumption Expenditure		
	Average 1992-1994	Average 1995-1999	Average 2000-01	Average 1992-1994	Average 1995-1999	Average 2000-01	Average 1992-1994	Average 1995-1999	Average 2000-01
Argentina	22.4	26.1	28.9	1.6	1.6	1.2	13.2	12.8	14.6
Brazil	28.8	38.4	38.8	3.4	2.3	2.2	17.5	18.9	19.6
Bulgaria	45.8	39.5	41.0	2.1	2.3	3.5	18.8	14.1	17.5
Chile	19.5	20.3	23.6	4.2	4.6	3.7	9.9	10.7	11.8
China	15.8	14.9	19.7	...	...	...	13.0	11.9	13.3
Colombia	22.9	27.2	31.1	9.1	7.2	5.9	14.8	19.3	21.3
India	**26.1**	**25.6**	**28.2**	**8.4**	**6.9**	**6.7**	**11.2**	**11.5**	**13.4**
Indonesia	17.1	16.7	24.4	...	...	4.1	8.6	6.9	7.3
Malaysia	29.5	25.7	29.2	13.6	11.5	14.0	12.6	11.0	11.4
Pakistan	25.1	23.4	21.8	8.7	6.7	5.5	12.5	11.5	10.6
Romania	36.8	34.6	34.6	1.7	1.8	1.5	13.9	14.1	16.1
Russia	49.0	39.9	33.4	18.0	11.1	7.7	17.9	19.0	13.3
South Africa	36.8	31.0	27.9	2.6	2.6	2.4	20.1	18.8	18.1
Thailand	15.8	17.9	18.1	8.2	9.9	7.9	9.9	10.5	11.5
Turkey	26.5	25.9	26.8	6.4	5.2	5.4	12.1	11.5	11.2
Vietnam	25.8	23.7	25.9	6.4	6.4	6.2	7.5	7.9	8.3
Unweighted Average	27.7	26.9	28.4	6.7	5.7	5.2	13.3	13.2	13.7
Unweighted Asia Average	22.2	21.1	23.9	9.1	8.3	7.4	10.8	10.2	10.8

Source: IMF WEO Database.

Table III.7. General Government Deficits and Debt, 1992-2001

(In percent of GDP)

	General Government Balance			General Government Primary Balancce			General Government, Net Debt		
	Average 1992-1994	Average 1995-1999	Average 2000-01	Average 1992-1994	Average 1995-1999	Average 2000-01	Average 1992-1994	Average 1995-1999	Average 2000-01
Argentina	-0.5	-2.8	-4.6	0.8	-0.3	-0.2	33.5	41.0	54.7
Brazil	-1.7	-7.4	-4.9	1.8	0.5	3.6	33.0	38.9	53.8
Bulgaria	-7.3	-3.7	-1.0	2.5	6.6	3.6	...	...	...
Chile	2.0	1.1	-0.9	3.2	1.6	-0.6	...	...	...
China	-2.3	-2.5	-3.5	-1.9	-1.8	-2.6	6.1	9.5	18.0
Colombia	-0.4	-3.1	-4.3	1.8	-0.8	-0.2			
India	**-7.6**	**-7.9**	**-10.3**	**-2.6**	**-2.7**	**-4.2**	**76.1**	**68.5**	**78.7**
Indonesia	-0.6	-0.7	-3.6	1.5	1.6	2.0	...	...	...
Malaysia	1.4	1.0	-4.4				...	...	...
Pakistan	-7.4	-7.0	-4.3	-1.9	-0.2	2.7	91.5	88.6	93.4
Romania	-2.4	-4.5	-3.7	-1.5	-1.1	0.8	...	...	...
Russia	-12.1	-5.9	3.5	-10.6	-1.6	6.0	...	...	...
South Africa	-7.9	-3.8	-1.1	-2.6	2.1	5.9	...	...	...
Thailand	2.1	-0.3	-2.8				...	...	...
Turkey	-7.1	-10.1	-19.8	-3.7	3.8	4.0	...	47.5	76.7
Vietnam	-4.3	-2.3	-4.4	-2.9	-1.5	-3.5	...	...	...
Unweighted Average	-3.5	-3.7	-4.4	-1.2	0.4	1.3	48.0	49.0	62.5
Unweighted Asia Average	-2.7	-2.8	-4.8	-1.6	-0.9	-1.1	57.9	55.5	63.4

Source: IMF WEO Database.

sample), but the deficits have increased significantly in recent years—reflecting the expansionary fiscal stances adopted in the aftermath of the Asian crisis. India's general government primary deficit is relatively large and has grown substantially in recent years. The trend has generally been one of fiscal consolidation, with the average of primary deficits going from a small negative in the first half of the 1990s (1992-94), to near balance in the second half of the 1990s, and surplus in recent years. In contrast, India's primary deficit has remained relatively large and negative and the primary deficit has worryingly doubled in recent years (see Section E).

15. **India's debt to GDP is high by international standards and the ratio has grown in recent years** (Table III.7)**.** The legacy of continuous primary and overall deficits has been the buildup in the debt stock. A notable observation is that the actual debt to GDP ratio for India is higher than that of countries that have recently undergone financial crises (namely, Brazil, Argentina and Turkey)—although India's external debt to GDP ratio is relatively low compared to these countries (see Box III.1).

D. Lessons from Countries Experiencing Successful Fiscal Adjustment[13]

16. **There is an ongoing debate in India about the impact of fiscal consolidation on economic activity**, especially during the more recent period when the economic downturn has led to calls for pump priming. Many commentators argue that large and persistent fiscal imbalances have a detrimental effect on activity, and therefore fiscal consolidation would likely have a strong positive effect on growth. The fact that India's strong growth performance in the early to mid-1990s was concurrent with substantial fiscal consolidation (as well as a host of other reforms) is used to support this argument—referred to as "expansionary fiscal consolidation" in the literature. Others take the more traditional Keynesian view that fiscal expansion has a positive multiplier effect on aggregate demand and output.

17. **The arguments for expansionary fiscal consolidation are particularly applicable to countries with large public debt and deficits, like India**. This is because, when public debt and deficits are large, fiscal expansion can add to crowding out as agents expect that increases in interest rates (or initial exchange rate appreciation) could become larger or that risk premia on

[13] This section draws extensively on IMF (2000).

Box III. 1. India, Argentina, Brazil and Turkey: Comparison of Key Fiscal Indicators

In assessing India's fiscal situation, it is instructive to compare key fiscal indicators with those of other major emerging market countries that have recently experienced financial crises.

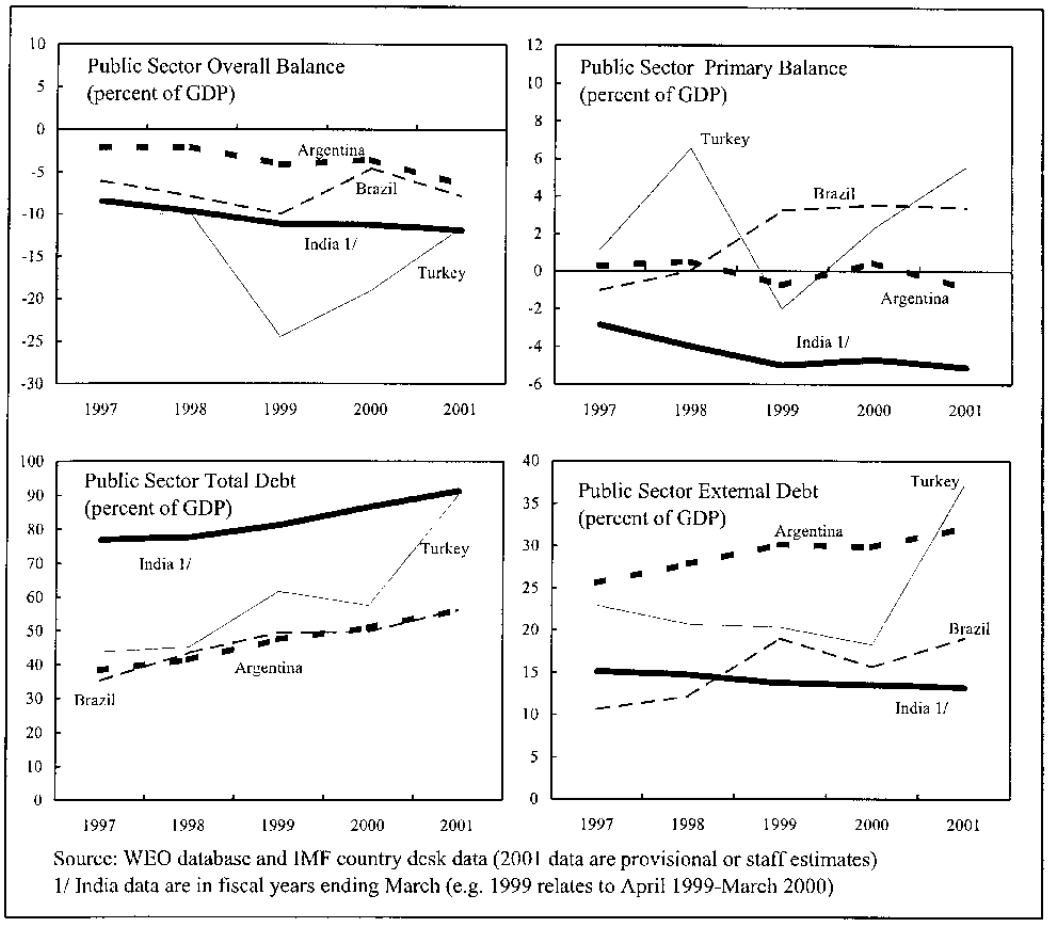
India has persistently run primary deficits, unlike Argentina, Brazil and Turkey, which have over the last decade, generally maintained primary surpluses both at the central government and overall public sector level. India has run public sector primary deficits averaging nearly 4 percent of GDP.

General government tax revenue relative to GDP in India is relatively low. The average ratio for 1995-99 has been 14½ percent, compared to around 20 percent in Argentina, and 30 percent in Brazil.

The ratio of the stock of public sector debt to GDP is higher in India than in Argentina or Brazil. Total public sector debt relative to GDP in India is much greater than in Argentina and Brazil, while the ratio for Turkey recently shot up (during the crisis) to around that of India. The difference in public sector debt stocks may in part be due to the fact that privatization of the large utilities and other large state enterprises has not yet been undertaken in India.

The essential ingredients for explosive debt dynamics are present for India—large primary deficits, slowing growth, and a growing debt stock (Figure III.5).

On the positive side, India's external debt is relatively low, particularly compared with Argentina and recently, Turkey. Also, there is scope to increase government revenue (relative to GDP) towards the Argentina-Brazil-Turkey level (particularly as services come under the tax net); and for reducing public sector debt using revenues from privatization.



Source: WEO database and IMF country desk data (2001 data are provisional or staff estimates)
1/ India data are in fiscal years ending March (e.g. 1999 relates to April 1999-March 2000)

interest rates (related to risks of default or increasing inflation) could increase. Furthermore, when public debt and deficits are large, fiscal consolidation could provide a significant boost to confidence in policy-making and thus prove expansionary.[14]

18. **What is the evidence from the empirical literature on expansionary fiscal contractions**? The majority of the empirical work on this question has focused on OECD countries and was spurred by the experiences of Denmark and Ireland, where sharp fiscal consolidations were associated with sizable economic expansions. Typically, fiscal consolidations are defined as some threshold reduction in the structural primary deficit to GDP ratio (over a period ranging from 1-3 years). The "success" of these fiscal consolidations is measured by the size and duration of the fiscal adjustment or its impact on the debt-to-GDP ratio.

19. **The main findings of these studies include the following**:

- **Regardless of the definitions used, all studies find episodes of expansionary fiscal contractions.**

- **Empirical studies place different emphasis on the composition of fiscal contractions.**[15] While both size and composition are important (McDermott and Westcott, 1996), some emphasize the importance of large consolidations (Giavazzi and Pagano, 1996; Giavazzi et al. 2000), while others highlight the importance of the composition of the adjustment (e.g., cutting transfers and other unproductive spending versus raising taxes or cutting capital spending).

- **Initial conditions** at the time of the fiscal adjustment and other economic policies accompanying the adjustment matter in determining the success of the consolidation effort. Alesina and Ardagna (1998) found that successful adjustments were associated with initial conditions of relatively large debt-to-GDP ratios, and were largely on the expenditure side, especially through cuts in current spending such as transfers and government wages (see Box III.2).

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[14] Supply side impacts of fiscal policy provide another potential source expansionary fiscal consolidations—typically involving labor markets (Alesina and Perotti, 1997) or investment. For example, if public expenditure on infrastructure and human capital development has positive direct and indirect effects (via externalities) on growth (Lucas, 1988), then reductions in unproductive or wasteful government expenditure (not sharing these characteristics) may also lead to higher growth.

[15] The RBI Currency and Finance Report, 2000-01 (Chapter IV), reviews the trends in fiscal adjustment in OECD and emerging economies, focusing on the form of the adjustment (expenditure reduction rather than tax increases and efforts to strengthen fiscal frameworks).

Box III.2. Some Successful Fiscal Consolidations[1/]

The Alesina and Ardagna (1998) case studies comprise five expansionary fiscal contractions—Australia (1987), Belgium (1984-85), Denmark (1983-86), Ireland (1987-89), and Italy (1993)—and five contractionary contractions—Canada (1986-87), Greece (1986-87), Ireland (1983-84), the Netherlands (1991), and Sweden (1986-87). The table below summarizes the relevant fiscal and growth data for the successful consolidations (while Alesina and Ardagna (1998) provide descriptions of the circumstances leading up to the consolidation, its composition, accompanying policies, and the economic responses). Comparing the expansionary and contractionary consolidation outcomes suggests the following conclusions.

- **Expansionary fiscal contractions emphasize expenditure reductions**. Cuts in transfers and government wages are especially important. Australia provides the clearest illustration of this. But the fiscal consolidation in Italy was associated with higher growth only after there was a shift from tax-based to expenditure-based adjustment. While Denmark successfully combined expenditure cuts with tax increases.

- **The initial debt position matters**. Of the five expansionary fiscal contractions, fiscal adjustment was intended to reduce a debt ratio in excess of 100 percent in three cases, Belgium, Ireland, and Italy. There was also debt concern in Denmark, although the debt ratio was much lower, at about 60 percent (but rising quickly). Australia, however, had very low debt.

- **Wage restraint plays a role in determining the success or failure of fiscal adjustment**. In Australia, Ireland, and Italy, unions agreed to moderate wage claims. In the case of Belgium, a wage agreement in place prior to the fiscal adjustment was abandoned while wage restraint agreed to in Denmark did not carry over to the period following the adjustment. In Belgium, the growth pick up was weak, and in Denmark, it was short-lived. Wage restraint was not a feature of any of the contractionary fiscal contractions, although the Netherlands subsequently introduced a wage freeze.

- **Finally, exchange rate depreciations have been important**. Four of the five expansionary fiscal contractions followed (within about a year) exchange rate depreciations, which combined with wage restraint to reduce relative until labor costs and improve competitiveness. And even in the case of Belgium, there was a depreciation two years before fiscal consolidation commenced.

Expansionary Fiscal Consolidations

	Primary Structural Balance 1/			Growth Rate		
	I	II	III	I	II	III
Expansionary fiscal contractions						
Australia (1987)	-2.5	0.4	1.3	3.4	4.6	4.4
Belgium (1984-85)	-4.0	-0.1	1.6	1.0	1.5	1.7
Denmark (1983-86)	-5.4	0.2	4.2	1.1	3.7	0.7
Ireland (1987-89)	-5.8	-0.1	2.1	0.8	5.8	5.7
Italy (1993)	-0.2	1.3	1.6	1.0	-1.2	2.5

Source: Alesina and Ardagna (1998).

1/ Primary balance in the case of Italy.

I - Average for the two years before the adjustment
II - Average for the adjustment period, and
III - Average for the two years after the adjustment

[1/] This box is drawn from IMF (2000, Annex 1).

20. **The political economy aspects of the fiscal adjustment literature are also worth mentioning**. Alesina and Perotti (1995) suggest that large and persistent deficits may suggest a deficit bias explained by several political economy factors such as: fiscal illusion (i.e., voters and policymakers may not be fully aware of the government's intertemporal budget constraint); a willingness to shift the burden of adjustment onto future generations; and delays in consolidation resulting from political conflicts regarding the sharing of adjustment costs between various groups. Alesina et al. (1998), using a sample of 19 OECD countries, find no evidence of systematic electoral penalty or decline in popularity for fiscally prudent governments. They also find that a coalition government is much less likely to succeed in consolidating the budget than a single party government; governments that rely on spending cuts may survive longer; cuts in the government wage bill and transfers do not increase the probability that a government will collapse; and popularity of a government does not fall in the immediate aftermath of a fiscal adjustment.

21. **There is little direct work on expansionary fiscal consolidations in developing countries**. However, it is possible to use the evidence above to glean some lessons that may be relevant for India. The most likely channels for possible expansionary fiscal consolidation effects in India are (i) the reduction in the risk premia and improvement in investor perceptions and the associated positive investment and growth effects, and (ii) a reduction in unproductive recurrent expenditures or a shift from such expenditures to productive infrastructure spending. From the theoretical side, Ricardian equivalence effects are less likely to be relevant to developing countries as these models assume consumers do not face a liquidity constraint.[16] The labor supply channel (Alesina and Perotti, 1997; Lane and Perotti, 1998) might also be less relevant to developing countries because it relies on functioning, sophisticated labor markets.

E. Debt, Sustainability and Consolidation

22. **The view that the fiscal situation in India is unsustainable is generally acknowledged by policymakers and analysts**. Recent important government papers such as the *Economic Survey* and various RBI reports have stressed this point, and the Finance Minister has, on various occasions following the announcement of the last budget, echoed this point. Most importantly, the efforts to establish a depoliticized, rules-based framework to underpin fiscal consolidation attempts gave rise to the drafting of the Fiscal Responsibility and Budget Management (FRBM) bill.

23. **The sustainability of the fiscal situation in India has been extensively analyzed**.[17] As recent and fairly detailed studies of India's debt sustainability have been undertaken by the IMF

[16] Haque and Montiel (1989) and other studies find evidence that a high proportion of consumers in developing countries are liquidity constrained.

[17] See for example Buiter and Patel (1992), Reynolds (2001), Cashin et al. (2001), Lahiri and Kannan (2001) and RBI (2002).

(Cashin, 2001; Reynolds, 2001) using a variety of methods, the focus here is on key recent developments which further weaken the conditions for sustainability.[18]

24. **A simplified formulation of the dynamic relationship between debt, growth, and interest rates helps demonstrate the key conditions for sustainability**. Assuming a constant nominal GDP growth rate of g, and an nominal interest rate of r on government debt, the debt-to-GDP ratio (d) evolves according to the formula: $d_{t+1} = d_t(1+r)/(1+g) + p_{t+1}$, where p is the primary deficit (including seignorage revenue). Thus, if the primary deficit is zero, then increases or decreases in the debt ratio are determined by whether the growth-interest rate differential (g-r) is negative or positive. In the case of India, historically, the growth rate has been consistently higher than the real interest rate (Reynolds, 2001). However, the primary deficits have offset the growth-interest differential such that the decreases in the debt ratio in the mid-1990s were not as large as the might have been. In the second half of the 1990s, the higher primary deficits more than outweighed the growth-interest rate differential, resulting in an increasing debt ratio.

25. **The conditions for debt sustainability have significantly worsened in recent years**. The general government primary deficit has more than doubled since 1997/98, the debt stock has risen sharply and the growth rate-interest rate differential has narrowed (even turning negative in recent years—see Figure III.5). These conditions demonstrate the urgency of the need to reduce primary deficits.

26. **Within the simple debt dynamics framework, and assuming various nominal growth rates and interest rates on government debt , two adjustment scenarios are considered**.[19] The scenarios assume that the objective is to achieve the draft fiscal responsibility bill's target for central government debt of 50 percent of GDP or less by 2011.[20] 2001/02 is taken as the base year, with the debt ratio starting at 80 percent of GDP, an average interest rate on government debt of 8¾ percent and a nominal GDP growth rate of 11 percent.

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[18] A brief update of the results of previous studies using a simple debt dynamics equation and an alternative test (RBI, 2002), based on the stationarity for the discounted debt stock, suggest respectively that current debt dynamics are unsustainable and the solvency conditions do not hold.

[19] The framework here is highly simplified, but serves to demonstrate the main point. A more elaborated neoclassical growth model is employed by Reynolds (2001) and the main implications from that model are consistent with the simpler formulation presented here.

[20] The scenarios are based on general government (including the OCC), and the authorities' definition of the deficit (which includes privatization as revenue above the line). The draft FRBM bill's target of 50 percent of GDP translates to a general government debt ratio of around 60 percent of GDP (assuming the current ratio of central to general government debt remains the same).

- The ***first scenario*** achieves the target debt ratio following an **even pace of adjustment**. The general government **primary deficit would need to be reduced by about 1.3 percent a year for around 5 years**, although this path would still imply an initial increase in the debt stock for the first two years.

Reduction in Primary Structural Balance of General Government Needed to Stabilize the General Government Debt Ratio by 2002/03

		Steady State Nominal GDP Growth		
		7.5	**10.9**	14.3
Steady state	8.3	4.6	2.1	-0.2
Nominal interest	**8.7**	4.9	**2.4**	0.1
On Govt debt	9.0	5.1	2.7	0.3

- The ***second scenario*** assumes **immediate stabilization of the debt ratio**. The rationale for this path is suggested by the experience of countries that have undertaken successful consolidations (as discussed above)—where a large fiscal adjustment can generate positive effects the demand and supply side that can partly or wholly offset the negative Keynesian effect. Again using the base assumptions, debt stabilization **implies an initial reduction in the primary deficit of 2.4 percent of GDP**, after which a more gradual adjustment path can be pursued to achieve the debt ratio target.

27. **Simulations were also undertaken using the base assumptions on GDP growth and interest rates plus or minus 1½ standard deviations**. For the baseline average interest rate on government debt (8.7 percent), nominal growth would have to exceed 14 percent in order to stabilize the debt ratio without adjusting the primary deficit. If however, for the baseline interest rate, nominal GDP growth were to fall to 7½ percent, then the burden of adjustment on the primary deficit would increase to nearly 5 percent. (The average interest rates is unlikely to change dramatically from year to year because of the persistence implied by the maturity structure of government debt, although the recent cuts in administered interest rates could help to reduce average rates over time).

28. **This assessment of debt sustainability excludes contingent liabilities**. There are no official estimates of **total** contingent liabilities in India. For the purposes of this analysis, contingent liabilities are taken as including central and state government guarantees, arrears in payments to the power utilities from state electricity boards, and staff estimates of the financial sector recapitalization need. These would total around 17-20 percent of GDP. If estimates of the unfunded pension liabilities are included, contingent liabilities could be as high as 50 percent of GDP. Including the estimated contingent liabilities in the assessment of sustainability, clearly worsens the picture considerably.

29. **In pursuing fiscal consolidation, the adjustment strategy should focus on raising the revenue to GDP ratio in India**. There is significant scope for broadening the direct tax base given agriculture and services (¾ of the economy) remain largely untaxed. Using the average of central government revenue to GDP in Asian countries as a benchmark, there is the potential to increase tax revenue by around 3-5 percent of GDP. Improved administration could help in the

effort to raise revenue and broaden the tax base—the size of the middle classes in India are thought to be well over 100 million (Joshi, 1998), compared to the *total* registered tax payers of around a quarter that number. In this context, large taxpayers units have been found to be effective in improving administration and increasing revenue in a broad range of developing, emerging and industrialized countries.[21]

30. **There are potential efficiency gains and revenue benefits from rationalizing direct and indirect taxes**. For example, phasing-out of tariff concessions, including those available under export-promotion and other incentives schemes; reducing excise exemptions, especially on small scale industries (SSIs) and fertilizer; reducing scope for corporate income tax deductions, phasing out of concessions to SSIs, and more generally more selective use of tax incentives, could increase revenues by more than 1 percent of GDP in the short-term alone.

31. **On the expenditure side, the focus should be on reducing unproductive and poorly targeted expenditures, while maintaining adequate investment in infrastructure and human capital**. The reports of the Expenditure Reforms Commission (ERC) already provide a blueprint for reducing subsidies and civil service reforms—so the key now is implementation. The ERC was constituted following the Budget Speech in February, 2000, to make recommendations on central government expenditure reforms—in particular with regard to improving the targeting and cost of subsidies and streamlining and downsizing the structure of government.[22]

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[21] IMF Occasional Paper No. 215: *Improving Large Taxpayers' Compliance—A Review of Country Experience* (May 2002) surveys around 40 countries and finds that countries may gain significant benefits from setting up special operations to control the compliance of large taxpayers. The most effective LTUs are based on strong, centralized supervision of operations, and longer-term effectiveness and credibility of the LTU depends on the government being able to incorporate the LTU in a broader tax administration reform. To work properly the LTU requires a sound legal framework; clear and simple criteria for selecting large taxpayers; standard and transparent procedures; the administration of all large taxpayers by the unit; appropriate staffing and training; and clearly identified and regularly monitored performance indicators.

[22] The ERC has so far submitted five reports, which included recommendations to: ban the creation of new civil service posts for two years; cut 10 percent of staff by 2004/05, facilitated by a new voluntary retirement scheme and restructuring of eight departments and ministries; implement a ration card system for food subsidies at the state government level; allow greater autonomy of state governments in providing food subsidies, including through more market-oriented procurement procedures; take steps to reduce foodgrain buffer stocks in excess of 10 million tons, including by moderating increases in support prices; and decontrol the fertilizer sector and increase prices toward import parity, gradually over a period of 10 years.

F. Conclusions

32. **India's fiscal situation is unsustainable—as the government well recognizes—and concerted effort to substantially reduce fiscal deficits is required**. Increasing deficits, a growing debt stock and a narrowing of the growth-interest rate differential imply that the conditions for fiscal sustainability have further worsened. The current level of the primary deficit, if left unchecked, implies a growing and unsustainable debt stock. The simulations presented in this chapter illustrate that an annual reduction in the consolidated general government primary deficit of 1⅓ percent of GDP for the next five years will be necessary to reduce general government debt to 60 percent of GDP by 2011. A case could be made for an even larger upfront reduction in the primary deficit, particularly if it were combined with an intensification of structural reforms. By boosting sentiment and hence private investment, such a policy package could give rise to sizable early gains in output that served to offset any negative Keynesian effects from the fiscal contraction.

33. **The difficult problem, of course, is how to effect such a fiscal adjustment**. This chapter attempts to answer this question in two different ways. First, it identifies the particular revenue and expenditure items that were behind the increase in the fiscal deficit in the second half of the 1990s, since these are obvious candidates to assist in reversing this trend. Second, it uses international comparisons to show that India's revenue to GDP ratio is particularly low. Thus while reductions in the public sector wage bill, inefficient expenditure and government subsidies are essential, the key challenge appears to be on the revenue side—to get agriculture into the tax net, to increase the taxation of services, and to raise the number of tax payers, particularly high income tax payers.

34. **As in other countries, many groups in India, will oppose deficit reduction, but the literature on the political economy of fiscal adjustment provides some grounds for optimism**. While that literature indicates that consolidation may be more difficult to pursue for a coalition government, as is in power in India, there is no evidence of a systematic electoral penalty or decline in popularity for fiscally prudent governments.

35. **The need for ensuring corrective action in a "depoliticized" framework of fiscal rules prompted the push for Fiscal Responsibility legislation**. The draft legislation specified target rates for reduction of the central government deficit and revenue deficit, and a target debt to GDP ratio.[23] Whatever form the bill eventually takes, it will be important that its medium term objective is to achieve a sustainable fiscal situation. This will be difficult to achieve unless two essential features of the draft bill—committing to a rules based reduction in deficits and the ultimate target of a zero revenue (current) balance—are retained in the final legislation.

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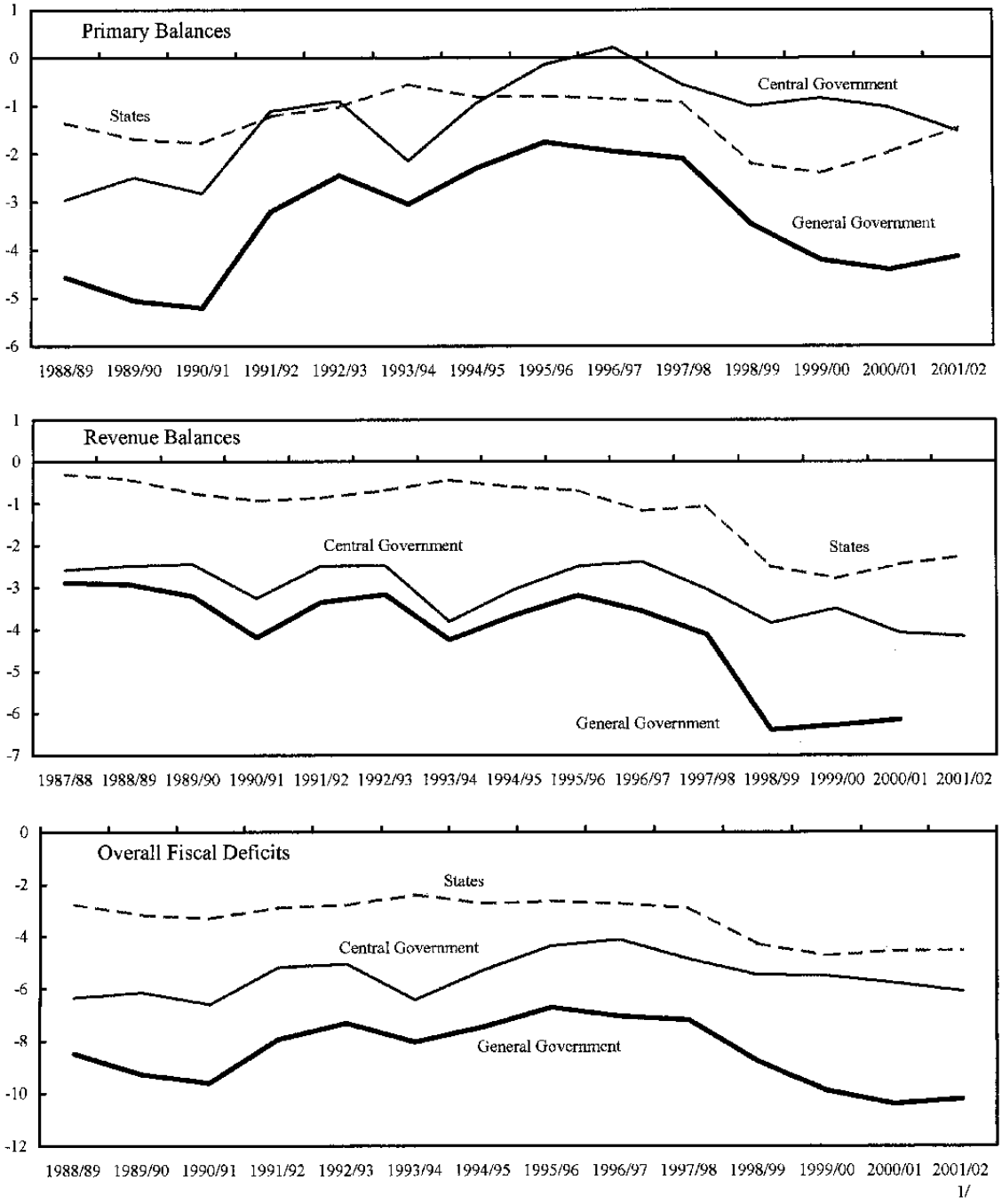
[23] The draft proposed to eliminate the central government revenue deficit (corresponding roughly to the current deficit) by 2006, to reduce the overall central government deficit by at least ½ percent of GDP each year to 2 percent by 2006, and to reduce total central government liabilities to 50 percent of GDP by 2011.

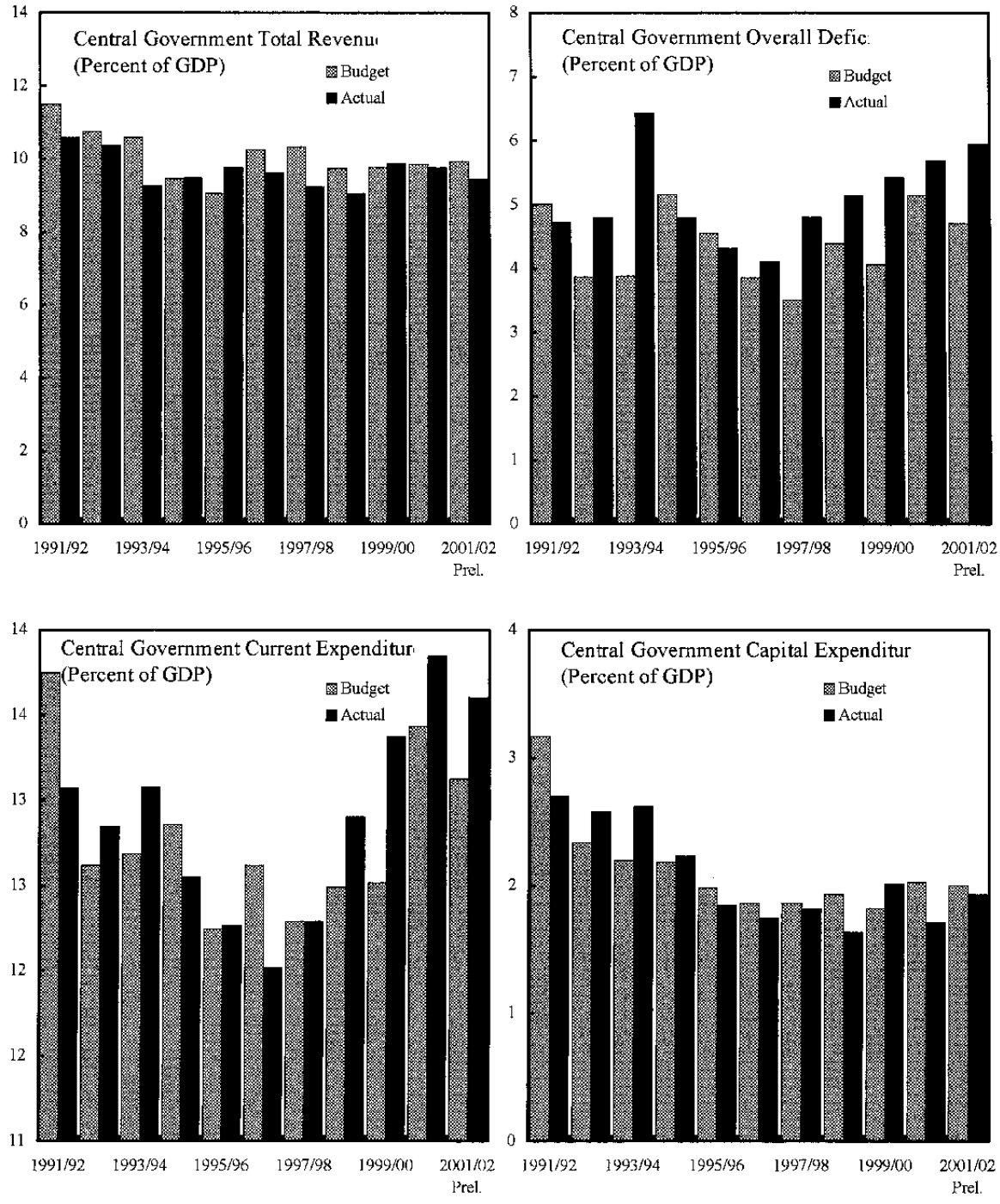
Figure III.1. India: Fiscal Deficit Measures, 1988/89-2001/02 1/



Source: Indian authorities; and staff estimates.

1/ The 2001/02 are staff estimates based on preliminary outcomes for central government.

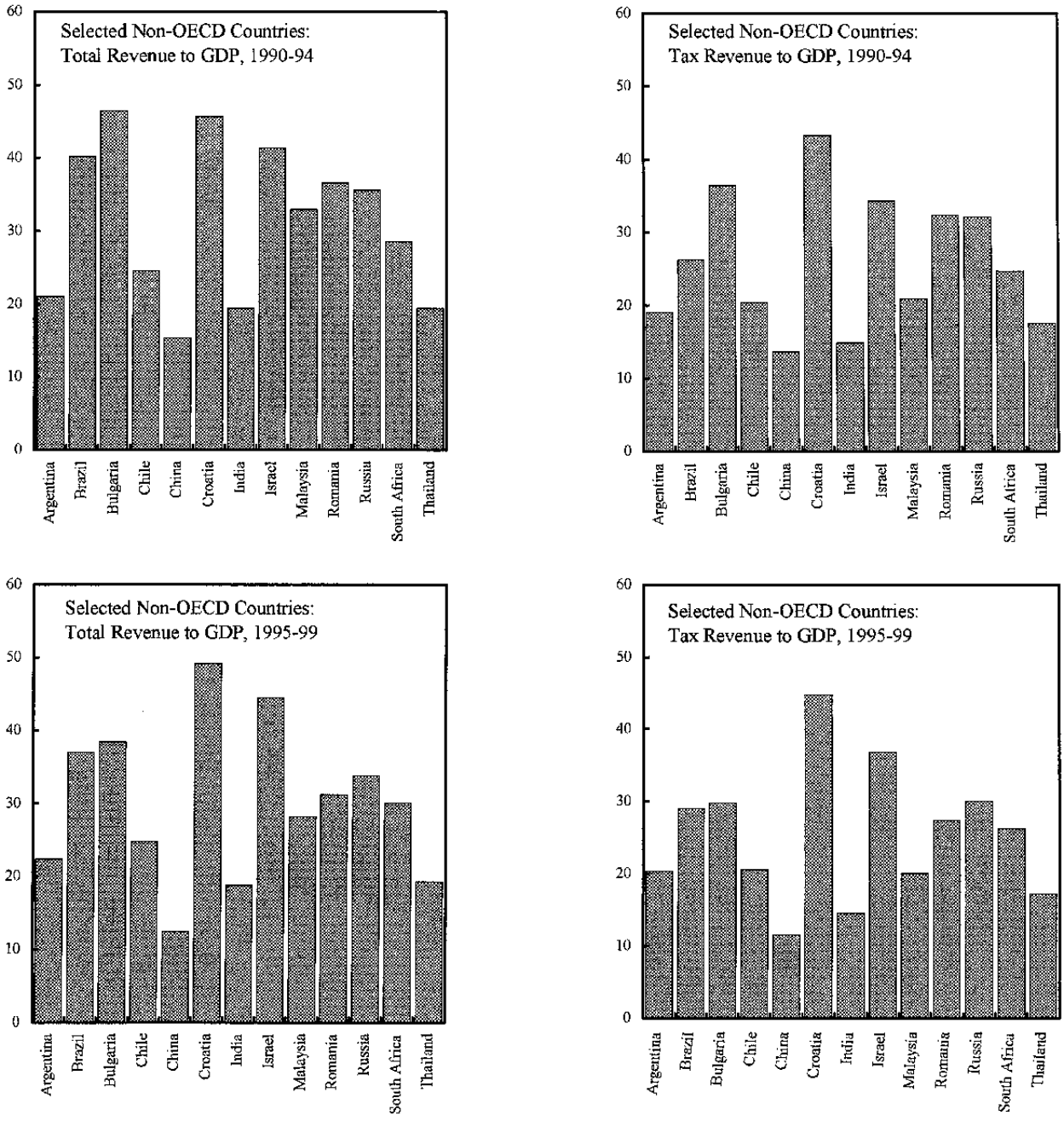
Figure III.2. India: Key Fiscal Aggregates, Budget versus Actual, 1991/92-2001/02



Source: Data provided by the Indian authorities.

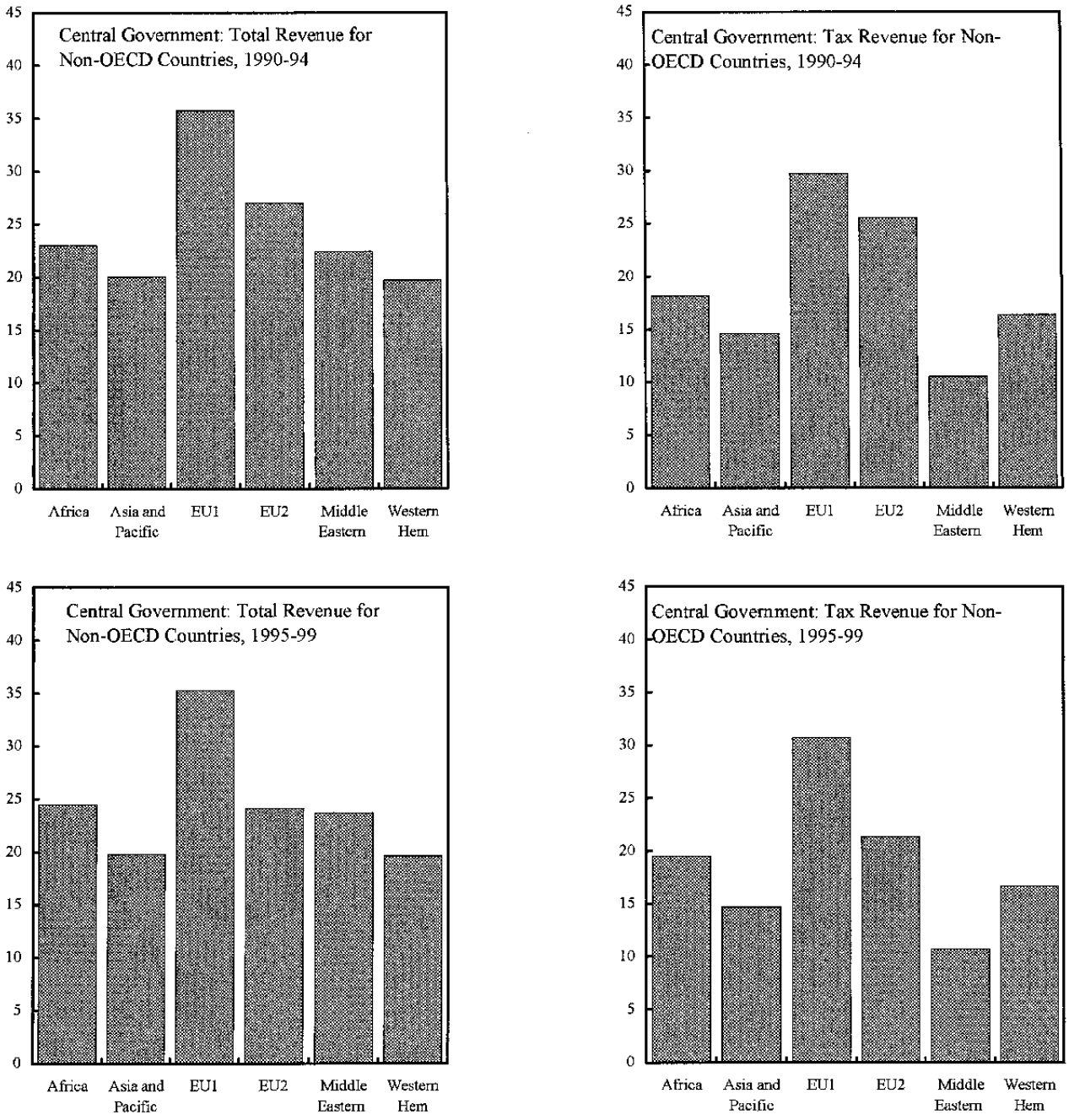
1/ Budget ratios are with respect to the nominal GDP assumption used in the Budget; actuals use the actual (revised) nominal GDP numbers.

Figure III.3. Selected Non-OECD Countries: General Government Total Revenue and Tax Revenue, 1990-99



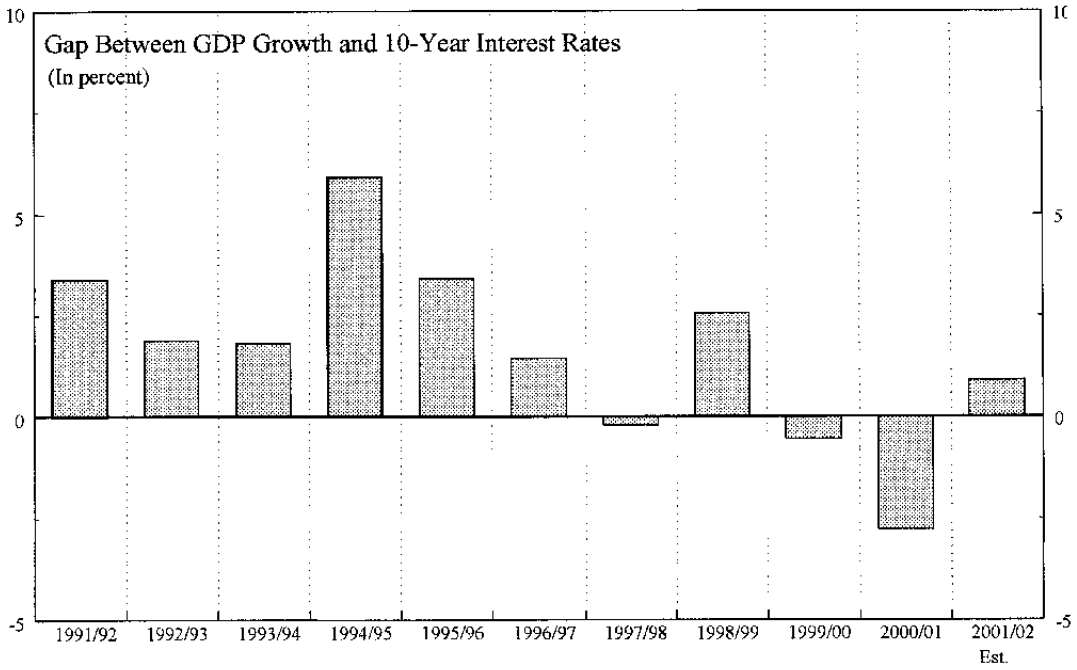
Source: Fiscal Affairs Department (IMF) Revenue Database based on GFS and IFS (IMF); the 1990-94 and 1995-99 averages are based on data available for respective periods.

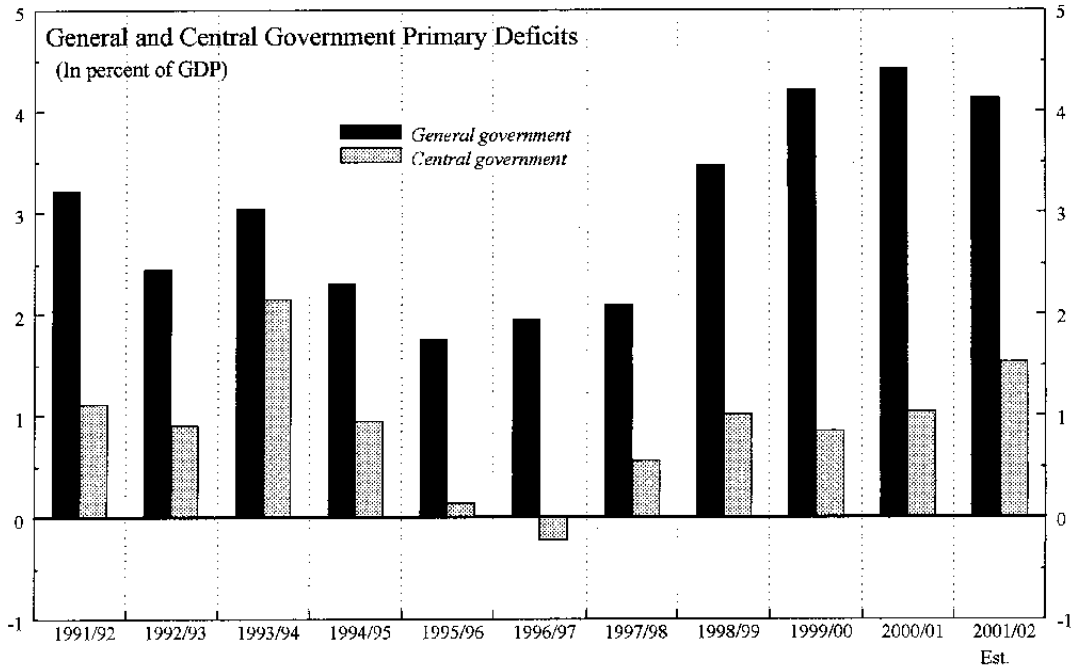
Figure III.4. Non-OECD Countries: Central Government Revenue, 1990-99



Source: Government Finance Statistics (IMF), International Financial Statistics (IMF), World Economic Outlook (IMF).

Figure III.5. India: Key Indicators of Fiscal Sustainability, 1991/92-2001/02





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IV. WHERE IS INDIA IN TERMS OF GLOBALIZATION?[1]

A. Introduction

1. **There is an acute awareness in India that more needs to be done to fully realize India's potential and to reap the full benefit of globalization**. Proponents of this view point to the example of other developing countries in East Asia, which were able to achieve higher rates of economic growth over extended periods and to reduce poverty faster than India. In the words of the Governor of the Reserve Bank of India (RBI):

"*...Despite all the talk, we are nowhere even close to being globalized in terms of any commonly used indicator of globalization. In fact, we are still one of the least globalized among major countries—however we look at it...*" (RBI (2002)).

This assessment was also shared by the Prime Minister's Economic Advisory Council (EAC), which made the point that

"*...there is no divine dispensation that gives India alone the power to survive and prosper as an isolationist island in a globalized world. The truth is that if we do not reform rapidly, and position ourselves to compete, we will be marginalized...*" (Government of India (2002)).

2. **This chapter examines the extent of India's integration with the global economy through international trade in goods**. The paper is structured as follows. A first section summarizes India's trade policies and trade performance over the last few decades. The second section compares India's trade performance to that of its main economic competitors, in particular China, and discusses the extent to which India may be under-trading. A third section offers a number of explanations for India's lack of globalization. Finally, a concluding section discusses the authorities' roadmap for future trade liberalization.

B. Trade Policies and Trade Performance

3. **India's trade policy since independence can be divided into three main phases**. In the years until the mid-1980s, import-substitution policies kept the economy closed and inward-looking. However, these policies did not prevent a major balance of payments crisis in 1990/91. As part of the wide ranging structural reforms launched in the aftermath of the crisis, the authorities implemented trade and capital account liberalization. These policies resulted in strong trade and growth performance, with the period 1992–96 registering the highest growth rates (Table IV.1, also see Chapter II). Since 1997, however, against the background of the Asian crisis and other emerging markets crises, the pace of reform has slowed.

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[1] Prepared by Jean-Pierre Chauffour (x38826), who is available to answer questions.

Table IV.1. Trade Performance and Other Selected Indicators, 1977–2001

	1977–86	1987–91	1992–96	1997–2001
	(Annual percentage change)			
Real GDP	4.5	5.6	6.2	5.4
Real GDP per capita	2.2	3.5	4.1	3.5
Export volume (goods)	2.1	6.1	11.3	9.8
Import volume (goods)	5.8	-0.5	14.8	6.8
Terms of trade (goods)	-0.8	-0.9	1.1	0.4
	(In percent of GDP)			
Current account (average)	-1.1	-2.3	-1.1	-0.9
Foreign direct investment (average)	0.0	0.1	0.4	0.6
Trade openness (end-period)	11.6	15.3	21.7	21.5

Source: *World Economic Outlook* database.

Pre-Reform Years (1970–91)

4. **For most of the post-independence period, India's trade policy was largely geared toward self-reliance through import-substitution**. In the early stages of this policy, imports of most goods were banned, except of goods not produced domestically such as raw materials and some components and machinery items. Quantitative import restrictions (QRs) and other non-tariff barriers (NTBs) were pervasive, and import tariffs were extremely high.[2] Direct restrictions on exports, a protected domestic market with a high cost structure, and restricted access to inputs for export production and to foreign direct investment resulted in a strong anti-export bias.

5. **The contribution of external trade in goods to growth was negative during most of the period**. Reflecting the pervasive trade restrictions, India's real GDP grew on average by almost 4½ percent annually during 1977–86, but the volume of exports increased by only 2 percent on average. The growth of imports exceeded that of exports. Consequently, India's trade openness (measured as the ratio of imports and exports of goods to GDP) declined during most of the 1980s, from 13 percent in 1979 to 11½ percent in 1986. Starting in 1987, a gradual depreciation of the rupee allowed for a pick up in exports and a small opening up of the economy.

[2] For a comprehensive description of India's trade regime prior to 1991, see Chopra, et al. (1995).

Reform Years (1991–96)

6. **Trade reforms were an essential part of the economic reforms adopted following the balance of payments crisis in 1990/91**. The levels and dispersion of tariffs were cut sharply and quantitative restrictions and some other nontariff barriers were eased (Box IV.1).

Box IV.1. Key Trade Policy Reforms 1991–96[1/]

Tariff reduction. The statutory peak rate[2/] was lowered from 400 percent in 1990 to 110 percent in 1993 and further to 50 percent in 1996. The simple average tariff was lowered by half from 80 percent in 1991 to around 40 percent in 1996.

Removal of QRs. Most quantitative restrictions on import of capital and intermediate goods were eliminated and a single negative list established. With the elimination of import licensing requirements for intermediate and capital goods, the share of value added subject to quantitative restrictions in the manufacturing sector decreased from about 90 percent in the pre-reform period to 51 percent in 1995. However, imports of all remaining goods, comprising mostly agricultural and consumer goods, remained severely restricted and quantitative restrictions on imports remained pervasive, covering over 90 percent of value added in 1995. In 1996, the inclusion of more consumer goods in the open general license list started to lower this figure.

Elimination of export restrictions. Restrictions on exports, including on goods with large export potential, were relaxed with the number of restricted items falling from 440 in 1990 to 150 in 1994 (mainly mass-consumed agricultural products and some minerals). Along with the elimination of most export restrictions, various export incentives scheme were revamped to streamline procedures and reduce distortions, while sector-specific direct export subsidies were largely eliminated. Export taxes were largely abolished in 1992, except for a few selected items, including tea.

[1/] A description of India's trade policy reform during 1991–96 is included in IMF (1997).
[2/] The statutory peak rate refers to the highest standard rate, although higher tariff rates apply to a number of goods.

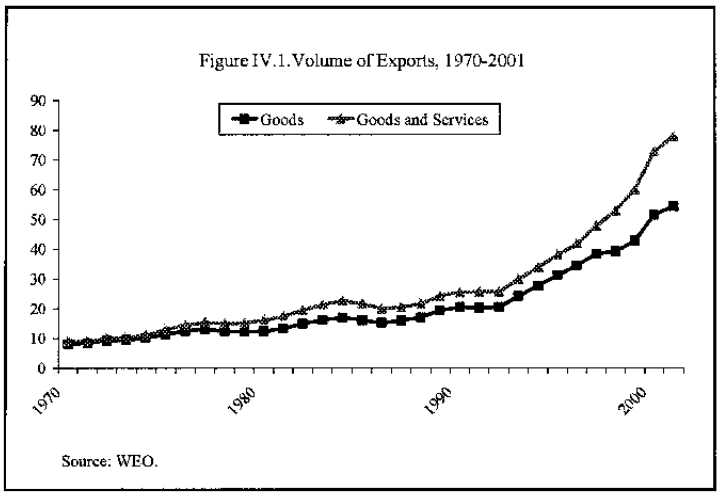
7. **This major trade liberalization, together with the real depreciation of the rupee, contributed to strong export and import growth during 1992–96**. The volume of both exports and imports grew at a double digit rate during the period and India's trade openness jumped to 22 percent of GDP by 1996. While export growth was mainly driven by lower input costs, quality improvements, and expansion of export industries, imports responded to buoyant domestic industrial production and investment. Also, the regime for foreign investment began to be liberalized gradually.[3] By 1996, the inflows of foreign direct investment (FDI) amounted to about US$2.4 billion or the equivalent of ½ percent of GDP.

[3] The most significant measure of liberalization was the allowing of foreign majority participation in 35 high-priority industries on an automatic approval basis, with the possibility of approval to 100 percent on a case-by-case basis.

Removal of Quantitative Import Restrictions (1997–2001)

8. **Since 1996, the trade liberalization effort shifted from tariff reduction to the gradual removal of QRs.** While the statutory peak rate was reduced from 40 percent in 1998/99 to 35 percent 2000/01, higher duties continued to apply to a number of items and the rates on certain tariff lines were increased, including on goods such as sugar, edible oil, rice, and wheat. At the same time, a special import surcharge of 2 percent was introduced with the 1996/97 budget and subsequently increased to 5 percent in 1997/98 and further to 10 percent in the 1999/00 budget. A special additional customs duty of 4 percent was introduced in 1998. Including the various additional surcharges, it is estimated that the average tariff has remained broadly unchanged during 1997–2001. Following the 1997 World Trade Organization (WTO) decision that India's QRs were not justified for balance of payments purposes, the remaining QRs were removed in two steps during 2000 and 2001. However, new NTBs were imposed in 2001 on imports, including on agricultural products, petroleum products, urea, and new and secondhand vehicles (Box IV.2).

9. **The slowdown in the trade liberalization process together with adverse regional and global developments contributed to a stagnation of India's trade expansion.** During 1997–2001, the average annual growth rate of both exports and imports slowed to below 10 percent compared to, respectively, 11 percent and 15 percent during 1992–96. The trade openness of the economy, which increased sharply during 1992–96, stayed flat at around 22 percent of GDP. Also, the inflow of FDI remained broadly constant at about ½ percent of GDP. However, an important factor mitigating the slowdown in goods exports was the sharp expansion of services exports, especially software, communications, and management services. Since 1997, services exports have grown at the average annual rate of 25 percent, representing, by 2001, a third of total exports of goods and services (Figure IV.1).[4] This success reflected India's supply of high-skilled and relatively low-cost labor and the fact that, compared with other sectors, the services industry has been relatively free of barriers to trade and investment. In particular, the software industry has benefited from substantial government support, including through tax and tariff exemptions and the establishment of technology parks.



[4] Another notable aspect of India's composition of trade in goods and services is the trend decline in the share of agriculture goods.

Box IV.2. Trade Policy Reforms in Recent Years (1997–2001)[1/]

Progress at trade liberalization since 1997 has been mixed. While further steps were taken to eliminate QRs and other nontariff barriers, the overall level of protection has remained broadly unchanged and a number of protectionist measures were taken.

Tariff changes. The statutory peak rate was reduced from 40 in 1997/98 to 35 percent in 2000/01 and the 10 percent import surcharge (on the basic duty rate) introduced in 1997 was eliminated. A special additional customs duty of 4 percent was introduced in 1998. A minimum tariff rate of 5 percent was imposed on a number of exempted items in 1999. Some tariff rates were increased with the 2000/01 budget including on (i) secondhand automobiles (180 percent); (ii) tea, coffee, copra, and coconut (70 percent); and (iii) crude and refined edible oil.

Removal of QRs. The remaining quantitative restrictions were phased out in two steps in April 2000 and April 2001. However, a number of nontariff barriers were retained and in some cases enhanced:

- Restrictions to import a number of sensitive commodities, such as wheat, rice, maize, petrol, diesel, and urea, only through state trading enterprises.
- Introduction of (i) an import ban on automobiles older than three years; (ii) restrictions to import secondhand automobiles only through the port of Mumbai; and (iii) certification requirements for the import of secondhand vehicles.
- Establishment of an early warning system for monitoring imports of 300 sensitive items.
- In addition, special rules were applied to certain imports, such as the requirement to submit all imports of plant and animal primary products to import permits based on sanitary measures and provisions, and all imports of liquor and processed food to the health and hygiene regulations.

[1/] For a more detailed description of India's trade policy reform during 1997–2001 see IMF (2000) and IMF (2001a).

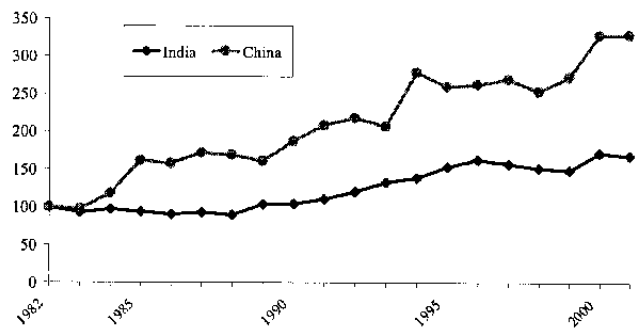
C. India's Integration in the World Economy

10. **Notwithstanding increased outward orientation since the 1990s, India's share of world trade has remained unchanged**. This section turns to the question of how India's trade performance compares with its neighbors and more generally with the overall development of world trade during this period. Based on traditional indicators of trade openness, while India was able to open up, it could not significantly increase its share of world trade in merchandise goods, nor reap the full benefits of its fast growing regional environment. According to a statistical model of trade integration, India continued to under-trade during the 1990s.

Comparative Indicators of External Openness

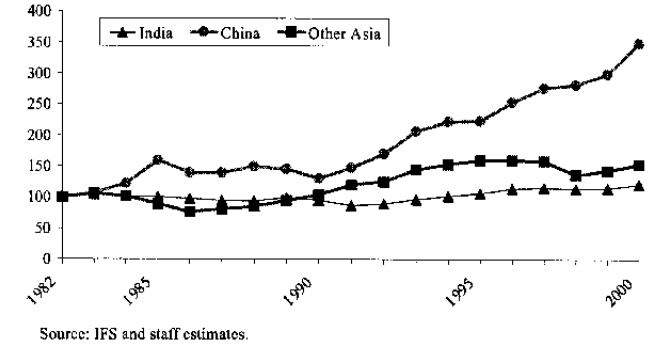
11. **The simplest approach to measuring trade integration is to look at indicators of trade openness**. While India trade openness (defined as the ratio of imports and exports of goods to GDP) doubled during the 1990s, it continued to lag behind that of the rest of Asia, in particular China (Figure IV.2). Between 1980 and 2000, China's index of trade openness increased by 150 percent while that of India increased by less than 50 percent. A similar pattern emerges in terms of shares of world trade (Figure IV.3). While India's share of world merchandise exports has increased from 0.5 percent to less than 0.7 percent over the last 20 years, China's share has more than tripled to almost 4 percent.[5] In other words, if India had opened up like China since the late 1970s, its exports of goods would be on the order of US$200 billion instead of the current US$45 billion. India's share of global trade is similar to that of the Philippines, an economy six times smaller. However, as noted above, thanks to India's competitive edge in the IT sector, India's trade performance looks more favorable when trade in services is included.

Figure IV.2. Index of Trade Openness, 1982-2001
(1982=100)



Source: IFS and staff estimates.

Figure IV.3. Index of Share of World Trade, 1982-2000
(1982=100)



Source: IFS and staff estimates.

12. **FDI inflows to India remains very low in comparison to some other emerging countries**. This occurs despite the fact that India is one of the largest domestic markets in the world and has a large labor force available at relatively low cost.[6] FDI inflows to India

[5] It has been argued, however, that China's rising export share in world markets is overstated because a significant portion of China's exports reflect processing trade.

[6] If local market size and labor costs were the only determinants, India should be very successful at attracting FDI. According to A.T. Kearney, which publishes an index of FDI competitiveness with emphasis on these elements, India ranks near the top of the list at number 7 (A.T. Kearney (2001)).

amounted to a mere US$2.3 billion (½ percent of GDP) in 2000 compared to US$38 billion in China (4 percent of GDP) or US$33 billion in Brazil (5½ percent of GDP).

Statistical Model of Trade Integration

13. **A second, more analytical, approach to measuring openness to trade is to use a statistical model of trade.** One such model—the so-called gravity model—that explains bilateral trade in terms of countries' characteristics such as, economic mass, distance apart, geographical contiguity, common language, or free trade agreements (Box IV.3). The model can be used to estimate a benchmark of what trade of a given country might be expected to be, given the bilateral trade performance and country characteristics of all other countries. One can then evaluate the degree to which actual trade patterns deviate from this benchmark and thus whether a country over-trades or under-trades.[7]

14. **According to the model estimates, India under-trades when compared to the trade performance (benchmarks) of other countries** (Table IV.2). For example, in the period 1995–98, India's trade was estimated to be about 70–80 percent less than what would be expected given its income and geography.[8] Furthermore, the degree to which India under-trades seems to have risen in the 1990s, notwithstanding the trade liberalization measures. This suggests that the benefits of the gradual tariff reductions could have been limited by the persistence of nontariff barriers, even though QRs were gradually dismantled. In addition, other emerging and developing countries, in particular in Asia, also liberalized their trade regime, so that India's relative performance in trade liberalization may not have improved.

15. **The newly industrializing economies in Asia seem to have over-performed the rest of Asia in trade integration.** In particular, the country specific dummies for Hong Kong SAR, Singapore, and Taiwan POC are all highly positive and significant. In contrast, China is estimated to be trading about as much as would be predicted by the model. Most industrialized countries, including the United States and Japan, are also estimated to trade as predicted by the model.

D. Explaining India's Low Degree of Integration

16. **There are at least four factors that could explain India's relatively low degree of trade integration.** The first is the continuing high degree of restrictiveness of the trade regime. Second, the process of trade liberalization itself, whereby tariffs on inputs and intermediate goods have been lowered at a faster pace than tariffs on outputs, may have also contributed to increase India's effective protection and the anti-export bias. Third, the

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[7] This approach has been used in a number of recent IMF publications, including IMF (2001b) and Subramanian and Tamirisa (2001).

[8] Country dummies in Table IV.2 are expressed in logarithm terms.

Box IV.3. A Gravity Model of India's Trade Integration

Gravity models of bilateral trade are well-suited for testing the extent to which countries under-trade or over-trade, after controlling for their size (proxied by GDP), income (proxied by GDP per capita), and costs of trade (proxied by the distance between them and their degree of remoteness) and other fixed factors, such geographical contiguity, common language, and free trade agreements.[1/] The use of country-specific dummy variables allow to determine whether a country under- or over-trades compared to other countries and whether its trading performance have changed over time.

In the specification of the gravity model used in this section, the bilateral merchandise trade between two countries is modeled as follows:[2/]

(1) $$TRADE_{ijt} = (Y_{it}\, Y_{jt})^{\alpha} (Y_{it}/P_{it}\, Y_{jt}/P_{jt})^{\theta} D_{ij}^{\beta} e^{\mu_{ijt}}$$

where $TRADE_{ij}$ is bilateral trade (exports plus imports) between countries i and j, Y_i and Y_j are nominal gross domestic product (GDP) in countries i and j, respectively; P_i and P_j are population in the two countries, D_{ij} is the geographic distance between countries i and j, and t is a time subscript.

Priors about the key variables are as follows. The economic size is expected to augment trade ($\alpha > 0$) in line with the theory of trade in differentiated products. The level of per capita income is expected to be positively related to trade ($\theta > 0$), given that more developed countries—countries with a higher level of GDP for a given population size—tend to specialize and trade more. Distance could be interpreted as a proxy for transportation and communication costs, and is negatively related to trade ($\beta < 0$).

The parameter μ_{ijt} controls for other factors that could augment or diminish trade:

(2) $$\mu_{ijt} = \gamma_{\kappa} + \varphi_{\lambda t} + \epsilon_{ijt},$$

where γ_{κ} reflects other potential determinants of trade (for example, membership in preferential trading arrangements, common land borders, a common language, participation in military conflicts, and oil trade) and ϵ_{ijt} is a well-behaved error term. The parameter $\varphi_{\lambda t}$ identifies the country specific effect; i.e., the extent and the significance of the country's under-trading or over-trading from the average trade as predicted by the model. The model is estimated by nonlinear least squares (in order to deal with zero-valued observations) on cross sectional data for five-year periods from 1980 to 1998.[3/]

[1/] A short survey of literature on gravity model is presented in Subramanian and Tamirisa (2001). A brief history of the gravity model is given in Frankel and Rose (2000).

[2/] The empirical work in this section draws on the ongoing work by Subramanian, Tamirisa, and Bhavnani (2002).

[3/] For a comprehensive description of the methodology and data, see Subramanian and Tamirisa (2001).

Table IV.2. Estimates of the Gravity Model and Country Specific Dummies 1/

	1980–84	1995–98		1980–84	1995–98
General Specification:			Selected Country Specific Dummies:		
GDP	0.849*	0.972*	Bangladesh	-0.533*	-0.933*
GDP per capita	0.166*	-0.177	China, P.R.	-0.119	0.295
Distance	-0.467*	-0.184	Hong Kong, SAR	1.273*	1.606*
Remoteness	0.927*	0.873*	**India**	**-0.640***	**-1.524***
Constant	-15.898*	-14.148	Indonesia	0.854	-0.038
Adjacency	0.617*	0.498*	Malaysia	1.055*	1.543*
Language	0.107	0.309	Pakistan	-0.208	-0.724*
Free trade agreement	0.278	1.226*	Philippines	0.568	0.553
Oil exporter	0.805*	0.387	Singapore	1.535*	1.890*
Conflict	-1.208*	-0.790*	Sri Lanka	0.314	0.185
			Taiwan, POC	1.306*	1.299*
			Thailand	0.42	0.762*

1/ * Indicates bias-corrected significance at the 5 percent level.

existence of various domestic impediments to investment and growth has impacted both the tradable and non-tradable sectors of the economy. Finally, India, like other developing and emerging markets, is facing a number of market access or trade barriers in industrial countries that impede the full exploitation of comparative advantage.

Trade Restrictiveness

17. **Notwithstanding the reforms of the 1990s, India's trade regime remains highly restrictive**. India's average tariff remains one of the highest in the world (Table IV.3). While a large number of QRs were eliminated in 2000–01, other non-tariff barriers continue to be in use. India has also become one of the major users of anti-dumping measures. Overall, India's index of trade restrictiveness measures 8 on a scale of 1 to 10 in 2001.

18. **India's tariff rates remains high by Asian and international standards** (Table IV.4). With the 2002/03 budget bill, the statutory peak rate was reduced from 35 percent to 30 percent, but about 300 products with a zero tariff rate were moved into

Table IV.3. Measures of Trade Policy Regimes in India and Other Regions: IMF's Trade Restrictiveness Index, 2001

	Overall Rating	Nontariff Barriers Rating	Tariff Rating	Average Tariff (In percent) 1/
Asia	4.4	1.8	2.1	12.5
Bangladesh	8	2	5	25.8
China	5	2	2	14.4
Hong Kong SAR	1	1	1	0
India	**8**	**2**	**5**	**36.0**
Indonesia	4	2	1	6.8
Japan	4	2	1	6.5
Korea	4	2	1	8.9
Malaysia	4	2	1	9.2
Philippines	4	2	1	7.7
Singapore	1	1	1	0
Thailand	6	2	3	16.9
Sub-Saharan Africa	4.3	1.5	2.7	17.2
Western Europe	3.4	1.7	1.4	8.2
FSU countries	3.3	1.6	1.5	8.1
Middle East and North Africa	5.2	1.9	2.8	16.7
Western Hemisphere	4.1	1.7	1.9	12.1
World average	4.1	1.7	2.1	12.9

Source: IMF. For details on the methodology used in constructing this index, see Appendix I in Sharer (1998).

1/ Includes other discriminatory duties and charges.

Table IV.4. Summary of Standard Customs Duty Rates, 2000–03[1/]

	2000/01	2001/02	2002/03 2/
Simple average	32	32	29
Agriculture	41.7	41.7	39.7
Non-agriculture	30.8	30.8	27.7
Minimum	0	0	0
Maximum	210	210	182
Standard deviation	12.3	12.3	12.7

Source: Indian authorities and staff calculations.

1/ Includes only the standard customs duties and the ad valorem portion of mixed duty rates.
2/ As submitted in the 2002/03 draft budget law to Parliament.

the 5 percent tariff category.[9] Despite some consolidation, India's tariff dispersion remains relatively high,[10] and the tariff shows substantial escalation in some sectors, especially for paper and printing, textiles and clothing, and food, beverage, and tobacco. As a result of additional bindings taken by India in the WTO, the share of tariff lines that are bound has increased since 1998, from 67 percent to 72 percent; new bindings were made primarily in textile and clothing; and India also renegotiated bindings in some agricultural items.[11] As a consequence, a number of items, mostly agricultural products, have much higher tariff rates than the statutory peak rate of 30 percent.[12] A further complication with the current tariff structure is that, at the 6-digit level, some sub-categories of a particular product could have different tariff rates (concessional rate or zero rate).

19. **In addition to the standard customs duties, imports can be subject to various additional duties**. These include (i) an additional customs duty, also known as countervailing duties, corresponding to the equivalent of the local excise duties (domestic tax); (ii) a special additional customs duty; (iii) possible safeguard duties, in case of import surges; and (iv) anti-dumping duties. Including all such duties and charges, India's average tariff was estimated at about 36 percent in 2001/02 and 33 percent in 2002/03, compared with an average of 12½ percent for Asia, 17½ percent for sub-Saharan Africa, and 12 percent for the countries of the Western Hemisphere.

20. **Almost all QRs have been removed, but imports are still subject to various other nontariff restrictions.**[13] These include some import bans (rice, wheat, beef, etc.), import restrictions through state trading monopolies (canalization), and standards or certification requirements. Also, a list of 133 items are subject to domestic standards established by the Bureau of Indian Standards (BIS).[14] Other particular standards are also in place outside this list (e.g., sanitary and phytosanitary regulations, and the safety standards on automobiles,

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[9] However, a large number of items remains exempted from customs duties. Most are product specific but many are also based on industrial or end-use.

[10] The bulk of imports falls into four major standard tariff rates: 5, 15, 25, and 35 percent (now 30 percent), although higher tariff rates apply to a number of goods.

[11] According to the WTO, India bound all agricultural lines (under the WTO definition of agriculture) and 68.2 percent of lines for non-agricultural products, WTO (2002).

[12] It is estimated that some 2 percent of the tariff lines have rates exceeding the statutory peak rate of 30 percent.

[13] Some 600 items at the 8-digit level out of a total of 35,000 items (i.e., 1.7 percent of the total) are still subject to WTO-compatible quantitative restrictions or bans (mainly for security reasons).

[14] A comprehensive description of India's NTBs is available at www.nic.in/eximpol.

which prevent the importation of used cars more than three-year old). Delays in customs procedures are also due to the complexity of the tariff structure and exemptions, which may vary according to product, user, or specific export-promotion programs. In an effort to improve the classification of products and to reduce red tape, a new 8-digit customs harmonization system has been proposed (see below). Also, the authorities stated that import licenses could now be granted within a day if the request was made on line.

21. **India is one of the most active users of anti-dumping measures and safeguards duties** (Table IV.5). While these are allowed under WTO rules, the Government of India (2002) noted that:

"...not all cases of competitive imports are dumping. In many cases, the items being imported may be more competitive imports than domestically produced items simply because domestic competitiveness is constrained by restrictions on scale of production."

Based on notifications of anti-dumping actions made to the WTO, India initiated some 250 actions during 1995–2001, of which a large number were against imports from the European Union and China (about 19 percent each). Moreover, the number of anti-dumping measures in force has risen steadily from 19 in 1997 to 131 in 2001. The majority of the initiations have been made for chemical and related products (47 percent). Since 1998, safeguard duties were imposed on eight chemical products.

Effective Protection

22. **India's effective protection rate is likely to be much higher that the average nominal tariff rate**. An exact calculation of effective protection would require detailed information on India's input-output matrix. However, with a nominal tariff of 35 percent on output, effective protection could vary from 35 percent to 350 percent depending on the sectoral input-output ratio and the average tariff on inputs, making protection quite arbitrary and random.[15]

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[15] The effective rate of protection that a producer gets on his value-added depends on the value added per unit, the average import duty rate on inputs, and the tariff on the output.

Table IV.5. Top Ten Users of Anti-Dumping Measures, 1995–2001 1/

	1995	1996	1997	1998	1999	2000	2001	Total
United States	14	22	15	36	47	47	74	255
India	**6**	**21**	**13**	**27**	**65**	**41**	**75**	**248**
European Union	33	25	41	22	65	32	28	246
Argentina	27	22	15	8	24	45	26	167
South Africa	16	33	23	41	16	21	6	156
Australia	5	17	42	13	24	15	23	139
Canada	11	5	14	8	18	21	25	102
Brazil	5	18	11	18	16	11	16	95
Mexico	4	4	6	12	11	7	5	49
Korea	4	13	15	3	6	2	4	47
All countries	157	224	243	254	356	281	330	1845

Source: WTO.

1/ As measured by initiations by reporting party.

23. **The situation in India is exacerbated by the existence of numerous tariff exemptions**[16] **and escalation clauses**, with average tariffs rising from 29½ percent for unprocessed products to 32⅓ percent and 33 percent for semi-processed and processed products, respectively.[17] Only a single uniform rate of import duty could ensure that all producers of all goods have the same and transparent rate of protection, thus promoting efficiency and competitiveness while eliminating administrative problems, legal disputes, tax evasion, and corruption.

24. **Ad hoc tariff changes that tend to accompany each years' budget add to the complexity of India's tariff regime and risk increasing effective protection**. For example, the 2002/03 budget lowered the statutory peak rate from 35 percent to 30 percent and reduced tariff rates on a number of inputs, while increasing tariffs on some agricultural products (tea and coffee) and certain finished goods (such as steel) above the statutory peak rate (Box IV.4).

[16] According to the Planning Commission, in any standard publication of the custom tariff, containing 1,150 pages, it is estimated that 400 pages are devoted to exemptions (cited in WTO (2002)).

[17] According to WTO (2002), escalation is especially pronounced in food, beverages, and tobacco, wood and furniture, textiles and leather, and basic metals.

Box IV.4. Selected Tariff Measures in the 2002/03 Budget

The following main tariff changes were announced in the 2002/03 budget speech.

Tariff Cuts

- The statutory peak rate was lowered from 35 percent to 30 percent. By 2004/05, there will be only two basic rates of customs duties, 10 percent covering generally raw materials, intermediates and components, and 20 percent covering generally final products, with some exceptions on account of WTO bindings or higher tariffs for agricultural products.
- The customs duty on cement and clinkers was reduced from 25 percent to 20 percent; on copper, zinc, and lead from 35 percent to 25 percent and, on aluminum and tin from 25 percent to 15 percent.
- To encourage the development of infrastructure facilities, the customs duty on specified equipment for ports and airports was reduced to 10 percent.
- The flat duty rate of 35 percent applicable to certain items of personal use of passengers returning from abroad on transfer of residence was reduced to 30 percent, while a few more items like lap top computers, portable photocopy machines, digital video disc players, and video cassette disc players were added to the eligible list of items.
- The customs duty on imported liquors was reduced from 210 percent to the WTO binding rate of 182 percent. The rates of CVD applicable to liquors and wines were revised to 75 percent for value up to US$25 per case and 50 percent for others.

Tariff Increases

- To support the steel industry, it was decided that the basic customs duty on seconds and defectives of steel would be increased to the bound rate of 40 percent. To reduce the disparity between rolled products produced by the steel plants and cheaper products produced from ship breaking, the basic custom duty rate on ships for breaking was increased to 15 percent .
- To protect the interest of the farmers, (i) the customs duty on tea and coffee was increased further to 100 percent, that on natural rubber, poppy seeds, pepper, cloves and cardamom to 70 percent, and the duty on pulses from 5 percent to 10 percent; and (ii) the customs duty on agricultural machinery and implements was reduced from 25 percent to 15 percent.
- A nominal customs duty of 5 percent was imposed on some of the items that were previously exempted.
- Notwithstanding India's commitment under the Information Technology Agreement to apply zero duty regime on IT products by 2003, the government responded favorably to the request by local manufacturers to make it effective only from the year 2005. As a further measure of assistance to domestic industry, customs duties on a number of hardware inputs and certain capital goods were reduced to 5 percent and 15 percent, respectively.
- To provide incentive to the domestic manufacturers of drugs, a basic customs duty of 5 percent on drugs was introduced.

Domestic Impediments

25. **India's trade performance reflects not only its trade regime but also domestic structural bottlenecks affecting both the tradable and nontradable sectors**. These include (i) a relatively restrictive foreign investment regime; (ii) the reservation policy for small-scale industries; (iii) the poor quality of public infrastructure, such as transportation and power; (iv) the slow pace of industrial restructuring, and (v) efficiency costs associated with red tape.

26. **India's foreign investment regime remains relatively restrictive**. Notwithstanding the recent steps aimed at liberalizing and simplifying FDI approval,[18] foreign equity restrictions in the form of bans or limits still apply to a number of sectors. In addition to sensitive sectors such as defense, strict FDI restrictions remain in place for agriculture (including plantation), retail trading, railways, print media, and some real estate operations. FDI limits are still in place in the banking sector, insurance, and some service sectors. Also, in many instances, FDI proposals need to be considered and approved by various government agencies based on a number of guidelines including on export or value-added requirements. In particular, such requirements would apply to industries that require an industrial license, to equity participation higher than the prescribed foreign equity limits, or to foreign investors who have no previous ventures in the proposed sector.[19]

27. **The policy of reserving certain products exclusively for small scale production (reservation policy) may have had a detrimental impact on export performance**. A number of sectors subject to reservation (e.g., leather products, toys, and until recently garments), which are widely seen as having the maximum export potential, could not benefit from economies of scale in production to compete internationally.[20] As recommended by the EAC, in case outright abolition of reservation is not feasible, reservation should at least be abolished for selected products in which India has a strong export potential.

28. **Poor physical infrastructure contributes to making India's industry less competitive in international markets**. According to a recent World Bank/Confederation of Indian Industry (CII) study on the competitiveness of Indian manufacturing, in the area of physical and financial infrastructure, India's performance is clearly behind many East Asian and Latin American countries, and the gap between China and India is rapidly widening in favor of the former.[21] In particular, access to reliable power at reasonable cost is a prime concern for most manufacturing firms. Also, transportation is seen as an area where India falls short of its neighbors.[22]

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[18] FDI limit in private banks was recently raised from 40 to 49 percent, excluding investments by foreign institutional investors (FII). According to a proposed measure in the 2002/03 budget, portfolio investments by FIIs will no longer be subject to sectoral limits for FDI, except in specified sectors.

[19] In other cases, the FDI could be automatically approved with only the RBI being informed within 30 days of receipts of funds or issuance of shares to the foreign investor.

[20] About 750 sectors are still reserved for the small scale industry (SSI).

[21] Goswami et al. (2002) and World Bank and CII (2002).

[22] According to the World Bank/CII survey, the total container volume handled at all the Indian ports combined is lower than that passing through Shanghai. Furthermore, shipping a container

(continued...)

29. **Industrial restructuring has faced several impediments.** First, protection from international competition through tariff and non-tariff barriers has prevented the necessary restructuring of non-profitable enterprises. Second, restructuring has been complicated by labor legislation that constrains labor mobility, which in turn has not allowed India to reap adequately the benefits of its comparative advantage in labor intensive technologies. For instance, the dismissal of workers or restructuring of workforce requires government approval for companies with more than 100 employees.[23] Third, restructuring has been complicated by cumbersome legal procedures to liquidate loss-making enterprises.

30. **Efficiency costs associated with administrative hurdles and red tape have also affected the investment climate.** According to the World Economic Forum, after labor regulations, customs administration and cumbersome procedures for entry and exit are major constraints in doing business in India. Customs administration is tedious and time-consuming.[24] Also, India requires more permits and it takes much longer to start a firm than almost all countries included in the Global Competitiveness Report. There are, however, large differences in the incidence of red tape and provision of infrastructure across states in India. Not surprisingly, firms operating in Indian states with relatively good investment climates post consistently better performance than those in other states. Restrictions and high regulatory burdens also apply to the use and transfer of land.[25]

Trade Barriers Faced by Indian Exports

31. **India also faces trade barriers in its exports to industrial countries, in particular the United States and the European Union.** While these economies are generally fairly open, they have barriers that apply to imports of a number of products in which India and other developing countries have a comparative advantage. For example, in the United States customs duties on a number of items for which India has a comparative advantage are significantly higher than the U.S. average tariff on imports.[26] Table IV.6 shows the tariff

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container of textiles or garments from Bangkok to the United States eastern seaboard is almost 18 percent cheaper compared to Mumbai or Chennai despite a longer route.

[23] A draft law to increase the employee threshold to 1,000 has been approved by Cabinet but is yet to be tabled in Parliament.

[24] According to the World Bank/CII survey, the time needed to clear customs is 50 percent longer in India than in Korea or Thailand and triple what many OECD countries report.

[25] Land market distortions are estimated to account for about 1.3 percent of lost growth per year (World Bank and CII (2002)).

[26] The focus on the United States is because U.S. custom tariff data are more readily available than those of other industrial countries. India's exports to the EU and Japan are also reported by the Indian authorities to face substantial barriers.

barriers that apply to the top 20 product categories exported by India to the U.S. by value in 2001, including under the preferential access of the Generalized System of Preferences (GSP). While the simple average tariff on India's merchandise imports is less than 5 percent, the tariff rates on a number of textile products, which represented almost 20 percent of the total value of U.S. imports from India, were in excess of 10 percent in 2001. For instance, India's exports of articles of apparel and clothing accessories to the United States faced a tariff barrier in the order of 11–13 percent. Footwear articles have an import tariff duty of 14 percent. High tariff rates also apply to tobacco and manufactured tobacco substitutes (74 percent), manmade staple fibers and filaments (12 percent), and dairy products (12 percent).

Table IV.6. Top 20 U.S. Imports From India, 2001

(In millions of U.S. dollars)

HS Chapter	Description	2001	MFN Tariff	GSP Tariff
71	Pearls, stones, precious metals, etc	2641.7	3.0	0.8
62	Articles of apparel and clothing accessories	1272.3	10.9	10.8
61	Other articles of apparel and clothing accessories	502.4	13.0	12.9
63	Made-up textile articles	495.8	8.0	7.5
57	Carpets and other textile floor coverings	323.8	4.2	3.5
29	Organic chemicals	323.3	4.7	3.2
3	Fish and crustaceans, mollusks and other aquatic invertebrates	280.5	1.0	0.2
42	Articles of leather; saddlery and harness; handbags, etc.	280.1	8.2	6.1
85	Electrical machinery and equipment and parts thereof	266.4	1.9	0.5
73	Articles of iron or steel	266.1	2.2	0.9
84	Nuclear reactors, boilers, machinery and mechanical appliances	246.1	1.3	0.2
8	Edible fruit and nuts; peel of citrus fruit or melons	216.6	5.5	2.4
27	Mineral fuels, oils and waxes, and products of their distillation	175	0.3	0.1
94	Furniture; bedding, cushions etc.; lamps and lighting fittings, etc.	163.3	2.4	0.6
87	Vehicles, other than railway or tramway rolling stock	127.5	2.7	1.9
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	120.2	1.7	0.2
39	Plastics and articles thereof	110.3	4.6	1.0
32	Tannins and derivatives; dyes, pigments and other coloring matter	106.2	5.8	4.2
64	Footwear, gaiters and the like; parts of such articles	101.2	14.1	13.8
30	Pharmaceutical products	94.3	0.0	0.0
	Sub-total (top 20 imports)	8113.1	4.8	3.5
	Total (all imports)	9707.6	4.9	3.3

Sources: WTO, U.S.'s International Trade Commission, and staff estimates.

32. **In addition to tariffs, many of India's exports face nontariff barriers (quantitative restrictions) and other forms of protection in industrial countries.** According to the WTO, exports from India are also currently subject to 40 anti-dumping and 13 countervailing measures, mainly for agricultural products, textile and clothing products,

and chemical and related products. One of the most notable trade restrictions facing India is on its exports of textile and clothing under the Multi Fibre Arrangement (MFA) and the Agreement on Textile and Clothing (ATC). However, it was observed that Indian exporters' utilization of quotas in these two markets has in some instances been low, possibly reflecting India's high production costs.[27] This in turn indicates that India may not necessarily be in a position to expand exports when the quotas under the ATC are relaxed (Panagariya (2002)), although both the phasing out of the ATC and China's accession to the WTO could theoretically benefit India (Francois and Spinanger (2002)). Another important trade restriction faced by India is the large trade distorting agricultural subsidies in industrial countries.

E. Roadmap for the Future

33. **In early 2002, the government presented its medium-term export strategy together with its new export and import (EXIM) policy for 2002–07** (Box IV.5). Recognizing the limits of past export strategies,[28] the new strategy aims at identifying potential markets and new areas of comparative advantage in order to increase India's share of world exports to 1 percent by 2007 (from 0.67 percent at present).[29] About 220 items at the 4-digit level were identified for special focus, with the three E's—electronics, electrical, and engineering goods—figuring prominently in the list of items with the greatest export potential. Other sectors include textiles, gems and jewelry, chemicals, agriculture, and leather and footwear items. For each of these sectors, various sector-specific strategies are expected to be put in place. For instance, the strategies for the electronics, electrical, and engineering sector include support to small and medium-sized enterprises (SMEs) for research-development, accreditation of testing laboratories in India by overseas agencies, and encouraging joint ventures and FDI.

34. **At the macroeconomic level, a number of policies have been established to improve the overall export competitiveness**. These include the establishment of new private sector run special economic zones (SEZs), steps to make labor regulation more

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[27] According to the above mentioned World Bank and CII (2002), while India's value added per unit of labor costs in the garments and textiles industry compares favorably with other Asian countries, such as Thailand, Malaysia or the Philippines, the value added per worker compares unfavorably. This is mainly because of the unfavorable investment climate, including the regulatory burden on firms, delays at customs, energy cost disadvantage, and relatively high interest costs.

[28] Past export strategies such as the Extreme Focus Product Strategy (1992), the 15x15 Matrix Strategy (1995), or the Focus on Latin American Countries (LAC, 1997) have been too static, focusing essentially on India's existing export products and markets.

[29] This would require exports to double to around US$80 billion in five years, at a compound annual rate of 12 percent per annum.

Box IV.5. Some Key Highlights of EXIM Policy, 2002–07

In support of the medium term export strategy, the EXIM policy for 2002–07 introduced a number of specific measures to facilitate exports through price and regulatory incentives, including (i) the further liberalization of the trade and exchange regime; (ii) widening the eligibility to use export schemes; and (iii) other measures to simplify procedures and cut transaction costs.

Liberalization of the Trade and Exchange Regime

- Eliminating all quantitative restrictions and packaging restrictions on exports, in particular on agro and agro based products, except for a few sensitive items.
- Establishing offshore banking units (OBUs) in the special economic zones (SEZs). These units would be permitted to undertake hedging of commodity price risks, provided such transactions are undertaken by the units on stand-alone basis. Also, external commercial borrowings for a tenure of less than three years will be permitted in SEZs.
- Improving the special facilities for status holders, in particular (i) allowing the license, certificate, and permissions and customs clearances for both imports and exports on self-declaration basis; (ii) granting priority finance for medium and long term capital requirement as per conditions notified by RBI; (iii) allowing the retention of 100 percent of foreign exchange in exchange earners' foreign currency accounts; and (iv) lengthening the normal repatriation period from 180 days to 360 days.

Enlarging Access to Export Schemes

- Promoting cottage sector and handicrafts exports through greater access to exports schemes, such as the market access initiative (MAI) and export promotion capital goods (EPCG), and enlarging the list of duty free items for imports.
- Encouraging further development of centers of economic and export excellence and making the benefits of the above mentioned export schemes available to small scale industry (SSI).
- Broadening the duty free and customs exemption regime in the leather and textile industry.
- Promoting the gem and jewelry industry through (i) the elimination of customs duty on import of rough diamonds; (ii) the abolishment of the licensing regime for rough diamond; and (iii) relaxing the value addition norms for export of plain jewelry.
- The Electronic Hardware Technology Park scheme is being modified to enable the sector to face the zero duty regime under the Information Technology Agreement.
- To enhance the cost competitiveness of export products, fuel costs are to be rebated for all export products. Special transport subsidies for exports originating from units far from ports were added.

Other Measures to Simplify Procedures and Reduce Transaction Costs

- Adoption of a new and clear 8 digit commodity classification for imports.
- Same day licensing introduced in all regional offices.
- Reduction in the percentage of export cargo undergoing physical examination.
- Simplification of the customs procedures and duty schemes, such as the Duty Exemption Entitlement Certificate, the Advance License for Annual Requirement, the Duty Free Replenishment Certificate, the Duty Entitlement Passbook, and the Export Promotion Capital Goods scheme.
- Setting up of Business Centers in Indian missions abroad for visiting Indian exporters.

flexible, in particular regarding exit policy, the pursuit of the dereservation policy, the reduction of transaction costs and red tape through automation and simplification of procedures, and the upgrading of export infrastructure. As a complement to this environment, the real effective exchange rate of the rupee would be maintained at a level appropriate for ensuring price competitiveness of exports.

35. **In order to achieve the authorities' objective for trade integration, more efforts are needed to eliminate the anti-export bias of the Indian economy**. This would require:

- Significantly reducing the statutory peak rate and lowering the average tariff rate to at least the "Asian level" of 12 percent.[30] In this context, the pace of tariff reduction could be accelerated in view of the current strong external position.

- Simplifying the tariff regime by removing or reducing the exemptions and introducing a lower and more uniform duty structure. Specifically, there is a need to avoid complex and biased tax incentive systems, in particular in the SEZs, that could lead to substantial revenue losses and thus complicate further the process of tariff reduction.

- Removing the remaining nontariff and administrative barriers on imports and exports, while both domestic production and imports should be made subject to the same safety and quality standards.

- Along with trade reforms, further liberalizing and simplifying the foreign investment regime.

- Finally, allowing a more flexible exchange rate regime to reflect changing fundamentals resulting from trade and capital account liberalization.

36. **Pari passu with these steps, the various export promotion schemes should be streamlined and phased-out**. As noted in WTO (2002), while the share of exports qualifying for these schemes has risen steadily, from around 37 percent in 1997/98 to 71 percent in 1999/00, it is not clear whether these schemes have been successful in boosting Indian exports. Instead, it has been suggested that India's opening up may be due more to the liberalization policies pursued since 1991 rather than to the export promotion schemes themselves.

37. **Finally, there is an urgent need to unshackle Indian industry to enable it to compete globally**. Thanks to its high-skilled and relatively low-cost labor force, particularly

[30] The EAC's recommendation to lower the maximum rate to 12 percent by 2005 was not retained by the government, which instead announced that, by 2004/05, there would be only two basic rates of customs duties, 10 percent covering generally raw materials, intermediates and components, and 20 percent covering generally final products, with some exceptions on account of WTO bindings or higher tariffs for agricultural products.

in areas of engineering and science, Indian industry has great growth and export potential. However, this potential is greatly undermined by the disadvantages that industries face in terms of structural, regulatory, and infrastructure impediments. The SEZs are being planned with a view to providing world-class facilities for export-oriented manufacturing and to attract FDI. However, experience from other countries suggests that they would be of more benefits to the whole economy if enterprises in SEZs develop close links with domestic enterprises to maximize productivity spillovers. And domestic enterprises can benefit more from these spillovers if there is a major overhaul of the investment climate at both the center and states levels.

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V. The Performance of Indian Banks During Financial Liberalization[1]

A. Introduction

1. **During the past decade, the financial system in India has been undergoing a process of liberalization**. Bank deposit and lending rates have been deregulated; reserve requirements have been reduced; and regulations on competition, credit allocation, and prudential supervision have been reformed.

2. **This paper examines the impact of these reforms on the performance of commercial banks in India**.[2] In particular, the behavior of industry concentration, cost of intermediation, and profitability of the banking sector are analyzed by focusing on the following questions:

- How has the level of the **industry concentration** evolved over the past decade of financial liberalization?
- Have the **cost of intermediation and profitability** of different categories of banks—state, nationalized, old private, new private and foreign—changed significantly over the period?
- What are the **determinants** of the cost of intermediation and profitability in the Indian banking system?
- Does **ownership structure** matter for the intermediation cost and profitability of Indian banks? Do public banks underperform relative to private and foreign banks?
- What has been the impact (if any) of **entry deregulation** on these indicators?

3. **These questions are addressed using balance sheet and earnings and expenses data for all Indian commercial banks between 1991/92 and 2000/01**. Alternative measures of industry concentration, bank spreads and bank profitability are constructed and used in the empirical analysis. Then the cross-sectional and time-series properties of the data are examined in a panel regression framework, under a variety of model specifications and estimation methods.

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[1] Prepared by Petya Koeva (x37726), who is available to answer questions.

[2] The structure of the banking sector is described in Chapter II of Reserve Bank of India, *Report on Trend and Progress of Banking in India, 2000–01*.

4. **The main findings can be summarized as follows**:

- Industry concentration has declined during the decade. Nevertheless, the combined market share of the three largest banks remains at about one-third of the total assets of the banking system.

- The cost of financial intermediation and bank profitability appear to have decreased in recent years. This decline is statistically significant for selected definitions of these variables and in most specifications of the regression analysis.

- State and nationalized are the two types of public sector banks in India. On average, nationalized banks have significantly lower profitability than private and foreign banks. The same result does not hold for state banks.

- Operational costs, priority sector lending, non-performing loans, investment in government securities, and the composition of deposits (demand, term, savings) play an important role in explaining the bank-level variation in intermediation costs and profitability.

- The decrease in industry concentration, following the entry of new foreign and domestic banks, is associated with a significant decline in bank intermediation costs and profitability.

5. **The rest of the paper is organized as follows**. Section B provides a brief description of financial liberalization in the Indian banking sector. Section C describes some findings of the empirical literature on the effect of financial liberalization and public ownership on bank intermediation costs and profitability. Section D discusses the bank-level data and variable definitions used in the empirical analysis. Section E reports the results from the empirical analysis, and Section 6 concludes.

B. Financial Liberalization in India (1991/92–2000/01)

6. **This section highlights the key elements of the gradual liberalization strategy implemented during the past decade**. The main reforms included: i) interest rate liberalization; ii) reduction in reserve requirements; iii) entry deregulation; iv) credit policies; and v) prudential supervision.[3]

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[3] The sources of information for this section are the various issues of *Report on Trend and Progress of Banking in India*, as well as the appendix "Banking Sector Reform" to the keynote speech by Deputy Governor Dr.Y.D. Reddy at the Conference on *Growth, Governance and Empowerment: The Future of India's Economy* at the University of California, Santa Cruz on November 20, 1998.

7. **Most deposit and lending rates of commercial banks have been liberalized.**[4] Before the onset of financial liberalization, deposit and lending rates in India were heavily regulated. Interest rates were administered for all types of deposits (demand, term, and savings). The lending rate structure, on the other hand, was characterized by six loan size categories, each with a minimum lending rate. The chronology of the main events in this process is shown in Annex I.

8. **Reserve requirements of commercial banks were gradually reduced**. In particular, the average cash reserve requirement (CRR) has fallen from 15 percent to its current value of 5 percent since the start of the reform period.[5] The statutory liquidity requirement (SLR) was decreased from 38.5 percent for domestic liabilities and 30 percent for non-resident liabilities to its current level of 25 percent, which is the minimum ratio of liquid assets to demand and time liabilities allowed under the existing law.

9. **Entry and ownership restrictions were liberalized**. Prior to these reforms, the entry of foreign banks was restricted, and new domestic private banks had not entered the market since the early 1970s. Moreover, private ownership in public sector banks was not allowed. The key changes in the regulations on competition and ownership are described in Annex I.

10. **The system of credit delivery has undergone significant changes, including the easing of priority sector lending requirements**. During the pre-reform period, the credit decisions of Indian commercial banks were governed by detailed regulations on the provision of cash credit for working capital, credit authorization, holdings of inventory and receivables of various industries, consortium arrangements, etc. The reform efforts in this area were focused on giving banks more discretion in making credit decisions. In addition, the definition of priority sector lending has been expanded gradually, thus making this requirement less restrictive.

11. **Prudential supervision norms have been tightening gradually**. The specific areas of reform have included the introduction of capital adequacy requirements and the phased improvement of income recognition, asset classification, and provisioning norms (see Chapter VI).

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[4] The regulations for other types of deposits—savings and demand—have not been changed yet. Interest rates on savings deposits are still administered by the RBI, and demand deposits continue to bear no interest.

[5] The CRR was raised temporarily on several occasions during this period for monetary and exchange rate policy reasons (e.g., December 1997–January 1998, August 1998, July–August 2000).

C. Selected Literature Review

12. **Financial liberalization has generally been found to have a positive effect on bank performance.** Using panel data estimation, Barajas, Steiner, and Salazar (2000) find that financial liberalization and foreign investment in Columbia had a beneficial effect on bank behavior by increasing competition, lowering intermediation costs, and improving loan quality. The positive effect on intermediation spreads is also found in Claessens, et al. (1998), using cross-county data. In Norway, the deregulation of lending rates and volumes improved the efficiency and productivity of banking sector (Berg, Forsund, and Jansen (1992)). According to Zaim (1999), commercial banks in Turkey had a similar experience. In the Indian context, the impact of liberalization on public sector profitability is analyzed in Chaudhuri (2002) and Mohan (2002).

13. **Although several studies have found that ownership has a significant effect on bank performance in developing countries, the empirical evidence on the Indian banking sector has been mixed.** Barth, et al. (2001) demonstrate that a larger share of state ownership is associated with higher intermediation costs. Using bank-level data from 80 countries, Demirguc-Kunt and Huizinga (1998) report that foreign banks have higher profitability than domestic banks in developing countries. In the case of the Indian banking system, Sarkar, Sarkar, and Bhaumik (1998) find that the differences in performance between public and private banks are not significant. Shirai (2002) concludes that "...even though foreign banks and private sector banks generally perform better than public sector banks in terms of profitability, earnings efficiency and cost efficiency in the initial stage [of reforms], such differences have diminished as public sector banks have improved profitability and cost efficiency."

14. **In this paper, the analysis of the cost of intermediation—measured by several types of bank spreads—is based mainly on Brock and Suarez (2000).** In their investigation of the determinants of bank spreads in seven countries in Latin America, Brock and Suarez (2000) point out that "...the study of interest rate and spreads only makes economic sense in a fully liberalized economy...." Therefore, they construct several measures of bank spreads and proceed to analyze the behavior of banks across time and banks.

D. Data

Sample Description

15. **The sample comprises all commercial banks in India between 1991/92 and 2000/2001.**[6] The database was constructed using various issues of *Statistical Tables Relating to Indian Banks, Report on Trend and Progress of Banking in India,* and *Database on Indian Banking, 1987–98.* The number of banks in the sample varies across years, owing to

[6] Subject to data availability.

the entry and exit of some banks, as well as data availability. The total number of observations in the sample is 882.

16. **The structure of the Indian banking sector is characterized by five categories of commercial banks**. There are two types of public banks—eight state banks (SBI and seven associates) and 19 nationalized banks. The classification of private banks into "old private" and "new private" is based on the timing of market entry. Following the RBI guidelines of 1993 to promote competition in the banking sector, nine new private banks entered the market in 1994 and 1995.[7] A number of foreign banks were allowed entry into the Indian banking system between 1991 and 1998, and consequently, the total number of foreign banks increased from 24 in 1991/92 to 42 in 2000/2001.[8] The market shares of the five categories of banks in 2000/01 are shown in Table V.1.

Table V.1. Market Share by Bank Category in 2000/01

Bank Category	Market Share (In pecent)
State	31
Nationalized	48
Old private	7
New private	6
Foreign	8

Variable Definitions

Industry concentration and composition

17. **The changes in the concentration and composition of the Indian banking industry during the sample period are analyzed using several indicators**. To capture the evolution of overall concentration, we construct: i) Herfindahl index of the banking sector in three different ways, using the market share of each bank in the asset, loan, and deposit markets;[9] and ii) M-concentration ratios of the one, three and ten largest banks in the asset, loan, and deposit markets. The effect of entry deregulation on the composition of the banking industry is described by tracing the changes over the sample period in: i) the number share of each bank type, i.e., the number of banks of type i (i = state, nationalized, old private, new private and foreign) divided by the total number of banks in a given year; and ii) the market share of each bank type in the asset, loan and deposit markets.

[7] Two new private banks (HDFC Bank Ltd. and Times Bank Ltd.) merged in 2000.

[8] In our sample, the number of foreign banks is 21 in 1991/92 due to data availability.

[9] The Herfindahl index is defined as the sum of the squares of the market shares of all market participants. The M-concentration ratio equals to the combined market share of the M-largest market participants.

Cost of intermediation and profitability

18. **The cost of financial intermediation is measured by four different bank spreads** (see Annex II). The most commonly used definition in the literature is the net interest margin (*Spread1*), i.e., the difference between interest earned and interest expended, normalized by total assets. Since the net interest margin (*Spread1*) may not accurately represent the marginal costs and benefits of borrowing and lending, three other bank spread measures are used in the empirical analysis. For example, the definition of *Spread4* focuses on the loan and deposit business of the banks only, using the difference between the interest earned on loans (normalized by total loans) and interest expended on deposits (normalized by total deposits). The definitions of *Spread2* and *Spread3* differ from the net interest margin (*Spread1)* in their adjustment for balance sheet composition by normalizing interest earned by total loans and interest expended by total deposits (instead of total assets), thus abstracting from non-loan assets (investments in government securities, balances with RBI and liabilities, etc.) and non-deposit liabilities (borrowings, reserves, etc.) The difference between *Spread2* and *Spread3* is the inclusion of income from commissions, exchange, and brokerage in *Spread2*.[10]

19. **The empirical analysis uses two standard measures of bank profitability, before and after provisioning**. Bank profitability before provisions and contingencies (*Profit2*) is equal to the difference between earnings (interest earned plus other income) and expenses (interest expended plus operating expenses), normalized by total assets. Note that *Profit1* is equal to *Profit2* minus (the normalized by total assets) provisions and contingencies.

20. **The definitions of profitability and bank spreads are closely related**. For example, the profitability before provisioning (*Profit2*) is the sum of the net interest margin (*Spread1*) and the surplus of other income over operating expenses. Therefore, if the net interest margin declines, then bank profitability will decrease unless operating costs fall sufficiently (or other income increases) to compensate for this fall.

E. Results

Changes in Industry Concentration and Composition

21. **The concentration of the Indian banking sector has declined during the past decade**. This fact is illustrated in Figure V.1a, which shows the evolution of three types of Herfindahl indices (asset, loan and deposit). The largest change in concentration—comparing the values at the end-points of the sample period—is observed in the case of the loan-based Herfindahl index (*Herf_Advances*), which dropped from 0.098 in 1991/92 to 0.07 in 2000/01. The asset-based Herfindahl index (*Herf_Assets*), on the other hand, declined from 0.1 in 1991/92 to 0.08 in 2000/01. The fall in the deposit-based Herfindahl index (*Herf_Deposit*) is about three times smaller (0.01). It is interesting to note that the asset-

[10] See Brock and Suarez (2000) for a detailed discussion of these measures of bank spreads.

based and deposit-based Herfindahl indices assumed their lowest values in 1997/98, unlike *Herf_Advances,* which continued its decline.

22. **The behavior of the Herfindahl indices is dominated by the change in the largest-bank share of total assets, loans and deposits in the banking sector** (see Figure V.1b). In particular, the asset market share of SBI fell from 28 percent in 1991/92 to 24 percent in 2000/01, whereas its loan market share declined from 27 percent in 1991/92 to 22 percent in 2000/01. In contrast, the deposit market share of SBI recovered at the end of the sample period to its starting value of 23 percent in 1991/92. The increase in the deposit market share of SBI since 1997/98 materialized at the expense of the nationalized banks.[11]

23. **Additional information about the changes in the market structure is provided by the remaining two M-concentration ratios**. Figure V.1c and Figure V.1d show that despite the decline in their relative share, the combined assets of the three largest banks still comprise about one-third of the total assets of the banking system in 2000/01. The asset, loan, and deposit market shares of the ten largest banks, on the other hand, declined continuously during the sample period to just under 60 percent in 2000/01. All of these banks are public.

24. **The composition of the banking sector changed with the emergence of new private and foreign banks** (Figure V.2). Although the number shares of old private, nationalized, and state banks decreased at the expense of foreign and new private banks (Figure V.2a), their market shares did not adjust as much (Figure V.2b–2d). Measured in terms of the total assets of the banking system, the market share of nationalized banks decreased by 6 percentage points, while new private banks gained a market share of 6 percent.[12] The largest decline in the market share of state and nationalized banks occurred in the market for advances—8 and 4 percentage points, respectively. This market share loss was to the benefit of new private banks (6 percentage points), old private banks (3 percentage points) and foreign banks (3 percentage points). New private banks expanded the most in the deposit market as well, as their market share increased at the expense of nationalized banks.

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[11] Figures not shown, but available upon request.

[12] The asset market shares of state, old private and foreign banks changed by –3, 2 and 1 percentage points, respectively.

Changes in Bank Spreads and Profitability[13]

25. **Several patterns emerge from examining the behavior of bank spreads and profitability**:

- *The net interest margin (Spread1) has declined in recent years.* The negative and significant coefficients of *Year99*, *Year00*, and *Year01* in Table V.2a–c lend support to this observation.

- *The change in Spread4 follows a similar time pattern to the net interest margin (Spread1), although its level is consistently higher than the latter.* As in the case of *Spread1*, the coefficients of the year dummies *Year99*, *Year00*, and *Year01* in Table V.2a–c are negative and statistically significant. However, the mean value of *Spread4* in the sample is almost twice as high as the mean value of the net interest margin, *Spread1*. This difference indicates that spreads on activities related to lending and deposits are much higher than the simple net interest margin.

- *Spread3, however, has not shown a significant decline.* Moreover, the level of *Spread3* is much higher than those of the net interest margin (*Spread1*) and *Spread4* (see Figure V.3). As in the case of *Spread4*, this spread focuses on the loans and the deposits on the balance sheet side, while using the total interest earned and interest expended of the banks. The rationale behind the definition of *Spread3* is to attempt to capture the bank spread that measures the marginal cost of intermediation. *Spread3* has not decreased significantly in recent years, as indicated by the lack of statistical significance of the relevant year dummies in Table V.2a–c. Compared to the net interest margin and *Spread4*, the difference in the evolution of *Spread3* can be explained mainly by the increasing share of bank investments in government securities as a proportion of total assets, occurring at the expense of total loans.

- *The results for Spread2 are almost identical to those for Spread3.* The difference in levels between the two bank spreads is due to the incorporation of income from commissions, fees, and brokerage in *Spread2*. Otherwise, the evolution of *Spread2* over time is fairly similar to the time pattern exhibited by *Spread3*.

- *Bank profitability indicators after provisioning (Profit1) and before provisioning (Profit2) have generally decreased in recent years.* This conclusion is stronger for

[13] The median and mean values of the intermediation cost and profitability measures by bank category are shown in Figure V.3 and Figure V.4. Since the empirical results are not sensitive to the choice of summary variable (median or mean), the discussion in this section focuses on the evolution of median spreads. The statistical significance of the differences in the intermediation cost and profitability across bank types is tested as well (see Annex II for model specifications).

bank profitability after provisioning, as indicated by the negative and statistically significant coefficients of the year dummies *Year99*, *Year00*, and *Year01* in Table V.2a–c.

- *Finally, the bank spreads and profitability indicators of the five bank categories have converged in recent years.* For example, the median values of *Spread1* for all banks are fairly similar in fiscal year 2000/01.[14]

Determinants of Bank Spreads and Profitability[15]

26. **Operating costs, priority sector lending, non-performing loans, investment in government securities, and the composition of deposits are among the determinants of bank spreads and profitability in the Indian banking sector**. The cost ratio, defined as the ratio of operating costs to total assets, is a key explanatory variable for bank spreads in India. Banks with higher administrative costs have significantly higher spreads and lower profitability. High levels of priority sector lending[16] are generally associated with significantly higher bank spreads. Banks with higher levels of non-performing loans have significantly lower profitability. In some specifications, a larger share of investment in government securities (as a proportion of total assets) is linked to higher spreads (see Table V.3a). Finally, banks with a higher share of current deposits (as a proportion of total deposits) have significantly lower bank spreads and higher profitability.[17]

27. **A surprising empirical finding is that the number of branches does not have a significant effect on the profitability of Indian banks, but is positively and significantly related to the net interest margin** (*Spread1*). This robustness of this result is demonstrated by the insignificant coefficient of the variable *Branch* in all four specifications of the model. This coefficient does not become significant even after dropping the market share and operating costs variable from the model specifications in order to avoid possible multicollinearity. However, the number of branches is found to have a positive and significant impact on the net interest margin (*Spread1*). In other words, banks with a more

[14] Before 1995/96, the foreign bank spreads were higher than those of all other types of banks, regardless of the definition used. During this period, the relative ranking of the remaining three categories of banks is not the same across years and variable definitions. Following their entry, the new private banks had lower spreads than the rest of the banking institutions, although this finding is not robust.

[15] The model specification and estimation are described in Annex II.

[16] Defined as the ratio of priority sector lending to total advances.

[17] Other bank-level variables with a significant effect on profitability and interest margins are bank size (market share) and reserve ratios.

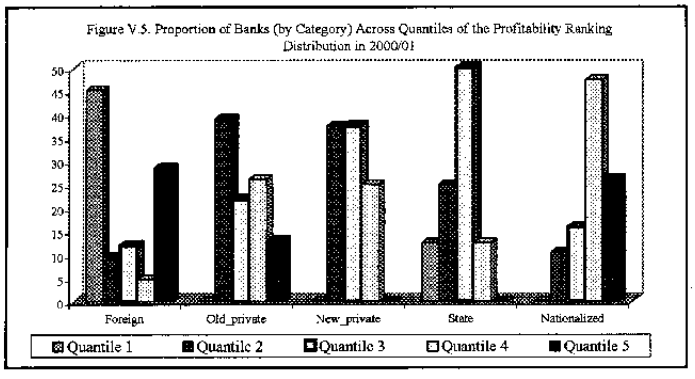
extensive branch network tend to have higher net interest margins (see Table V.3b). One possible explanation for these results could be that banks with large branch networks maintain their profits by charging higher net interest margins in some geographic areas, where there are few other bank branches, i.e., less competition.

Ownership

28. **New private banks have significantly lower bank spreads and higher profitability than old private banks**. For example, the coefficient of the dummy variable *New_private* is negative and significant in Table V.3b. In addition, new private banks have higher profitability than old private banks, both before and after provisioning. However, these results are not robust.

29. **Foreign banks have generally higher bank spreads and higher profitability before provisioning than old private banks**. This result is supported by the significant coefficients of *Foreign* in Table V.2b and Table V.3a–d. Although many foreign banks have high operating expenses,[18] these banks have preserved their higher profitability by maintaining relatively high spreads. This phenomenon could be partly explained if one presumes that foreign banks offer their customers different type of services than domestic banks. Consistent with this explanation is the fact that foreign banks continue to have higher levels of income from other sources (commissions, brokerage fees, exchange transactions, etc.) than domestic banks, although the median ratio of "other income" of these banks has declined in recent years.

30. **Nationalized banks have lower profitability than private and foreign banks**. As demonstrated in last two columns of Tables V.2b and V.2c and Table V.3a–d, the coefficient of the dummy variable *Nationalized* is consistently negative and significant across model specifications, particularly in the equations for profitability after provisioning (*Profit1*). The result can be largely attributed to their high level of operating costs, mainly because of large wage bill expenses. The median employment costs of nationalized banks have persistently exceeded those of other bank categories. A different (non-regression) examination of the data also reveals that nationalized banks perform worse than other types of banks. A ranking of banks by profitability before provisioning (*Profit2*) in 2000/01 indicates that



[18] The median cost ratio for foreign banks in 2000/01 was close to 3 percent, i.e., similar to that of nationalized banks.

most nationalized banks are at the lower end of the profitability distribution. More specifically, 75 percent of all nationalized banks have profitability before provisioning in the lowest two quantiles of the distribution (see Figure V.5).

31. **State banks do not exhibit lower profitability than old private banks**. The coefficient of the variable *State* is insignificant in most of the profitability regressions. Complementary evidence on the relative profitability of state banks is presented in Figure V.5, which indicates that most of the state banks are in the top or middle quantiles of the profitability distribution (before provisioning) in 2000/01.

Entry Deregulation

32. **The entry of new foreign and domestic banks and the concurrent decrease in industry concentration are associated with a significant decline in bank spreads and profitability**. The explanatory variables used to capture this effect are the Herfindahl index (*Herf*), the market shares of domestic and foreign banks (*Dmarket* and *Fmarket*), and the number shares of domestic and foreign banks (*Dnum* and *Fnum*). The positive and significant coefficient of the variable *Herf* in some model specifications (see Table V.3a) suggests that lower industry concentration is linked to lower spreads and profitability. The negative and significant coefficient of the variable *Fnum* in Table V.3b indicates that the entry of these banks could explain part of the decrease in bank spreads. In contrast, the effect of *Dnum* on bank spreads is insignificant. However, the increase in the market share of the new private banks (*Dmarket*) is related to a significant fall in the overall level of bank spreads and profitability (see Table V.3c). An important caveat of these findings is that the contribution of foreign and domestic entry may be overstated, given that the effect of other reforms is not explicitly controlled for in the regression.[19]

F. Conclusion

33. **The main conclusions of this paper can be summarized as follows**:

- Industry concentration, bank spreads and profitability in the banking sector have broadly declined during the period of financial liberalization.

- The ownership type is found to affect some of the performance indicators of the banks in the sample.

[19] For example, the more frequent re-pricing of existing loans relative to (fixed) deposits—in an environment of falling interest rates—has also been cited as a factor behind the decline in net interest spreads (Chaudhuri, 2002).

- The main determinants of bank intermediation costs and profitability in India are operating costs, priority sector lending, non-performing loans, investment in government securities, and the composition of deposits.

- The empirical results also suggest that the increase in competition has lowered the spreads and profitability of Indian banks.

34. **In this environment of increased competition, the successful performance of Indian commercial banks in the future would largely depend on their ability to improve efficiency and react to market forces**. In this context, the transfer of effective control to private shareholders in the case of lagging nationalized banks could help ensure that the necessary incentive structure is introduced in the system swiftly and decisively.

Figure V.1. Herfindahl and M-Concentration Indices

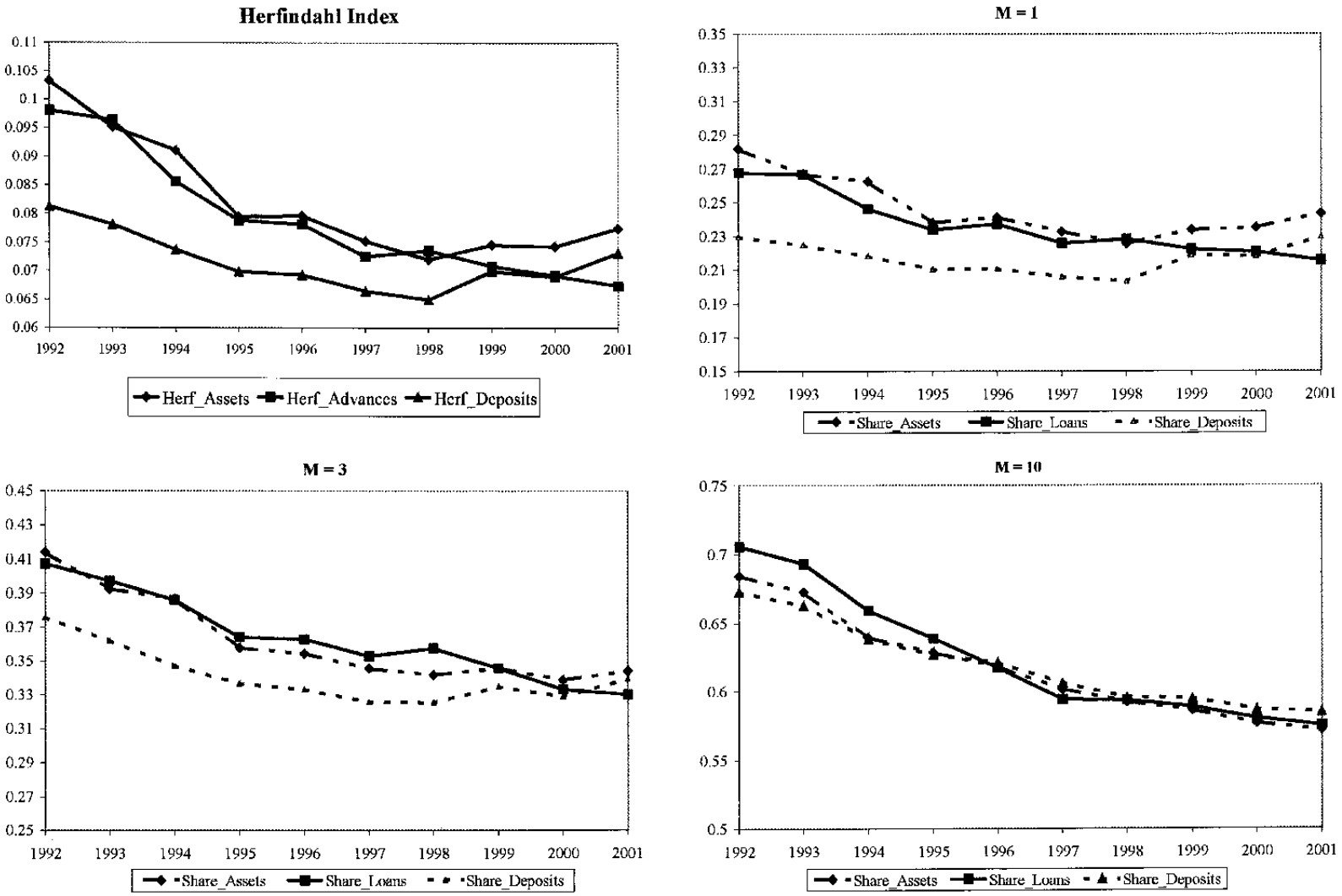


Figure V.2. Number and Market Shares by Bank Category

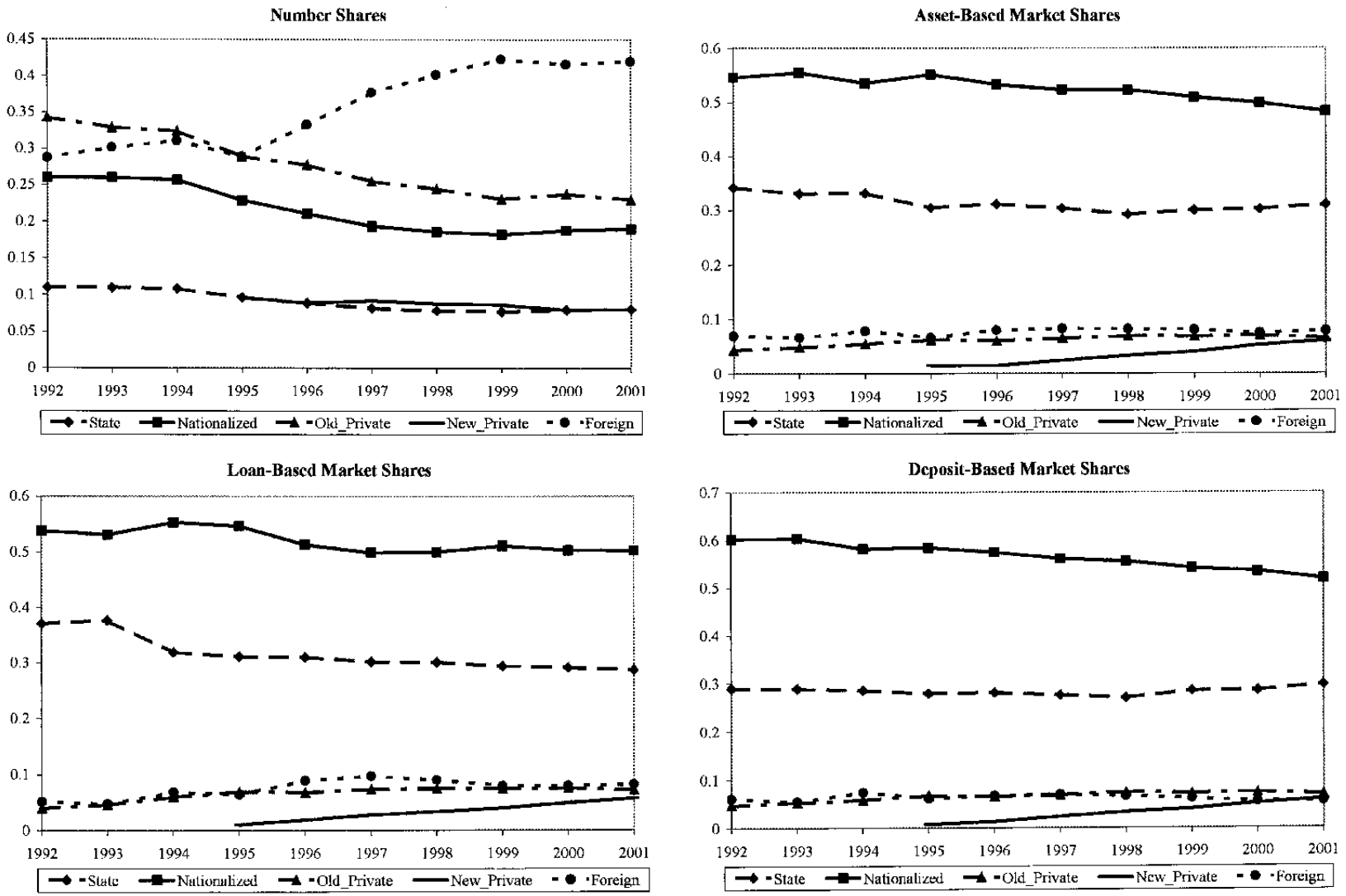


Figure V.3. Median Bank Spread and Profitability Measures

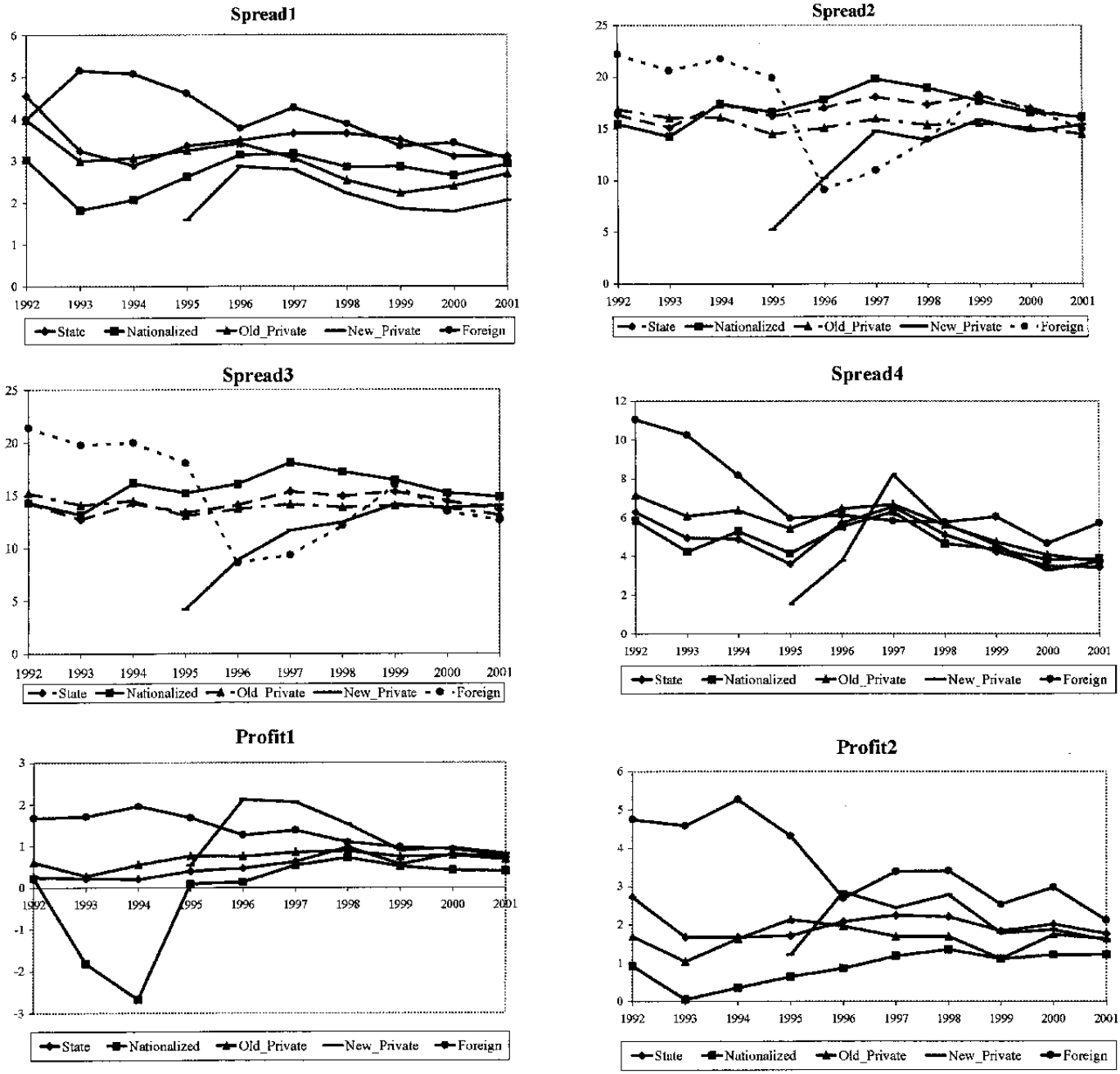


Figure V.4. Mean Bank Spread and Profitability Measures

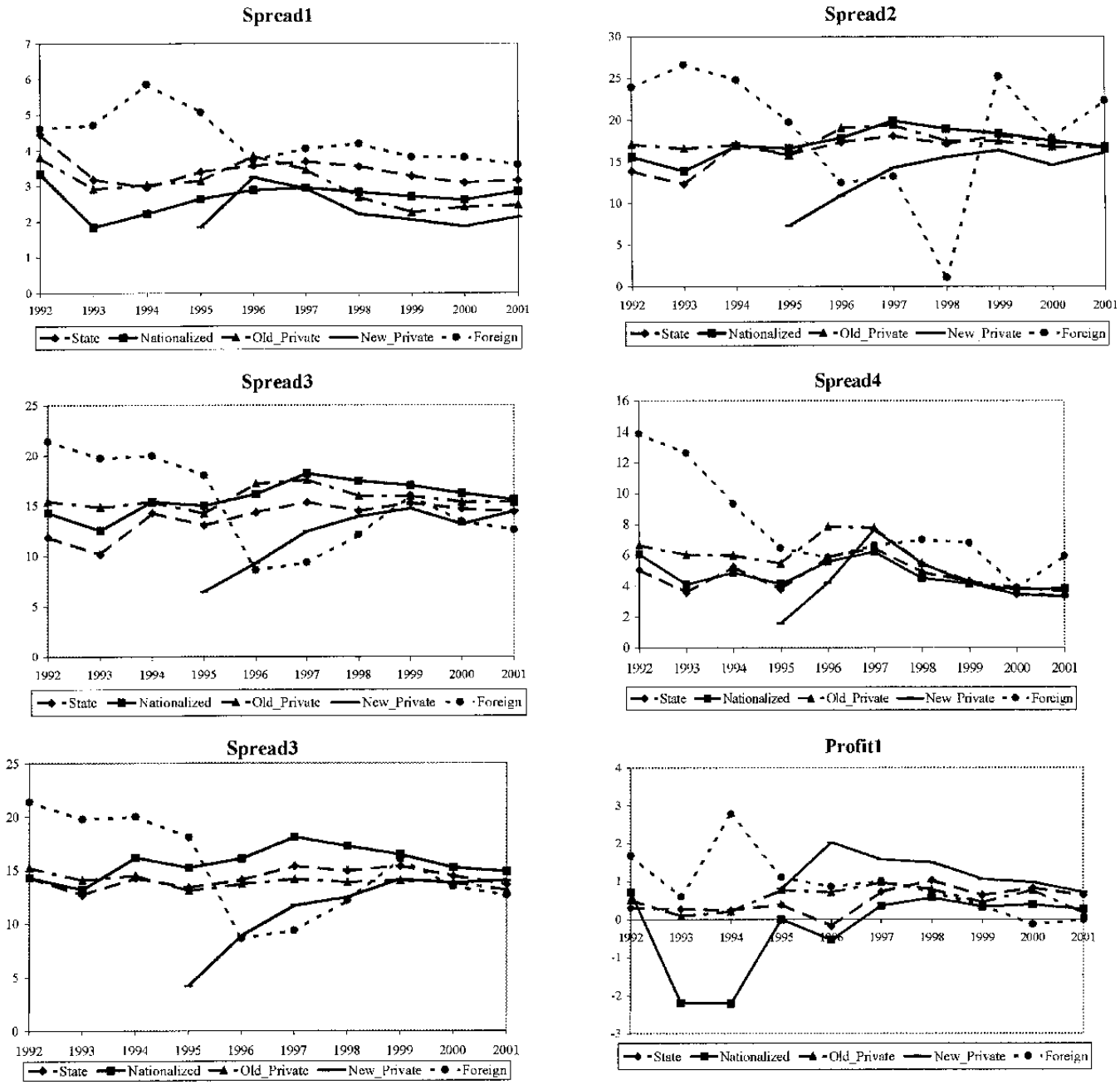


Table V.2a. Panel Regressions with Time Dummies Only[1,2]

	Spread1		*Spread2*		*Spread3*		*Spread4*		*Profit1*		*Profit2*	
	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE
Year92	0.43	0.61	1.68	-0.54	2.29	1.46	1.47	1.44	-0.03	-0.04	0.38	0.55
	(0.24)*	(0.21)***	(1.48)	(4.04)	(1.33)*	(2.44)	(0.75)*	(0.62)**	(0.24)	(0.36)	(0.33)	(0.33)*
Year93	-0.37	-0.20	1.68	-0.56	2.20	1.34	0.25	0.18	-1.25	-1.26	-0.54	-0.39
	(0.25)	(0.21)	(1.90)	(4.04)	(1.74)	(2.44)	(0.79)	(0.62)	(0.45)***	(0.36)***	(0.37)	(0.33)
Year94	0.14	0.26	2.8	0.39	2.68	1.72	-0.27	-0.31	-0.51	-0.54	0.27	0.33
	(0.31)	(0.21)	(1.99)	(3.99)	(1.37)*	(2.41)	(0.570)	(0.614)	(0.34)	(0.36)	(0.40)	(0.33)
Year95	-0.07	0.17	-0.14	-1.73	0.25	0.06	(1.95)	(1.83)	-0.24	-0.28	-0.25	-0.16
	(0.27)	(0.20)	(1.48)	(3.89)	(1.22)	(2.35)	(0.52)***	(0.60)***	(0.31)	(0.34)	(0.41)	(0.32)
Year96	-0.03	0.14	-0.86	-1.73	-1.64	-1.21	-0.73	-0.60	-0.37	-0.37	-0.17	-0.09
	(0.25)	(0.20)	(3.35)	(3.77)	(2.27)	(2.28)	(0.70)	(0.58)	(0.26)	(0.34)	(0.34)	(0.31)
Year98	-0.22	-0.36	-5.47	-5.69	0.39	0.53	-1.09	-0.95	-0.10	-0.13	0.34	0.29
	(0.25)	(0.19)*	(6.19)	(3.65)	(1.31)	(2.21)	(0.56)*	(0.56)*	(0.33)	(0.33)	(0.29)	(0.30)
Year99	-0.50	-0.62	4.09	4.02	3.36	3.92	-1.68	-1.54	-0.44	-0.47	-0.63	-0.66
	(0.24)**	(0.19)***	(2.03)**	(3.65)	(1.66)**	(2.20)*	(0.60)***	(0.56)***	(0.261)*	(0.33)	(0.42)	(0.30)**
Year00	-0.52	-0.60	0.62	0.38	-0.99	-0.61	-3.13	-3.05	-0.56	-0.60	-0.23	-0.25
	(0.22)**	(0.19)***	(2.08)	(3.67)	(2.59)	(2.22)	(0.61)***	(0.57)***	(0.27)**	(0.33)*	(0.30)	(0.30)
Year01	-0.52	-0.60	2.38	5.21	1.64	5.13	-2.34	-2.37	-0.71	-0.75	-0.35	-0.37
	(0.24)**	(0.19)***	(4.77)	(3.68)	(4.50)	(2.22)**	(0.54)***	(0.57)***	(0.34)**	(0.33)**	(0.32)	(0.30)
Constant	3.55	3.52	16.62	17.16	14.14	13.82	6.93	6.88	0.90	0.93	2.29	2.25
	(0.17)***	(0.14)***	(1.07)***	(2.61)***	(0.92)***	(1.57)***	(0.40)***	(0.40)***	(0.14)***	(0.23)***	(0.22)***	(0.22)***
R-squared	0.03	-	0.01	-	0.01	-	0.08	-	0.02	-	0.02	-
No of Obs.	897	897	883	883	882	882	883	883	895	895	897	897

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***), respectively.
2/ The reference categories in the regression are Year97and Old_private.

Table V.2b. Panel Regressions with Time and Category Dummies[1,2]

	Spread1 OLS	*Spread2* OLS	*Spread3* OLS	*Spread4* OLS	*Profit1* OLS	*Profit2* OLS
State	0.43	-0.98	-1.97	-1.11	-0.05	0.41
	(0.10)***	(0.78)	(0.69)***	(0.35)***	(0.11)	(0.09)***
Nationalized	-0.31	-0.14	0.04	-0.99	-0.77	-0.60
	(0.11)***	(0.66)	(0.59)	(0.26)***	(0.14)***	(0.11)***
New_Private	-0.56	-2.91	-2.95	-0.65	0.66	0.68
	(0.15)***	(1.11)***	(0.91)***	(0.39)*	(0.13)***	(0.15)***
Foreign	1.26	0.61	-0.75	1.79	0.20	1.71
	(0.15)***	(2.69)	(1.78)	(0.42)***	(0.22)	(0.22)***
Year92	0.50	1.49	2.01	1.66	0.11	0.63
	(0.23)**	(1.51)	(1.35)	(0.72)**	(0.24)	(0.28)**
Year93	-0.30	1.5	1.92	0.43	-1.12	-0.30
	(0.22)	(1.94)	(1.78)	(0.75)	(0.44)**	(0.32)
Year94	0.18	2.6	2.40	-0.13	-0.39	0.47
	(0.28)	(2.03)	(1.40)*	(0.56)	(0.32)	(0.34)
Year95	0.05	-0.12	0.17	-1.75	-0.20	-0.09
	(0.24)	(1.50)	(1.22)	(0.53)***	(0.31)	(0.39)
Year96	0.03	-0.83	-1.67	-0.62	-0.35	-0.08
	(0.25)	(3.40)	(2.28)	(0.72)	(0.25)	(0.33)
Year98	-0.25	-5.5	0.39	-1.14	-0.11	0.30
	(0.23)	(6.18)	(1.30)	(0.56)**	(0.33)	(0.27)
Year99	-0.56	4.06	3.36	-1.74	-0.45	-0.71
	(0.23)**	(2.02)**	(1.65)**	(0.60)***	(0.26)*	(0.41)*
Year00	-0.57	0.56	-1.00	-3.21	-0.56	-0.29
	(0.21)***	(2.08)	(2.57)	(0.63)***	(0.27)**	(0.29)
Year01	-0.58	2.32	1.63	-2.43	-0.72	-0.42
	(0.23)**	(4.73)	(4.45)	(0.54)***	(0.34)**	(0.31)
Interactions	no	no	no	no	no	no
Constant	3.15	16.77	14.85	6.60	0.92	1.66
	(0.19)***	(1.55)***	(1.23)***	(0.52)***	(0.16)***	(0.22)***
R-squared	0.18	0.01	0.01	0.15	0.04	0.14
No of Obs.	897	883	882	883	895	897

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***), respectively.
2/ The reference categories in the regression are Year97and Old_private.

Table V.2c. Panel Regressions with Time and Category Dummies and Their Interactions[1/2/]

	Spread1	*Spread2*	*Spread3*	*Spread4*	*Profit1*	*Profit2*
	OLS	OLS	OLS	OLS	OLS	OLS
State	0.23	-1.33	-2.22	-1.32	-0.25	0.22
	(0.41)	(2.68)	(2.43)	(1.26)	(0.19)	(0.28)
Nationalized	-0.50	0.47	0.65	-1.56	-0.61	-0.85
	(0.43)	(2.78)	(2.53)	(1.25)	(0.26)**	(0.36)**
New_Private	-0.54	-5.18	-5.11	-0.15	0.60	0.71
	(0.43)	(3.23)	(2.89)*	(1.48)	(0.28)**	(0.42)*
Foreign	0.59	-6.21	-7.86	-1.15	0.04	0.98
	(0.50)	(3.35)*	(2.84)***	(1.39)	(0.37)	(0.57)*
Year92	0.34	-2.33	-2.13	-1.12	-0.45	-0.42
	(0.42)	(2.78)	(2.51)	(1.28)	(0.18)**	(0.35)
Year93	-0.54	-2.87	-2.74	-1.76	-0.88	-1.02
	(0.42)	(2.82)	(2.55)	(1.27)	(0.30)***	(0.35)***
Year94	-0.43	-2.38	-2.20	-1.79	-0.76	-0.56
	(0.42)	(2.84)	(2.58)	(1.27)	(0.28)***	(0.34)
Year95	-0.31	-3.67	-3.36	-2.32	-0.20	-0.25
	(0.42)	(2.82)	(2.57)	(1.26)*	(0.23)	(0.34)
Year96	0.38	-0.4	-0.38	0.06	-0.26	0.12
	(0.60)	(3.97)	(3.64)	(2.10)	(0.29)	(0.38)
Year98	-0.77	-1.99	-1.64	-2.32	-0.18	-0.17
	(0.41)*	(3.02)	(2.79)	(1.26)*	(0.24)	(0.32)
Year99	-1.20	-1.96	-1.60	-3.51	-0.52	-0.83
	(0.41)***	(3.02)	(2.79)	(1.29)***	(0.24)**	(0.32)***
Year00	-1.04	-2.64	-2.22	-3.89	-0.20	-0.24
	(0.41)**	(3.04)	(2.82)	(1.27)***	(0.19)	(0.32)
Year01	-1.00	-2.74	-2.19	-4.11	-0.81	-0.47
	(0.42)**	(3.10)	(2.90)	(1.25)***	(0.40)**	(0.32)
Interactions	yes	yes	yes	yes	yes	yes
Constant	3.45	19.42	17.59	7.78	0.97	2.00
	(0.39)***	(2.67)***	(2.42)***	(1.23)***	(0.15)***	(0.27)***
R-squared	0.24	0.10	0.03	0.23	0.10	0.19
No of Obs.	897	883	882	883	895	897

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***), respectively.
2/ The reference categories in the regression are Year97and Old_private.

Table V.3a. Determinants of Bank Intermediation Cost and Profitability: Specification 1 (*Herf*)[1,2]

	Spread1		*Spread2*		*Spread3*		*Spread4*		*Profit1*		*Profit2*	
	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE
Oexp	0.10	0.10	1.21	0.58	0.88	0.47	0.16	0.26	-0.32	-0.20	-0.69	-0.79
	(0.09)	(0.04)***	(0.92)	(0.39)	(0.68)	(0.34)	(0.23)	(0.10)***	(0.16)**	(0.06)***	(0.16)***	(0.04)***
Resv	0.05	0.05	0.19	-0.07	0.17	-0.13	0.03	-0.02	0.11	0.11	0.10	0.09
	(0.02)***	(0.01)***	(0.33)	(0.14)	(0.28)	(0.12)	(0.04)	(0.04)	(0.02)***	(0.02)***	(0.02)***	(0.01)***
Priority	0.01	0.02	0.00	0.09	0.01	0.08	0.02	0.08	0.00	0.01	0.00	0.03
	(0.01)	(0.00)***	(0.05)	(0.05)*	(0.04)	(0.04)*	(0.02)	(0.01)***	0.00	(0.01)*	(0.01)	(0.01)***
Cdeposit	0.02	0.00	0.48	-0.29	0.16	-0.30	0.05	-0.05	0.03	0.00	0.05	-0.01
	(0.01)	(0.01)	(0.30)	(0.10)***	(0.15)	(0.09)***	(0.02)***	(0.03)*	(0.01)***	(0.02)	(0.01)***	(0.01)
Igovsec	-0.02	0.02	0.75	0.63	0.70	0.69	0.05	0.02	0.01	0.02	0.01	0.01
	(0.02)	(0.01)*	(0.30)**	(0.13)***	(0.25)***	(0.11)***	(0.02)**	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)
Branch	0.06	0.14	-0.02	-0.97	-0.03	-0.65	0.02	0.39	0.03	0.07	0.03	0.04
	(0.02)**	(0.10)	(0.15)	(1.11)	(0.12)	(0.99)	(0.04)	(0.28)	(0.03)	(0.17)	(0.03)	(0.12)
Mshare	-0.23	-0.34	0.03	-0.29	0.15	-0.08	-0.09	-0.31	-0.11	-0.43	-0.14	-0.52
	(0.08)***	(0.17)**	(0.58)	(1.88)	(0.46)	(1.67)	(0.14)	(0.48)	(0.11)	(0.29)	(0.10)	(0.20)**
State	0.40	-	-5.85	-	-5.36	-	-1.64	-	-0.17	-	0.30	-
	(0.20)**	-	(2.46)**	-	(2.02)***	-	(0.63)**	-	(0.15)	-	(0.20)	-
Nationalized	-0.52	-	-2.68	-	-2.33	-	-1.47	-	-0.84	-	-0.69	-
	(0.28)	-	(1.94)	-	(1.72)	-	(0.67)**	-	(0.31)***	-	(0.31)**	-
Old private	-	-	-	-	-	-	-	-				
	-	-	-	-	-	-	-	-				
New private	-0.11	-	-2.16	-	-1.13	-	0.29	-	0.54	-	0.20	-
	(0.27)	-	(2.10)	-	(1.56)	-	(0.53)	-	(0.24)**	-	(0.26)	-
Foreign	0.99	-	-0.08	-	-0.18	-	1.60	-	-0.50	-	1.20	-
	(0.24)***	-	(2.08)	-	(1.87)	-	(0.53)***	-	(0.33)	-	(0.25)***	-
Herf	0.26	0.42	0.39	0.25	0.75	0.65	0.77	0.75	-0.07	0.00	0.14	0.27
	(0.11)**	(0.08)***	(0.98)	(0.89)	(0.76)	(0.79)	(0.32)**	(0.23)***	(0.14)	(0.14)	(0.11)	(0.10)***
dGdp	-0.01	0.02	-0.04	-0.04	-0.09	-0.06	-0.16	-0.22	-0.11	-0.09	-0.06	-0.03
	(0.04)	(0.04)	(0.34)	(0.40)	(0.30)	(0.36)	(0.11)	(0.10)**	(0.05)**	(0.06)	(0.04)	(0.04)
Inflation	0.06	0.06	-0.39	-0.03	-0.32	-0.03	0.27	0.31	0.07	0.07	0.07	0.08
	(0.03)*	(0.03)*	(0.35)	(0.36)	(0.33)	(0.32)	(0.11)**	(0.09)***	(0.04)*	(0.05)	(0.03)**	(0.04)**
Constant	0.14	-2.35	-8.41	9.63	-7.49	1.80	-4.64	-5.58	1.11	-0.26	0.93	0.95
	(1.31)	(1.15)**	(9.03)	(12.54)	(6.79)	(11.13)	(3.22)	(3.20)*	(1.30)	(1.91)	(1.24)	(1.35)
R-squared	840	840	840	840	840	840	840	840	840	840	840	840
No of Obs.	0.27	-	0.18	-	0.11	-	0.18	-	0.18	-	0.52	-

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***0, respectively.

2/ The reference categories in the regression are Year97and Old_private.

Table V.3b. Determinants of Bank Intermediation Cost and Profitability: Specification 2 (*Fnum* and *Dnum*)[1,2]

	Spread1		*Spread2*		*Spread3*		*Spread4*		*Profit1*		*Profit2*	
	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE
Oexp	0.11	0.10	1.21	0.58	0.89	0.46	0.16	0.25	-0.32	-0.20	-0.69	-0.79
	(0.09)	(0.03)***	(0.93)	(0.39)	(0.68)	(0.34)	(0.23)	(0.10)**	(0.16)**	(0.06)***	(0.16)***	(0.04)***
Resv	0.05	0.05	0.19	-0.08	0.17	-0.14	0.03	-0.03	0.11	0.11	0.10	0.09
	(0.02)***	(0.01)***	(0.33)	(0.14)	(0.28)	(0.12)	(0.04)	(0.04)	(0.02)***	(0.02)***	(0.02)***	(0.01)***
Priority	0.01	0.02	0.00	0.09	0.01	0.08	0.02	0.07	0.00	0.01	0.00	0.02
	(0.01)	(0.00)***	(0.05)	(0.05)*	(0.04)	(0.04)*	(0.02)	(0.01)***	0.00	(0.01)*	(0.01)	(0.01)***
Cdeposit	0.02	0.00	0.48	-0.28	0.16	-0.30	0.05	-0.05	0.03	-0.01	0.05	-0.02
	(0.01)	(0.01)	(0.30)	(0.10)***	(0.15)	(0.09)***	(0.02)***	(0.03)*	(0.01)***	(0.02)	(0.01)***	(0.01)
Igovsec	-0.02	0.03	0.74	0.62	0.69	0.68	0.05	0.01	0.01	0.04	0.01	0.02
	(0.02)	(0.01)**	(0.30)**	(0.13)***	(0.25)***	(0.11)***	(0.02)*	(0.03)	(0.01)	(0.02)**	(0.02)	(0.01)
Branch	0.06	0.19	-0.02	-1.04	-0.03	-0.72	0.02	0.32	0.03	0.13	0.03	0.08
	(0.02)***	(0.10)*	(0.15)	(1.11)	(0.12)	(0.99)	(0.04)	(0.28)	(0.03)	(0.17)	(0.03)	(0.12)
Mshare	-0.24	-0.34	0.02	-0.3	0.14	-0.08	-0.08	-0.31	-0.12	-0.39	-0.15	-0.51
	(0.08)***	(0.17)**	(0.59)	(1.88)	(0.47)	(1.67)	(0.14)	(0.48)	(0.11)	(0.28)	(0.10)	(0.20)**
State	0.39	-	-5.82	-	-5.33	-	-1.62	-	-0.20	-	0.29	-
	(0.20)*	-	(2.47)**	-	(2.03)**	-	(0.63)**	-	(0.15)	-	(0.20)	-
Nationalized	-0.54	-	-2.67	-	-2.31	-	-1.44	-	-0.88	-	-0.71	-
	(0.28)*	-	(1.94)	-	(1.72)	-	(0.66)**	-	(0.32)***	-	(0.31)**	-
New_private	-0.04	-	-2.10	-	-1.09	-	0.26	-	0.58	-	0.25	-
	(0.27)	-	(2.07)	-	(1.56)	-	(0.53)	-	(0.25)**	-	(0.27)	-
Foreign	1.02	-	-0.11	-	-0.20	-	1.59	-	-0.45	-	1.23	-
	(0.24)***	-	(2.08)	-	(1.87)	-	(0.53)***	-	(0.32)	-	(0.25)***	-
Fnum	-0.08	-0.11	0.01	0.01	-0.06	-0.07	-0.10	-0.09	-0.07	-0.09	-0.06	-0.09
	(0.02)***	(0.01)***	(0.12)	(0.16)	(0.08)	(0.14)	(0.04)**	(0.04)**	(0.02)***	(0.02)***	(0.02)***	(0.02)***
Dnum	0.03	0.03	-0.16	-0.04	-0.14	-0.01	-0.01	0.00	0.13	0.13	0.04	0.05
	(0.02)	(0.02)	(0.16)	(0.22)	(0.15)	(0.19)	(0.06)	(0.06)	(0.03)***	(0.03)***	(0.02)*	(0.02)**
dGdp	-0.06	-0.07	0.06	-0.07	-0.10	-0.19	-0.31	-0.39	-0.20	-0.20	-0.11	-0.12
	(0.04)	(0.04)**	(0.39)	(0.40)	(0.31)	(0.36)	(0.10)***	(0.10)***	(0.05)***	(0.06)***	(0.05)**	(0.04)***
Inflation	0.00	0.01	-0.38	0.02	-0.31	0.00	0.29	0.34	0.01	0.01	0.03	0.04
	(0.03)	(0.03)	(0.36)	(0.37)	(0.32)	(0.33)	(0.11)**	(0.09)***	(0.05)	(0.06)	(0.04)	(0.04)
Constant	5.42	5.18	-5.01	12.01	1.49	10.69	5.91	5.10	3.20	2.51	4.52	6.36
	(0.80)***	(0.85)***	(9.48)	(9.50)	(6.98)	(8.43)	(2.24)***	(2.43)**	(0.75)***	(1.43)*	(0.91)***	(1.01)***
R-squared	840	840	840	840	840	840	840	840	840	840	840	840
No of Obs.	0.28	-	0.18	-	0.11	-	0.17	-	0.20	-	0.53	-

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***), respectively.

2/ The reference categories in the regression are Year97and Old_private.

Table V.3c. Determinants of Bank Intermediation Cost and Profitability: Specification 3 (*Fmarket* and *Dmarket*)[1,2]

	Spread1		*Spread2*		*Spread3*		*Spread4*		*Profit1*		*Profit2*	
	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE
Oexp	0.10	0.10	1.20	0.58	0.88	0.46	0.16	0.26	-0.32	-0.19	-0.69	-0.79
	(0.09)	(0.03)***	(0.93)	(0.39)	(0.69)	(0.34)	(0.23)	(0.10)***	(0.16)**	(0.06)***	(0.16)***	(0.04)***
Resv	0.05	0.05	0.19	-0.08	0.17	-0.14	0.03	-0.03	0.12	0.11	0.10	0.09
	(0.02)***	(0.01)***	(0.33)	(0.14)	(0.28)	(0.12)	(0.04)	(0.03)	(0.02)***	(0.02)***	(0.02)***	(0.01)***
Priority	0.01	0.02	0.00	0.09	0.01	0.08	0.02	0.07	0.00	0.01	0.00	0.02
	(0.01)	(0.00)***	(0.05)	(0.05)*	(0.04)	(0.04)*	(0.02)	(0.01)***	0.00	(0.01)*	(0.01)	(0.01)***
Cdeposit	0.02	0.00	0.48	-0.28	0.16	-0.30	0.05	-0.05	0.03	0.00	0.05	-0.02
	(0.01)	(0.01)	(0.30)	(0.10)***	(0.15)	(0.09)***	(0.02)***	(0.03)*	(0.01)***	(0.02)	(0.01)***	(0.01)
Igovsec	-0.02	0.03	0.75	0.63	0.69	0.68	0.05	0.03	0.01	0.03	0.01	0.02
	(0.02)	(0.01)**	(0.30)**	(0.13)***	(0.24)***	(0.11)***	(0.03)**	(0.03)	(0.01)	(0.02)*	(0.02)	(0.01)
Branch	0.06	0.19	-0.03	-1.05	-0.03	-0.68	0.02	0.42	0.03	0.16	0.03	0.09
	(0.02)***	(0.10)*	(0.14)	(1.12)	(0.12)	(0.99)	(0.04)	(0.28)	(0.03)	(0.17)	(0.03)	(0.12)
Mshare	-0.24	-0.33	0.05	-0.27	0.16	-0.07	-0.08	-0.24	-0.13	-0.41	-0.14	-0.5
	(0.08)***	(0.17)*	(0.57)	(1.88)	(0.46)	(1.67)	(0.13)	(0.48)	(0.11)	(0.29)	(0.10)	(0.20)**
State	0.40	-	-5.83	-	-5.34	-	-1.64	-	-0.18	-	0.30	-
	(0.20)*	-	(2.46)**	-	(2.02)***	-	(0.63)**	-	(0.15)	-	(0.20)	-
Nationalized	-0.53	-	-2.63	-	-2.30	-	-1.46	-	-0.88	-	-0.70	-
	(0.28)*	-	(1.92)	-	(1.71)	-	(0.66)**	-	(0.32)***	-	(0.31)**	-
New_private	-0.08	-	-2.26	-	-1.14	-	0.20	-	0.60	-	0.22	-
	(0.27)	-	(2.18)	-	(1.57)	-	(0.51)	-	(0.24)**	-	(0.26)	-
Foreign	1.01	-	-0.11	-	-0.19	-	1.63	-	-0.47	-	1.22	-
	(0.24)***	-	(2.07)	-	(1.85)	-	(0.53)***	-	(0.32)	-	(0.25)***	-
Fmarket	-0.03	-0.09	-0.08	0.13	-0.54	-0.26	0.43	0.38	0.15	0.10	0.07	-0.01
	(0.09)	(0.09)	(0.93)	(0.96)	(0.68)	(0.86)	(0.25)*	(0.24)	(0.15)	(0.15)	(0.10)	(0.10)
Dmarket	-0.17	-0.25	-0.06	-0.06	-0.14	-0.19	-0.55	-0.54	-0.11	-0.16	-0.14	-0.20
	(0.05)***	(0.04)***	(0.42)	(0.45)	(0.39)	(0.40)	(0.13)***	(0.11)***	(0.05)**	(0.07)**	(0.05)***	(0.05)***
dGdp	-0.02	-0.01	-0.14	-0.10	-0.26	-0.18	-0.19	-0.25	-0.04	-0.03	-0.05	-0.04
	(0.03)	(0.03)	(0.35)	(0.35)	(0.31)	(0.31)	(0.10)*	(0.09)***	(0.04)	(0.05)	(0.04)	(0.04)
Inflation	-0.01	-0.03	-0.33	-0.01	-0.25	-0.02	0.05	0.10	-0.03	-0.04	0.00	0.00
	(0.03)	(0.04)	(0.32)	(0.43)	(0.30)	(0.38)	(0.12)	(0.11)	(0.04)	(0.07)	(0.03)	(0.05)
Constant	3.38	2.65	-4.39	11.55	3.33	10.34	1.37	0.18	0.10	-0.86	2.37	3.93
	(0.97)***	(0.91)***	(12.25)	(10.09)	(8.98)	(8.96)	(3.13)	(2.55)	(1.18)	(1.53)	(1.14)**	(1.08)***
R-squared	840	840	840	840	840	840	840	840	840	840	840	840
No of Obs.	0.28	-	0.18	-	0.11	-	0.19	-	0.19	-	0.53	-

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***), respectively.

2/ The reference categories in the regression are Year97and Old_private.

Table V.3d. Determinants of Bank Intermediation Cost and Profitability: Specification 4 (*Npl*)[1,2]

	Spread1		*Spread2*		*Spread3*		*Spread4*		*Profit1*		*Profit2*	
	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE	OLS	FE
Oexp	0.15	0.06	1.22	0.06	0.85	-0.14	0.17	0.24	-0.17	-0.01	-0.65	-0.86
	(0.08)*	(0.03)**	(0.92)	(0.46)	(0.65)	(0.45)	(0.15)	(0.10)**	(0.13)	(0.06)	(0.16)***	(0.04)***
Resv	0.03	0.04	0.40	0.05	0.30	0.02	-0.01	0.05	0.08	0.13	0.08	0.10
	(0.02)*	(0.01)***	(0.35)	(0.17)	(0.33)	(0.16)	(0.05)	(0.04)	(0.02)***	(0.02)***	(0.02)***	(0.01)***
Priority	0.01	0.02	0.02	0.13	0.05	0.11	0.03	0.11	0.01	0.02	0.01	0.04
	(0.01)	(0.00)***	(0.06)	(0.08)*	(0.05)	(0.07)	(0.03)	(0.02)***	(0.00)***	(0.01)**	(0.01)	(0.01)***
Npl	-0.04	-0.03	-0.13	-0.09	-0.12	-0.11	-0.05	-0.05	-0.12	-0.16	-0.06	-0.04
	(0.01)***	(0.01)***	(0.11)	(0.11)	(0.10)	(0.10)	(0.02)**	(0.02)**	(0.03)***	(0.01)***	(0.01)***	(0.01)***
Cdeposit	0.01	-0.01	0.34	-0.33	0.08	-0.34	0.05	-0.12	0.02	0.01	0.05	-0.03
	(0.02)	(0.01)	(0.25)	(0.13)**	(0.16)	(0.13)***	(0.02)***	(0.03)***	(0.01)**	(0.02)	(0.01)***	(0.01)**
Igovsec	-0.04	0.00	0.79	0.45	0.73	0.54	0.03	0.04	0.00	0.01	0.00	0.01
	(0.02)**	(0.01)	(0.42)*	(0.22)**	(0.35)**	(0.22)**	(0.03)	(0.05)	(0.01)	(0.03)	(0.03)	(0.02)
Branch	0.07	-0.09	0.22	-6.26	0.17	-5.61	0.09	-0.80	0.05	-0.57	0.06	-0.13
	(0.02)***	(0.21)	(0.27)	(3.178)*	(0.24)	(3.11)*	(0.053)*	(0.72)	(0.02)***	(0.42)	(0.02)**	(0.26)
Mshare	-0.28	-0.71	-0.87	1.45	-0.59	1.31	-0.35	-0.55	-0.21	0.3	-0.26	-1.27
	(0.07)***	(0.36)**	(1.05)	(5.45)	(0.92)	(5.33)	(0.19)*	(1.24)	(0.07)***	(0.72)	(0.09)***	(0.44)***
State	0.83	-	-7.03	-	-6.37	-	-1.18	-	0.20	-	0.45	-
	(0.23)***	-	(3.37)**	-	(2.97)**	-	(0.58)**	-	(0.18)	-	(0.27)	-
Nationalized	0.05	-	-4.10	-	-3.42	-	-1.24	-	-0.08	-	-0.42	-
	(0.25)	-	(3.17)	-	(2.85)	-	(0.74)*	-	(0.17)	-	(0.29)	-
New_private	-0.25	-	-2.37	-	-1.20	-	-0.03	-	-0.33	-	-0.15	-
	(0.25)	-	(2.23)	-	(1.91)	-	(0.52)	-	(0.24)	-	(0.26)	-
Foreign	0.80	-	-1.29	-	-0.93	-	0.97	-	-0.75	-	1.01	-
	(0.25)***	-	(3.72)	-	(3.35)	-	(0.57)*	-	(0.26)***	-	(0.28)***	-
Herf	-0.03	0.25	1.19	-4.67	1.32	-3.76	1.73	1.81	0.34	-0.08	0.30	0.47
	(0.28)	(0.29)	(4.30)	(4.47)	(3.80)	(4.37)	(1.12)	(1.02)*	(0.70)	(0.59)	(0.28)	(0.36)
dGdp	0.07	0.09	-0.84	-0.71	-0.77	-0.70	-0.01	-0.01	-0.09	-0.04	0.03	0.05
	(0.05)	(0.04)**	(0.52)	(0.60)	(0.49)	(0.59)	(0.13)	(0.14)	(0.06)	(0.08)	(0.07)	(0.05)
Inflation	0.10	0.10	-1.08	-0.20	-0.80	-0.16	0.27	0.36	0.03	0.05	0.07	0.12
	(0.03)***	(0.04)**	(0.45)**	(0.59)	(0.43)*	(0.58)	(0.20)	(0.13)***	(0.06)	(0.08)	(0.04)*	(0.05)**
Constant	2.13	0.83	-3.56	79.82	-3.81	67.60	-11.20	-7.64	-0.34	3.92	0.02	1.05
	(2.23)	(2.54)	(30.19)	(38.81)**	(24.61)	(37.94)*	(7.44)	(8.84)	(4.63)	(5.11)	(1.97)	(3.15)
R-squared	468	468	468	468	468	468	468	468	468	468	468	468
No of Obs.	0.37	-	0.18	-	0.12	-	0.18	-	0.46	-	0.65	-

1/ The significance levels of 1 percent, 5 percent and 10 percent are denoted by (*), (**) and (***), respectively.
2/ The reference categories in the regression are Year97and Old_private.

FINANCIAL LIBERALIZATION REFORMS, 1991/92–2000/01

Areas of Reform	Initiatives	Dates	Chronology of Reforms
Interest rate deregulation	Deregulation of rupee-denominated deposit rates	1992	First steps toward deposit rate liberalization, with the partial deregulation of rupee-denominated term deposit rates. The initial reform measure involved the substitution of the single interest rate for each term deposit category with a ceiling, below which banks were free to fix their rates.
		1995–1996	The Reserve Bank of India (RBI) gradually eliminated the ceilings on both domestic and Non-Resident External (NRE) rupee deposits with maturities over one year.
		1997	Banks were allowed to determine interest rates on their domestic term deposits of 30 days and above. The interest rates on NRE deposits with maturities over 6 months were deregulated.
		1998	The minimum lock-in period for term deposits was reduced from 30 days to 15 days. In addition, banks were permitted to offer differential interest rates on domestic term deposits above Rs. 1.5 million and to determine their own penalties for early withdrawal of domestic and NRE deposits and loans against fixed deposits.
		2000	The restrictions that prevented banks from charging differential rates on NRE deposits (depending on the deposit size) were relaxed.
	Deregulation of foreign-currency denominated deposit rates	1993	The Foreign Currency (Non-Resident) Deposit Scheme from the pre-reform period was replaced by a new scheme. Initially, interest rates under the new scheme were stipulated by the RBI. In contrast to the old scheme, however, the exchange rate risk was now shifted from the RBI to the commercial banks.
		1997	Banks were allowed to set interest rates on their Foreign Currency Non-Resident (Bank) [FCNR (B)] deposits, subject to a ceiling imposed by the RBI. Later during the same year, the ceiling rates for certain FCNR (B) deposits were linked to LIBOR, i.e. the floating rate deposits and the deposits with maturity over six months but less than one year. The interest rate for FCNR(B) deposits with maturity over one year was stipulated to be within the ceiling of swap rates for the corresponding currency/maturity configuration.
		1998	As in the case of rupee-denominated deposits, banks were allowed to establish their own penalties for early withdrawal of FCNR(B) deposits.

FINANCIAL LIBERALIZATION REFORMS, 1991/92–2000/01 (CONTINUED)

Areas of Reform	Initiatives	Dates	Chronology of Reforms
		2000	Differential rates on FCNR(B) deposits, depending on deposit size and subject to the overall ceiling rate, were introduced. During the same year, banks were given the option to choose their current swap rates, while offering FCNR(B) deposits.
	Deregulation of lending rates	1992–1994	The number of lending categories was reduced from six to three.
		1998	The lending structure was rationalized further, when another category was eliminated.
		1998	The interest rates on loans against term deposits were liberalized, starting with the April 1998 stipulation that the interest rate on loans against domestic and NRE term deposits not exceed the bank-specific PLR.
		1999	Banks were given the freedom to charge their own interest rates on advances against domestic/NRE deposits without reference to the PLR ceiling if certain deposit rate conditions were satisfied. Since October 1999, the interest rates on loans against domestic/NRE/FCNR(B) term deposits could be determined without any reference to PLR.
		2000	The restrictions on interest rates on advances up to Rs.200,000 against third party deposits were removed.
	Deregulation of Prime Lending Rate (PLR) restrictions	1994	The easing of lending rate restrictions began in October 1994, when banks were permitted to establish their own Prime Lending Rate (PLR) for advances over Rs.200, 000.
		1997	The rules were relaxed further in October 1997, and banks were allowed to charge separate Prime Term Lending Rates (PTLR) for term loans with at least 3-year maturity.
		1998	The bank-specific PLR became the ceiling for loans below Rs.200,000. At the same time, each bank had to announce its PLR, as well as the maximum spread charged over it.
		1999	The scheduled commercial banks were given the freedom to offer fixed rate term loans, as long as they adhered to the guidelines of Asset Liability Management (ALM) system. Since April 1999, different PLRs could be used for loans with different maturities. During the same year, banks were allowed to charge interest rates without reference to PLR for: i) loans covered by refinancing schemes of term lending institutions; ii) loans to intermediary agencies; iii) discount of bills.

FINANCIAL LIBERALIZATION REFORMS, 1991/92–2000/01 (CONTINUED)

Areas of Reform	Initiatives	Dates	Chronology of Reforms
		2000	Another step toward lending rate liberalization was taken in April 2000, when banks were permitted to offer all loans on fixed or floating rate basis, subject to PLR stipulations.
Reduction in reserve requirements	Reduction in Cash Reserve Ratio (CRR)	1992–1993	The incremental CRR of 10 percent was eliminated.
		1992–2001	The average CRR fall from 15 percent to 5.5 percent.
		2000	The minimum daily requirement of CRR balances was lowered from 85 percent to 65 percent.
		2001	The minimum daily requirement of CRR balances was reduced from 65 percent to 50 percent.
	Reduction in Statutory Liquidity Ratio (SLR)	1992–1994	The SLR on incremental deposits was cut down, and the base date used in the SLR computation was pushed forward several times. The base level SLR was decreased to 33.8 percent. In addition, the statutory liquidity requirement for any increase in NDTL above their level as of September 30, 1994 was stipulated to be 25 percent.
		1997	A uniform SLR requirement of 25 percent came into effect.
Entry deregulation	Competition	1993	The rules for establishing new private sector banks were introduced, with the publication of the RBI guidelines on this issue. The main provisions of the new regulations stipulated that the new private banks should have: i) a minimum capital requirement of Rs.100 million; ii) a limited foreign bank participation of up to 20 percent, with a maximum overall non-resident participation of 40 percent; iii) public listing; iv) computerized environment.
		1994–1996	Nine new private banks (Bank of Punjub Ltd, Centurion Bank Ltd, Global Trust Bank, HDFC Bank, ICICI Bank, IDBI Bank, IndusInd Bank Ltd, UTI Bank Ltd, and Times Bank Ltd) were founded between 1994 and 1996.

FINANCIAL LIBERALIZATION REFORMS, 1991/92–2000/01 (CONTINUED)

Areas of Reform	Initiatives	Dates	Chronology of Reforms
	Ownership	2001	The guidelines for licensing new private sector banks were revised in January 2001. The minimum capital requirement was raised and the private bank ownership of large industrial houses was restricted.
		1990–2001	New foreign banks entered the market and existing foreign banks were allowed to open additional branches. In the period from 1990 to 2001, the number of foreign banks increased from 21 to 42. During the past ten years, foreign banks acquired 51 additional offices, bringing up the total number of their branches from 151 in 1992 to 202 in 2001.
		1993	The State Bank of India (SBI) Act was amended, and the SBI became the first public bank to raise capital from the public in December 1993.
		1994	Nationalized banks were allowed to raise up to 40 percent of their capital from the market in 1994.
		1994–2001	Eleven public sector banks accessed the market.
Credit policies	Credit controls	1992–2001	The focus of reform efforts has been on: i) giving banks more freedom to set the credit requirements for their borrowers; ii) relaxing the conditions for consortium lending; iii) withdrawing the regulations on Maximum Permissible Bank Finance (MPBF) and allowing banks to use their own methods in order to assess working capital requirements; iv) allowing banks to use their discretion in levying commitment charges; v) deciding on the level of inventory and receivable holdings of different industries.
	Priority sector lending	1992–2001	The definition of priority sector has been expanded to include: i) bank investments in designated bonds (NABARD, SIDBI, NHB, for example) and contributions to the Rural Infrastructure Development Fund; ii) irrigation, agricultural machinery, food and agro-based processing, and traditional plantation loans; iii) advances to the housing, retail trade, software, transport operator industries, subject to various loan-size restrictions; iv) venture capital; v) micro-credit to individuals, extended directly or through intermediaries; vi) credit to NDFCs for small road, water transport operator, and tiny sector lending.

FINANCIAL LIBERALIZATION REFORMS, 1991/92–2000/01 (CONTINUED)

Areas of Reform	Initiatives	Dates	Chronology of Reforms
		1992–2001	At the beginning of the reform period, the overall target for Indian banks was 40 percent of net bank credit, with sub-targets of 18 percent for agriculture and 10 percent for weaker sections. In early 1992, the priority sector lending requirements for foreign banks included an export credit target of 15 percent. During the same year, the foreign bank target was revised to 32 percent, with sub-targets for export credit (10 percent) and small scale industry credit (10 percent). In 1993, indirect loans in the amount of 4.5 percent of net bank credit were allowed as part of agricultural target of 18 percent. The export credit target was revised to 12 percent in 1996. Currently, the overall priority sector lending targets for domestic and foreign banks remain 40 percent (18 percent for agriculture and 10 percent for weaker sections) and 32 percent (12 percent for export credit and 10 percent for SSI), respectively.

VARIABLE DEFINITIONS, MODEL SPECIFICATION AND ESTIMATION

A. Variable Definitions

The four measures of intermediation costs and two profitability measures are presented in Equation (1) – Equation (6) below. Note that these variables are constructed using balance sheet data and the earnings and expenses information.

$$Spread1 \equiv \frac{(IntEarned - IntExpended)}{Assets} * 100 \quad (1)$$

$$Spread2 \equiv \left(\frac{(IntEarned + Commissions)}{Loans} - \frac{IntExpended}{Deposits} \right) * 100 \quad (2)$$

$$Spread3 \equiv \left(\frac{IntEarned}{Loans} - \frac{IntExpended}{Deposits} \right) * 100 \quad (3)$$

$$Spread4 \equiv \left(\frac{IntEarned\ on\ Loans\ Only}{Loans} - \frac{IntExpended\ on\ Deposits\ Only}{Deposits} \right) * 100 \quad (4)$$

$$Profit1 \equiv \frac{(IntEarned + OtherIncome - IntExpended - OperExpend - Prov)}{Assets} * 100 \quad (5)$$

$$Profit2 \equiv \frac{(IntEarned + OtherIncome - IntExpended - OperExpend)}{Assets} * 100 \quad (6)$$

Therefore, the bank spread and profitability variables are related as follows:

$$Profit2 = Spread1 + (OtherIncome - OperExpend)/Assets * 100 \quad (7)$$

$$Profit1 = Profit2 - Prov/Assets * 100 \quad (8)$$

$$Spread3 = Spread4 + (InvInc + IntEarned\ on\ RBIBalances + Others)/Loans * 100 - - (IntExpended\ on\ RBI\ Borrowings + Others)/Deposits * 100 \quad (9)$$

$$Spread2 = Spread3 + Commissions/Loans * 100 \quad (10)$$

The bank spread—the difference between the charge to borrowers and the payment to depositors—is a standard measure of the cost of financial intermediation in the literature. However, the computation of the spread is complicated by several factors. First, lending and

deposit rates typically differ across different categories of customers and products. Second, banks may follow different rules in setting the interest rates on loans and deposits, depending on their specialization, degree of risk aversion, ownership, etc. Third, commissions and fees are often ignored in the calculation of bank spreads, although they could increase substantially the costs of borrowing and lending (Brock and Suarez, 2000). Fourth, most banks do not report the entire spectrum of their paid and charged interest rates.

The empirical analysis uses four measures of bank spreads. The net interest margin is computed in Equation (1) and denoted by *Spread*1. However, the net interest margin may not accurately represent the marginal costs and benefits of borrowing and lending, especially in cases where banks hold a significant amount of reserves and government bonds. The remaining three bank spread measures (*Spread*2—*Spread*4) have narrower definitions than the net interest margin (*Spread*1).

B. Model Specification

The variations in bank spreads and profitability are analyzed using three model specifications. Each dependent variable is regressed on: i) time dummies only; ii) time dummies and bank category dummies; and iii) time dummies, category dummies, and their interactions.

The determinants of bank spreads and profitability are also examined in a regression framework. In particular, the measures of bank spreads and profitability are regressed on three types of explanatory variables (bank, industry and aggregate). The *bank-specific* regressors are: operating cost and reserve ratios, priority sector and nonperforming loan ratios, current deposits as a share of total deposits, investment in government securities as a share of total assets, market share, number of branches, and bank type. The *industry-level* regressors include the Herfindahl index and the number and market shares of different types of banks. The *aggregate* regressors are inflation and GDP growth. Four different model specifications are estimated, corresponding to the use of three measures of the change in industry concentration and the inclusion of the nonperforming loan ratio in the regression. This approach is prompted by the multicollinearity among the different measures of industry concentration and the fact that the sample size drops substantially when the nonperforming loan ratio is included in the regression.

C. Estimation

Three different estimators—ordinary least squares (OLS), fixed effects (FE) and random effects (RE)—are used in the regressions. Note that the fixed effects estimator does not allow the identification of time-invariant coefficients, such as bank category. Although all combinations of specification/estimator/dependent variable were estimated for completeness, the discussion focuses on the most robust empirical findings. The estimates of the RE coefficients are not reported, as the random effects specification was rejected in favor of fixed effects in all but one equation.

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VI. Resolving Non-Performing Assets of the Indian Banking System—The Role of Asset Reconstruction Companies[1]

A. Introduction

1. **Credit quality is low in the public sector banks (PSBs) and Development Finance Institutions (DFIs), the dominant sub-sectors of the Indian banking system**. The high incidence of non-performing assets (NPAs) was the result of many factors, including poor credit analysis skills and lending decisions, external shocks (e.g., unexpected slowdown in economic activities), and shortcomings in the legal and judicial system that prevent the timely exercise of creditor rights. Resolving the large stock of NPAs has been a policy priority since the start of economic reforms in the early 1990s. However, progress has been limited. Recently, the authorities have been actively pursuing the proposal of establishing an asset reconstruction company (ARC) as a major instrument for facilitating the resolution of NPAs.[2]

2. **International experience suggests that there are common factors that contribute to the success of asset management companies (AMCs)**. These include supporting legal and regulatory environment; strong leadership; operational independence; appropriately structured incentives; and commercial orientation. There are, however, alternative strategies for managing and disposing of impaired assets, depending on factors such as the type of asset, size and distribution, the structure of the banking system, and available management capacity in the banks and in the public sector. There is no single optimal solution but rather a combination of solutions for each country that may vary over time and for each bank.

3. **This paper reviews the nature of NPAs in the Indian banking system and discusses the key design features that would be important for the ARCs to play an effective role in resolving NPAs**. The analysis draws upon recent regional and cross-country experiences in dealing with impaired assets during periods of financial crises. The main conclusions are:

- An ARC in India has the potential to contribute to the resolution of the NPAs because such a vehicle provides a mechanism of pooling together scarce skills in managing and disposing of impaired assets. It could also help to resolve the coordination problems of multiple creditors.

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[1] Prepared by Dong He (x34062), who is available to answer questions.

[2] In the international literature such companies are typically referred to as Asset Management Companies (AMCs). In this paper, ARCs and AMCs are used interchangeably.

- However, the potential can only be realized if it is accompanied by changes in the foreclosure laws to speed up the repossession of assets and by the removal of legislation that tends to protect defaulting companies.

- It is critically important to ensure that the ARC has operational independence, is commercially oriented, and has profit maximization as its operational objective. Thus transactions between the ARC and the major banks and financial institutions, which are also likely to be its major shareholders, should be on an arms-length basis and should not be used as an instrument to "window dress" the NPA problem.

- Moreover, since the market price of NPAs is likely to be much lower than the recorded book value (net of provisions) of such assets, the authorities would need to be prepared to let the banks recognize the losses and reduce their recorded capital levels. A recapitalization strategy would therefore have to be worked out.

4. **The remainder of the paper is organized as follows**: Section B describes the nature of the NPA problem in the public sector banks and financial institutions. Section C summarizes the efforts that have been taken by the authorities to resolve NPAs. Section D distills lessons from international experiences in AMCs, and Section E discusses key issues for an effective ARC in India.

B. The Nature of the NPA Problem

5. **PSBs and DFIs have been plagued by a large stock of NPAs**. NPAs before provisioning were 12½ percent of gross credit at end-2000/01 in PSBs. This ratio was brought down sharply from the peak of 25 percent in 1994, mainly on account of a rapid growth in the volume of credits (i.e., the denominator) rather than a decrease in the level of NPAs. Net of provisions, NPAs still account for a sizeable 6¾ percent of net credit (Table VI.1).[3] Credit quality has been even lower in the major DFIs, notwithstanding that

[3] Indian banks, particularly public sector banks, tend not to write off loans but keep fully provisioned loans on the books. One reason often cited is the possibility of being questioned in Parliament and the risk of investigation for favoritism, particularly in the case of large write-offs.

regulations on DFI's income recognition and classification tend to be more lax than those for banks. Moreover, DFIs provision less than banks – net NPAs as a share of net loans are about twice that of banks. (Table VI.2). A large part of the NPAs reflects the legacy of poor quality lending of the past—close to 60 percent of NPAs in the "doubtful" category comprise those credits that have been nonperforming for over two years. (Table VI.3).

6. **The reported NPA numbers are also believed to understate the true magnitude of impaired assets**. Banks are required to classify loan as substandard only once they have been in arrears for more than six months.[4] Exceptions to loan classification are also allowed in cases of agricultural credits.[5] Table VI.4 indicates that loan classification standards in India are less stringent than those that have been adopted by many of its Asian neighbors and other emerging market countries. Private sector analysts believe that NPA levels for public sector banks are significantly higher at 20 to 25 percent of total loans rather than the reported 12½ percent if more conservative classification standards are adopted and ever-greened loans are identified as impaired assets.

7. **Provisioning coverage for NPAs in PSBs, at less than 50 percent, is relatively low**. In contrast, foreign banks in India on average provision at a rate of about 75 percent.[6] The 10 percent provisioning requirement for "substandard" assets may not be sufficiently conservative, given that these assets could be nonperforming for up to one and half years. The current provisioning standard for doubtful loans (the majority of which have been non-performing for over two years) recognizes that the value of collateral may not be fully realized and imposes a haircut of 20 to 50 percent on the market value of collateral in this category. Given that enforcement of creditor claims is extremely difficult under the

[4] The regulation has recently been changed and banks will be required to classify loans overdue 90 days as substandard, effective from March 2004.

[5] Agricultural credits are treated as NPAs only when they are past due after two agricultural seasons.

[6] This probably understates foreign banks' practices. Foreign banks write off NPAs more quickly. Had they kept these assets on the books as domestic banks do, the rate of cumulative provision relative to gross NPAs would be higher. An alternative method for examining this issue is to consider the present value of nonperforming assets, taking into account the fact that court judgments against defaulters take ten years or more. If only 50 percent of the face value of the NPAs is recovered in 10 years, and assuming a discount rate of 10 percent, the loss would be 80 percent on a present value basis.

Table VI.1. Loan Quality of Commercial Banks, 1997–2001[1]

(In percent)

	Gross NPAs/ Gross Loans		Net NPAs/ Net Loans		Net NPAs/ Equity[2]
	1997	2001	1997	2001	2001
Public sector banks	17.8	12.4	9.2	6.7	80.9
Old private banks	10.7	11.1	6.6	7.3	69.1
New private banks	2.6	5.1	2.0	3.1	21.7
Foreign banks	4.3	6.8	1.9	1.9	11.4
All banks	15.7	11.4	8.1	6.8	65.2

Source: *Report on Trend and Progress of Banking in India*, various years, and staff estimates.

[1] Data are as of end-March of the referenced year.
[2] Equity is defined as Tier I capital.

Table VI.2: NPAs of Development Finance Institutions

(As of end-March)

	Gross NPAs outstanding (In billions of rupees)			Net NPAs/Net Loans (In percent)		
	1999	2000	2001	1999	2000	2001
IDBI	64.9	76.8	83.7	12.0	13.4	14.8
ICICI	36.2	39.6	29.8	7.8	7.6	5.2
IFCI	42.3	41.0	39.0	20.8	20.7	20.8
Total[1]	143.4	157.4	152.5	12.0	12.3	11.7

Source: *Report on Trend and Progress of Banking in India*, various issues.

[1]The sum of IDBI, ICICI, and IFCI.

Table VI.3. Classification of NPAs of Public Sector Banks

(In percent of total NPAs, as of end-March)

	Sub-standard	Doubtful	Loss	Total
1997	28.5	59.8	11.7	100
1998	31.7	56.5	11.8	100
1999	30.8	56.6	12.6	100
2000	30.7	57.1	12.1	100
2001	26.6	61.3	12.1	100

Source: *Report on Trend and Progress of Banking in India*, various issues.

Table VI.4. Past-Due Criteria in Selected Loan Classification Systems, 2000[1/]

(In months)

Country	Special Mention	Substandard	Doubtful	Loss
Argentina	Up to 3	3–6	6–12	Over 12
Chile (Consumer)	Up to 2	2	4	5
Czech Republic	Up to 3	3	6	12
India	**n.a.**	**Over 6**	**Over 18**	**n.a.**
Indonesia	Up to 3	Up to 6	Up to 9	Over 9
Korea [2/]				
Secured portion	Up to 3	3	n.a.	n.a.
Unsecured portion	n.a.		3	3
Malaysia	n.a.	3–6	6–9	Over 9
Mexico (credit card)	1	2	3–6	Over 7
Philippines	Up to 3	Over 3	Over 6 [3/]	Over 6 [4/]
Poland	Up to 1	1 or qualitative	3	6; borrower in bankruptcy
Russia	Up to 5 days	Up to 1	1–6	Over 6
Thailand	n.a.	3–6	6–12	Over 12

Source: Adapted from Cortavarria et al. (2000).

Notes: n.a. means "not applicable."

1/ Other criteria, such as repayment capacity may also apply to loan classification (as shown, e.g., in the case of Poland). Several of the countries listed additionally use "pass" and "special mention" as categories above substandard.

2/ The secured portion can be classified as substandard. The unsecured portion may be classified either doubtful or loss depending the possibility of collection.

3/ A past due unsecured loan can be classified as "doubtful" if it was classified as "substandard" in the previous examination, and the principal has not been reduced at least 20 percent during the previous 12 months.

4/ Six months overdue for an unsecured loan, or six months for a secured loan not in the process of collection and interest unpaid for six months, and loans classified as "doubtful" on which no payment has been done for the last twelve months. Past due loans that are well secured may be classified as substandard-secured.

current legal system, these provisioning requirements may not adequately reflect the true likelihood of recovery. Table VI.5 compares the level of required provisions in India and in other emerging market economies.

Table VI.5. Levels of Required Provisions in Selected Countries, 2000[1/]

(In percent)

Country	Pass [2/]	Special Mention[3/]	Substandard	Doubtful	Loss
Argentina	1	5	25	50	100
Chile	0	1	20	60	90
Czech Republic	2	5	20	50	100
India	**0.25**	**n.a.**	**10**	**20–100**	**100**
Indonesia	1	5	15	50	100
Korea[4/]	0.5	2	20	50	100
Malaysia [5/ 6/]	1.5	n.a.	20	50	100
Mexico	0.5	10	45	65–85	100
Philippines [6/]	2	5	25	50	100
Poland	0	5	20	50	100
Russia	1	n.a.	20	50	100
Thailand	1	2	20	50	100

Source: Adapted from Cortavarria et al. (2000).

1/ For commercial loans, G-10 countries do not have such general guidelines. Banks are expected to develop suitable and appropriate levels of provisioning based on loss experience and accounting practices.
2/ Considered general provision in Czech Republic, India, Indonesia, Korea, Malaysia, Philippines, and Thailand.
3/ Considered general provision in Korea and Thailand.
4/ That portion of a loan classified doubtful or loss that is fully secured will normally be classified substandard to the extent of the market value of collateral.
5/ Computed against total outstanding loans, including interest, and net of interest in suspense and specific provisions.
6/ Provision computed against uncollateralized portion, in case of doubtful and loss.

8. **The distribution of NPAs among banks and DFIs is uneven**. The ratio of net NPAs to net advances ranged from highs of 20.8 percent in IFCI and 18.3 percent in Dena Bank to a low of 2 percent in the Corporation Bank, as of end-March 2001. Even though the ratio of net NPAs to net advances in the State Bank of India (SBI), the largest bank, was relatively low at 6 percent, the gross NPAs on the books of the SBI were 23 percent of the total NPAs of the public sector banks and DFIs,[7] owing to its large market share. Including its subsidiaries, the SBI group made up 30 percent of total NPAs. The other large holders of

[7] Including only IDBI, ICICI, and IFCI.

NPAs were IDBI (12 percent), Bank of Baroda (5.7 percent), IFCI (5.6 percent), and Punjab National Bank (5 percent). Thus the top five holders of the NPAs made up 51 percent of the total NPAs in the system. In comparison, the NPAs of the three "weak banks," namely the Indian Bank, UCO Bank, and the United Bank, were only 6.6 percent of the total.

9. **The size and sectoral distribution of NPAs in PSBs** is shown in Table VI.6. A closer examination of the data indicates that about half of the NPAs were of fairly small size.[8] About 45 percent of the NPAs in public sector banks were accounted for by priority sector lending, which tends to be of smaller size than non-priority sector loans.[9] The rest of the NPAs were mostly loans to the medium and large industrial sector rather than the service sector. Industrial sector loans are typically collateralized with fixed assets of the borrower, thus the value of such collateral is closely related to the overall performance of the borrower.

Table VI.6. Sectoral and Size Distribution of NPAs in PSBs

(As of March 31, 2001)

	Amount (In billions of rupees)	Percentage of Total
Large industries	115.0	21.0
Medium industries	86.6	15.8
Other non-priority sectors	95.2	17.4
Agriculture	73.1	13.3
Small scale industries	102.9	18.8
Other priority sectors	61.7	11.3
Public sector units	13.3	2.4
Total	547.7	100

Source: Muniappan (2002)

[8] The size distribution of lending by public sector banks was as follows: credits that were smaller than Rs. 200,000 (US$4200) in amount were about 25 percent, credits that were between Rs. 200,000 and Rs. 100 million (US$2.1 million) in amount were about 50 percent, and credits above Rs. 100 million in amount were about 25 percent, of all credits outstanding.

[9] Under the priority sector lending requirement, domestic banks are required to lend 40 percent of net credit (on a flow basis) to priority sectors that include agriculture, small scale industries, the export sector, and "weaker" sections of the community. As of end-March 2001, loans to small scale industries accounted for 43 percent of all priority loans by public sector banks and agricultural loans were 30 percent of the total.

10. **Another feature of the NPAs in India is that the large-sized loans have often been in the form of consortium lending**, i.e., such loans involve multiple creditors. Different creditors often have different motivations and strategies of dealing with a delinquent borrower, and the lack of coordination among creditors has been cited as an important reason for the failure to reach loan workout agreements.

11. **The high stock of NPAs has a number of negative consequences for the Indian economy and the banking system**. To the extent that NPAs were incurred by loss-making borrowers, they represent a misallocation of scarce capital resources, which imposes a high opportunity cost to the Indian economy. From the banking system's point of view, high loan loss provisions, which have averaged annually above 1 percent of assets, reduce net profits and tend to put pressure on the lending rates. High real lending rates discourage new and credit-worthy borrowers from seeking loans from banks, with negative consequences for real economic activity. From a macroeconomic policy point of view, rigidities in lending rates that result from the large stock of NPAs dampen the effectiveness of monetary policy. In addition, to the extent that the public sector banks have to be recapitalized by the government because of the credit losses, the NPAs represent a source of quasi-fiscal liabilities.

C. Current Avenues for Resolving NPAs

12. **Recovery of NPAs through either negotiated settlement or through filing suits with the court system has been hampered by the "public character" of PSBs**. Even though negotiated settlement of NPAs has been found less costly and faster than legal remedies and have been quite successful with small borrowers, it has not been used for the resolution of larger NPAs.[10] Settlement of such loans by PSBs has been hampered by fears of prosecution by the Central Bureau of Investigation (CBI) and Central Vigilance Commission (CVC), an anti-corruption watch dog set up by the government. The CBI and the CVC can question settlements that result in book losses to a public sector bank, since they involve a reduction in the capital share of the government. This threat naturally dampens the enthusiasm by the managers of the PSBs for settlement, especially since the management receives no clear benefit from resolving the situation by settlement.

13. **Judicial and legal weaknesses are also a major factor in India's high NPAs**. Court judgments against defaulters take ten years or more and even then may not be enforced. Roughly 1.4 million court cases are pending. In addition, suits for debt recovery are

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[10] In July 2000, the RBI issued guidelines for a one-time compromise settlement scheme that allowed banks to provide concessions in accrued interest in order to facilitate repayment of NPAs of smaller sizes (up to Rs. 50 million). The scheme appeared to be successful, with the amount of recovery reaching Rs. 22 billion as of July 30, 2001. In August 2001, the RBI also issued guidelines for a non-statutory mechanism for Corporate Debt Restructuring (CDR), following the principles of the London Approach. However, this mechanism has not been actively used up to now.

barred once a company is designated as a sick unit, under the purview of the Board for Industrial and Financial Restructuring (BIFR, established under the Sick Industrial Companies Act of 1985). Though the BIFR procedure was designed with the idea of quick bankruptcy proceeding (modeled on the U.S. Chapter 11), in practice it usually takes four years or more even to decide whether a firm is viable. These delays and favorable treatment for "sick" firms, such as relief from debt service obligations and, in the past, access to low cost credits, have led even some non-sick firms to take advantage of "sick status."[11]

14. **Since 1993, the government has begun setting up special debt recovery tribunals (DRTs) to bypass the courts and provide speedier resolutions, but so far this has not had a major impact**. The tribunals were given authority over credit-related cases and the transfer of pending cases was mandatory. However, resources and skills were insufficient. Delaying tactics were not penalized and no penalties exist for violation of sanctions. There have been important efforts to improve the effectiveness of the tribunal system, including a March 2000 amendment to the Debt Recovery Tribunals Act that provided for the attachment of collateral, and the 2000/01 budget provided for a substantial increase in the number of tribunals and their staff. Nevertheless, now even with 29 tribunals and 5 appeals tribunals, they are clearly insufficient. As of September 2001, the DRTs had disposed of only 18,703 cases (less than 0.2 percent of the pending court cases) and had recovered only Rs. 35 billion.

D. Lessons from International Experiences

15. **AMCs have been used extensively as an instrument of bank restructuring in countries that have experienced banking problems in the past two decades**. Their roles have also become prominent in the resolution of the Asian financial crisis of the late 1990s. However, the performance of the AMCs in achieving their stated objectives has been

[11] As at the end of March 2000, the outstanding bank credit to the sick/weak industrial units amounted to Rs. 237 billion, close to 40 percent of total NPAs of the banking system (although outstanding loans to these units are not all NPAs).

Table VI.7. Key Features of AMCs in Asia: Korea, Malaysia, Indonesia, Thailand

	KAMCO (Korea)	Danaharta (Malaysia)	IBRA (Indonesia)	TAMC (Thailand)
Objectives	Freeing banks from NPLs and supporting corporate restructuring while maximizing recoveries	Freeing banks from NPL problem; maximizing recoveries	Assist banks in recapitalizing; aim at maximizing recoveries	Supporting recovery of the corporate sector
Structure—Policy Board	Professional Management Committee, with 5 out of 10 members from the private sector	Professional and independent Board of Directors, with 6 out of 9 members from the private sector	Professional Oversight Committee, with most of the 7 members from the private sector	Non-professional Board of Directors, with 3 out of 11 members from the private sector
Disclosure of financials (FS)	FS: independently audited, published semi-annually	FS: independently audited, published semi-annually	FS: independently audited, published annually	FS: audited by Auditor-General of Thailand, published semi-annually
Criteria for Asset Transfer	▪ Ordinary NPLs (overdue more than 3 months) ▪ Special NPLs (court approval obtained for restructuring)	▪ NPLs over RM 5 million ($1.3 million), in most cases ▪ NPLs from FIs seeking state recapitalization (at least 10% of their loan portfolio)	Classified loans (Cat. IV and V) from closed, state-owned, and jointly recapitalized banks	▪ Private banks: multi-creditor, secured NPLs over B 5 million ($110,000) ▪ State financial institutions: all NPLs eligible
Purchase/Transfer Price	▪ Ordinary NPLs: 45 percent of appraised value of collateral less senior liens ▪ Special NPLs: NPV of projected cash flows. ▪ Unsecured loans: 3 percent of face value	▪ At market value as appraised by Danaharta based on independent auditors ▪ Gain-sharing with 80 percent (after deducting costs) to financial institution	Purchased at zero value but bank losses from the sales were effectively shouldered by the state (see below)	▪ Private bank NPLs: collateral value—appraisal standards by TAMC ▪ State NPLs: collateral value ▪ Unsecured loans: to be decided ▪ Gain-loss sharing: cap bank losses at 30% of transfer price
Pays with	Interest bearing KAMCO bonds guaranteed by the government	Zero coupon Danaharta bonds guaranteed by the government	Bank losses from selling NPLs at full discount were made up with issuance of interest bearing government bonds	Interest bearing TAMC bonds guaranteed by the FIDF
Funding	▪ Contributions from FIs; ▪ Borrowing from Korea Development Bank; ▪ Issuance of government guaranteed bonds	▪ Government capital injection; ▪ Loans from Khazanah/EPF ▪ Issuance of zero coupon government guaranteed bonds	▪ Government capital injection ▪ Operational cash-flow from asset recoveries	▪ FIDF capital injection ▪ Issuance of FIDF guaranteed bonds ▪ Loan recoveries
Asset disposition and management	Auction; public sale; equity partnership; and securitization	Private auction; tenders; securitization; special administration (business restructuring)	Debt and business restructuring of larger loans; outsourcing of medium sized loans; auctions of smaller loans; foreclosure	Debt and business restructuring; foreclosure; outsourcing
Special powers	n.a.	▪ Appointment of special administrator for business restructuring ▪ Foreclose on collateral	Power to seize debtor assets (PP17)	▪ TAMC administered business restructuring largely bypassing court process ▪ Foreclosure on collateral

Source: IMF (2001).

mixed in many countries, suggesting that potentially serious pitfalls could exist in their operations. This section summarizes the key factors that contribute to the success of AMCs in achieving their objectives.[12]

16. **Policy makers need first to decide that an AMC is indeed a necessary instrument to have in order to resolve the non-performing loans of the banking system.** Establishment of an AMC may be useful when the size of the problem reaches systemic proportions so that special management skills are needed. An important purpose of having asset management companies is the managerial factor. The handling of bad loans and assets requires other skills than are normally available in a bank. Real estate specialists, liquidation experts, and people with insights into various industrial sectors may be needed. In addition, managing large amounts of bad assets would interfere with the daily running of the bank. If a separate AMC is established to handle the bad assets, both the good bank and the AMC could be given independent and transparent profit goals. That would provide clearer incentives for managers and staff. Moreover, to the extent that the workout of non-performing assets is hampered by a lack of coordination among different creditors, a AMC could facilitate the resolution of such loans with multiple creditors.

17. **Experience has shown that AMCs with clearly defined, focused, and consistent goals are more likely to be effective**. Different countries have taken different approaches to defining the goals for their AMCs. In some countries the AMCs functioned mainly as rapid disposal vehicles, where the goal was to dispose of the asset as quickly as possible so as to avoid further deterioration in value and to minimize the carrying cost of the government. In other countries the government set up vehicles whose focus was on restructuring. In some cases, the emphasis was on restructuring the nonperforming loans so as to make them marketable. In others, the goal was to achieve broader corporate restructuring of the borrowers and the government owned banks. Regardless of the focuses of different AMCs, their operations should be guided ultimately by the objective of profit maximization or loss minimization, taking into full account market conditions as well as the funding cost to the AMC.

18. **There are no clear-cut rules as to whether a single AMC monopoly (the centralized approach) is preferable to a number of competing AMCs (the decentralized approach)**. There are advantages and disadvantages associated with each approach. A very large AMC may obtain economies of scale but could also become unwieldy, which might hamper the ability to react swiftly, such as in sales transactions. In general, the choice of a particular organizational structure for AMCs depend on a number of factors, including types of assets, magnitude of the problem, depth of markets, and characteristics of debtors. For instance, when the types of impaired assets in different banks differ substantially, there may be some rationale to group assets by types and to transfer them to AMCs specializing in the management of a particular type or types of assets. When there is lack of depth in markets for

[12] Table VI.7 summarizes key features of AMCs in Korea, Malaysia, Indonesia and Thailand.

certain assets, there may be stronger rationale for a centralized approach in the disposal of such assets.

19. **AMCs must have adequate legal powers**. The legal basis of the AMC should provide for clean transfers of titles (and the associated priority) in all asset transactions of the AMC. Similarly, legal obstacles for the transfer of assets, such as the requirement that the permission of the debtors be obtained before the transfer of loans can be effected, should be removed. The legal basis should ensure that the AMC "stands in the shoes" of the former bank at least in the eyes of the law. In addition, asset disposal by public AMCs could be retarded by perceived potential legal liabilities accruing to the AMC management. In this situation, legal protection for the employees of the AMCs in the execution of their responsibilities in good faith should be considered. Furthermore, when the existing legal system is not equipped to deal with the magnitude of the nonperforming assets, or when endeavors to reform the system are excessively time-consuming, there may be a case to grant special legal powers to AMCs, as was done, for example, in Malaysia, to facilitate asset recovery and restructuring.

20. **To be effective, an out-of-court process for financial and corporate restructuring needs to be backed up by credible court-supervised processes for seizure of assets, foreclosure, liquidation, receivership, and reorganization**.[13] Without the threat of court-imposed loss, there is not enough incentive for corporate debtors to cooperate with voluntary efforts and agree to asset sales, equity dilution, and diminution of management control that may be part of a fair restructuring deal. While some debtors might voluntarily cooperate, more often the success of out-of-court efforts ultimately depends on the ability of creditors to impose loss on debtors through the seizure of assets, foreclosure, or liquidation. During the Asian crisis, the threat by legal regimes of foreclosure and bankruptcy was relatively robust in Korea and Malaysia. In Thailand and Indonesia, however, the threat remains rather attenuated, even after efforts at reform. Repeated demonstration of an ability by Korea's courts and creditors to seize ownership and control of a debtor corporation encouraged others to cooperate with voluntary workout efforts.

21. **Stakeholders of the AMC must be able to evaluate its performance**. A realistic valuation/pricing of assets based on market pricing, sound accounting norms, strong loan classification and provisioning standards, and/or discounted present values, is crucial to the success of AMCs. Evaluating performance requires proper accounting for the assets at the time of transfer and for cash flows over time. Unfortunately, when AMCs have carried assets

[13] Box VI.1 lists the key ingredients of an effective corporate restructuring framework that are considered international best practices.

Box VI.1. Suggested Best Practices for Corporate Restructuring

Bankruptcy Regime

- A prompt ability by unsecured creditors to appoint a receiver to liquidate a company for a general failure to service debts on time;
- A prompt ability by secured creditors to seize and sell collateral;
- A court-supervised reorganization framework that protects debtors from asset seizures; provides priority for new lending; gives a debtor and its creditors an opportunity to work out a mutually satisfactory restructuring plan; allows a majority of creditors to "cram down" a reorganization plan on a holdout minority of creditors; and converts the case into a court-supervised liquidation if interim milestones and reasonable deadlines are not met;
- A legal presumption, which can be altered in negotiation, that the equity interests of all shareholders—including minority shareholders—are wiped out in case of corporate insolvency; and
- Substantial institutional capacity, in terms of experienced judges, receivers, and insolvency professionals.

Out-of-Court Processes

- Agreed standards among financial institutions for out-of-court workouts, including appointment of a lead creditor and steering committee; development and sharing of information; priority for new lending; apportionment of losses among creditor classes; thresholds for creditor approval of proposed workouts; and means for the resolution of inter-creditor differences;
- Reliance on market participants to structure and negotiate out-of-court workouts based on available information and the participants' commercial interests; and
- A strong financial regulator able and willing to force banks to take immediate losses on corporate restructuring and to take over banks whose risk-weighted capital adequacy ratio falls below an acceptable level.

Market for Impaired Assets

- A well-developed secondary market for corporate debt, including distressed debt;
- Opportunities and encouragement for banks to set up professionally managed private asset management companies for distressed corporate debt and converted equity;
- If a public asset management company is needed, its operation should be based on best commercial and market principles;
- No legal barriers to the debt/equity conversions or the swift re-deployment of corporate shares, real estate, and productive assets—including through foreign investment, hostile takeover, or merger; and
- No immediate taxation of non-cash corporate reorganizations, e.g., mergers, share swaps.

Source: Adapted from Kawai et al. (2000).

at their old book value, they typically show low recoveries leading the public to believe that the AMC has been a failure. Performance should be measured against either a "mark-to-market" value or an estimated recovery value at the time of transfer. If assets transfer at book value then appropriate provisions should be established as soon as possible after transfer, so that the initial shortfall is clear to everyone and performance is measured against original book value net of provisions.

22. **To shield the AMC from undue political influence, steps should be taken to ensure its operational independence**. Because AMCs handle large volumes of assets, and in some countries may control a significant percentage of the wealth of the nation, it is important that they be insulated from political interference in the disposal and restructuring of assets. One approach is to establish the AMC as an independent entity not subject to the whims of the legislative process. It should be governed by an independent and professional board of directors. In addition, it should be given independence from the budget appropriations process in the same manner as that of central banks. Rather, the AMC should fund its operating expenses from its own cash flow.

23. **There is a need for a structure of incentives that are designed to ensure effective and efficient asset management and disposal**. A right incentive structure needs to address both the issues of the limited life of the entity and the performance of the staff. One option is to limit the life of the AMC at the time it is created. Another approach is to develop incentives for the board members so that they will counterbalance the motivations of the staff to prolong the life of the AMC unnecessarily. In addition, a large part of the compensation packages for staff should be performance based. Just as an AMC's performance should be judged based on its recoveries compared to the original estimated recovery value, a similar approach should be used for establishing performance goals for employees and managers.

24. **When public AMCs have discretion in the choice of assets to purchase or take over, they should apply strict criteria in the selection of the assets**. In principle, they should only take on those assets they are likely to manage more effectively. For example, small credits whose recovery can be undertaken more efficiently by the bank branches where the credit originated should also be left with the banks, but fixed assets such as foreclosed properties and loans that require foreclosure or settlement with debtors are good candidates for transfer to AMCs.

25. **Innovative vehicles may be needed to deal with the financing needs of a corporate borrower that is implementing a restructuring plan approved by its creditors**. When a NPA is purchased by the ARC, the banking relationship between the borrower and the bank typically ends. In principle, NPAs owed by borrowers that are potentially viable, perhaps after financial and operational restructuring, should stay with the bank, although the bank's existing claims against the borrower may need to be restructured through financial engineering techniques such as a debt/equity swap. Nevertheless, the ARC could still play an important role. The ARC could sponsor corporate restructuring or de-leveraging funds, which can be set up to manage the corporate restructuring tasks on the banks' behalf, since banks are not typically good at managing equity stakes in industrial companies. Therefore, the relationship between the ARC and the banks is likely to be more complicated than a straightforward one of buy and sell.

26. **The transfer of assets to the AMCs should be executed at fair market prices**. Several approaches to transfer pricing have been used, each with their own benefits and limitations. A uniform price can be established, based on a fixed portion of book value. This approach permits quick transfer without delays in negotiations with the bank but raises the

possibility that the AMC purchases the worse assets while the bank retains the better assets. An alterative is to set a price that can be adjusted in light of eventual proceeds. A drawback of this approach is that it may reduce the willingness of the sellers to part with the assets since they will still maintain their exposure to the final price of the assets. In this situation, some form of profit-loss sharing arrangement can help overcome this problem. In Thailand, for example, the originating bank and the Thai Asset Management Corporation (TAMC) would share equally the first 20 percent of the gains relative to the transfer price, with the remainder accruing to the banks. In the event of a loss, the banks' losses will be capped at 30 percent of the transfer price.

27. **Speed of disposal of impaired assets should be primarily a commercial decision.** It should be guided by the goal of maximizing the value of assets by taking into account of market conditions as well as the funding cost of the asset management companies. The AMC typically faces conflicting pressures when it comes to the disposal of its assets. The AMC may sell its assets immediately, reducing the concerns about warehousing of assets but accepting fire sale prices. Alternatively, the AMC may seek to manage the assets, waiting for a recovery of the economy and the opportunity to sell the assets gradually into the market. However, managing assets creates the significant risk that asset values will deteriorate, particularly if the skill mix of the AMC staff is in asset resolution rather than the long term management of assets. While a number of alternatives have been suggested (including competitive bidding, securitization of income streams from assets, and put-back clauses in the sales contract), there is little experience to date on the final resolution of assets. Sweden allowed a five-year period for the resolution of the asset and the United States allowed seven years. Other AMCs, however, continue to struggle with asset resolution.

E. Key Issues for An Effective ARC in India

28. **In the 2002/2003 budget, the government announced plans to establish a pilot ARC in India by June 2002.** In parallel, the government plans to submit to Parliament a Banking Sector Reforms Bill that will provide an enabling legal environment for the development of a market for impaired assets. It is envisaged that the pilot ARC will initially have a small capital base and will be incorporated as a private sector entity, to be owned jointly by public sector banks and financial institutions, multilateral institutions, and other private sector investors and to be run by professional managers. Other details of the proposal are still being worked out.

29. **To be effective, the ARC should be designed to reflect the nature of the NPA problem in India, as well as to follow international best practices.** There are a number of key considerations in the Indian context. First, the legal and judicial environment must be improved for timely exercise of creditor rights. The value of impaired assets will increase substantially if foreclosure rights are strengthened and the bankruptcy procedures are streamlined. Second, the ARC should be managed and run on commercial principles. Transactions between the ARC and the public sector banks and financial institutions, which will be its major shareholders, should be on an arms-length basis so that transfer prices will be market determined. The ARC should not be used as an instrument to "window dress" the

NPA problems of its major shareholders. Third, the authorities have to be prepared to allow the major banks to recognize hidden credit losses and a strategy for filling recapitalization needs to be put in place, otherwise few transactions will take place.

30. **An effective ARC in India must operate under a conducive legal framework**. The ARC must have sufficient legal powers to recover assets, such as the ability to attach assets and foreclose on collateral without going through the court system. Furthermore, in order that delinquent borrowers will have the right incentives to cooperate in good faith with the ARC, the Sick Industrial Companies Act must be repealed and the BIFR be abolished. In its place, an effective insolvency regime for the corporate sector should be put in place (see Box VI.1). This does not imply that the ARC should not be established before such legal reforms are implemented. It is nevertheless true that the ARC will not be effective in achieving its objectives without such legal reforms.

31. **Mixed ownership of the ARC has complex implications for a number of operational issues**. An important issue relates to whether the government should guarantee the liabilities issued by the ARC as a source of funding. Although a government guarantee could help the ARC have easier access to market funding and lower its funding cost, it has important implications for incentives. Without a government guarantee, bond holders must look to the value of the assets for payment and the ARC will be motivated to ensure that assets are properly valued when they are transferred to the ARC. Moreover, there will be an ongoing incentive for revaluation and proper financial reporting. With a government guarantee, these incentives will, to a large extent, be dulled and the resultant moral hazard could expose the government to higher fiscal costs. On the other hand, even without an explicit guarantee, investors may believe that there is at least an implicit government guarantee on the bonds issued by the ARC of mixed ownership. Thus the government will need to weigh the benefits and costs of guarantees and clarify its intention explicitly.

32. **Ownership of the ARC by the PSBs and DFIs also raises the potential of conflict of interest**, as the PSBs and DFIs will be both its major shareholders and customers. As shareholders, they have an interest in the financial performance of the ARC. As sellers of NPAs, they have an incentive of asking for the highest price on the assets to be sold, which would have a negative impact on the profitability of the ARC. Resolving such a conflict can be tricky. It is thus important that the ARC should have operational independence and be managed and staffed by professionals with properly designed incentive structures.

33. **The development of a market for impaired assets depends crucially on the willingness of banks to recognize the hidden losses**. As discussed earlier, the loan loss provisioning cover of the NPAs does not adequately reflect the likelihood of loss in the Indian context. Thus transferring the NPAs at market prices would imply that the selling banks will have to recognize the hidden losses and take a hit on their capital. In the absence of the willingness and/or the ability to take such losses, NPAs will likely not be transferred, and few transactions would take place. The regulatory authorities should encourage the recognition of such losses even if they negatively impact the capital adequacy levels. For the

government, a proper analysis of the likely magnitude of losses should be done and a strategy of recapitalization should be developed and implemented.

34. **An important operational issue concerns the choice of banks from which the ARC should buy NPAs**. Previous proposals have focused on the NPAs of the "weak banks" and the ARC was seen as an instrument to facilitate the restructuring of such banks. However, as discussed earlier, the NPAs held by the "weak banks" are only a small part of that of the banking system. Thus, any attempt to reduce the NPA level of the system should include the largest holders of NPAs, not just the "weak banks." In addition, it appears that, based on available data, at least half of the NPAs are of fairly small size and are probably not suitable for purchase by the ARC. The PSBs should be encouraged on a regular basis (rather than on a one-off basis) to reach debt restructuring and workout solutions with such small borrowers. Loan workouts should be seen as a commercial exercise without political connotations. In this regard, operational freedom that allows speedier loan workout and write-off should be part of the larger effort to increase the commercial orientation of PSBs.

35. **An effective strategy of NPA resolution has to involve the financial and operational restructuring of unviable industrial borrowers**. Because the representative NPAs of larger size are industrial loans collateralized by the fixed assets of the borrowers, they typically do not have much value if the viability of the borrower is in doubt. However, corporate restructuring has been a difficult process worldwide. Its success depends not only on an efficient and effective corporate insolvency regime, but also on labor laws, competition policies, trade policies, and other structural factors. From this perspective, the resolution of the NPAs in the banking system is only a part of the larger effort of industrial restructuring and structural reforms. It is inherently difficult and requires strong political leadership. While setting up the ARC provides a potentially useful instrument to facilitate bank and corporate restructuring, it would be naïve to expect that it alone will be the panacea for the resolution of the NPA problem of the Indian banking system.

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Table 1. India: GDP at Factor Cost by Sector of Origin, 1995/96–2001/02 1/

	1995/96	1996/97	1997/98	1998/99	1999/00	Prov. 2000/01	Est. 2001/02
	(In billions of rupees, at current prices)						
GDP at factor cost	10,732.7	12,435.5	13,901.5	15,980.8	17,556.4	18,958.4	20,802.6
Agriculture and allied activities	3,031.0	3,626.1	3,870.1	4,424.9	4,605.5	4,719.8	5,146.4
Mining and quarrying	252.6	277.0	334.3	356.8	405.2	446.5	476.9
Manufacturing	1,938.0	2,206.8	2,319.8	2,522.4	2,668.9	2,997.5	3,181.8
Electricity, gas, and water supply	277.0	299.6	352.9	436.2	438.9	495.3	587.8
Construction	550.1	628.1	778.2	920.1	1,054.4	1,164.3	1,252.6
Trade, hotels, transport, and communication	2,169.9	2,552.9	2,920.5	3,333.3	3,657.4	3,996.2	4,422.0
Trade, hotels, and restaurants	1,462.6	1,716.5	1,945.3	2,208.2	2,415.4	2,612.9	...
Transport, storage, and communications	707.3	836.3	975.3	1,125.1	1,241.9	1,383.3	...
Financing, insurance, real estate, and business services	1,250.9	1,375.8	1,568.0	1,811.4	2,205.6	2,366.5	2,659.4
Community, social, and personal services	1,263.2	1,469.3	1,757.7	2,175.6	2,520.6	2,772.4	3,075.6
Of which : public adminstration and defense	573.2	652.4	799.8	995.7	1,153.0	1,246.2	...
	(In billions of rupees, at constant 1993/94 prices)						
GDP at factor cost	8,995.6	9,700.8	10,164.0	10,824.7	11,485.0	11,939.2	12,588.1
Agriculture and allied activities	2,518.9	2,760.9	2,693.8	2,860.9	2,898.4	2,891.9	3,056.4
Mining and quarrying	232.6	233.7	256.7	263.9	269.1	278.0	281.8
Manufacturing	1,614.2	1,770.1	1,796.9	1,845.8	1,924.0	2,052.2	2,120.8
Electricity, gas, and water supply	221.8	233.8	252.2	269.9	286.4	304.1	319.8
Construction	455.0	464.5	512.1	543.9	588.2	628.0	646.0
Trade, hotels, transport, and communication	1,881.7	2,029.4	2,186.3	2,354.8	2,535.1	2,668.2	2,836.5
Trade, hotels, and restaurants	1,258.5	1,355.0	1,458.4	1,568.7	1,683.6	1,746.9	...
Transport, storage, and communications	623.2	674.4	727.9	786.1	851.5	921.3	...
Financing, insurance, real estate, and business services	1,028.5	1,100.0	1,227.8	1,318.9	1,458.7	1,500.5	1,612.7
Community, social, and personal services	1,043.0	1,108.4	1,238.2	1,366.6	1,525.2	1,616.4	1,714.1
Of which : public adminstration and defense	471.8	491.1	562.4	622.1	696.0	726.0	...
	(Percent change at constant prices)						
GDP at factor cost	7.3	7.8	4.8	6.5	6.1	4.0	5.4
Agriculture	-0.9	9.6	-2.4	6.2	1.3	-0.2	5.7
Industry 2/	11.6	7.1	4.3	3.7	4.9	6.3	3.3
Services 3/	10.5	7.2	9.8	8.3	9.5	4.8	6.5
Of which : public adminstration and defense	6.8	4.1	14.5	10.6	11.9	4.3	...

Source: Central Statistical Organization (CSO).

1/ 2001/02 data are advance estimates from the CSO, which may differ from IMF staff estimates.
2/ Includes mining and quarrying; manufacturing; electricity, gas and water supply; and construction.
3/ Includes trade, hotels, and restaurants; transport, storage, and communication; financing, insurance, real estate, and business services; and community, social, and personal services.

Table 2. India: GDP at Market Prices by Expenditure Components, 1995/96–2000/01 1/

	1995/96	1996/97	1997/98	1998/99	1999/00	Est. 2000/01
	(In billions of rupees, at current prices)					
GDP at market prices	11,880.1	13,682.1	15,225.5	17,409.4	19,296.4	20,879.9
Private consumption	7,601.4	8,964.7	9,761.3	11,341.3	12,614.5	13,395.9
Government consumption	1,288.2	1,457.3	1,721.9	2,140.3	2,481.3	2,759.0
Gross capital formation	3,195.3	3,350.0	3,744.8	3,953.6	4,691.8	5,013.1
Gross fixed capital formation	2,894.1	3,118.5	3,304.2	3,743.3	4,169.4	4,569.8
Construction	1,212.1	1,327.8	1,575.2	1,790.1	2,019.1	2,234.3
Machinery and equipment	1,682.0	1,790.7	1,729.0	1,953.3	2,150.3	2,335.4
Change in stocks	257.7	-139.9	132.9	-21.3	322.2	212.2
Errors and omissions	43.5	371.4	307.7	231.5	200.3	231.1
Exports of goods and services	1,311.0	1,453.8	1,652.0	1,952.8	2,277.0	2,901.8
Imports of goods and services	1,481.3	1,628.6	1,843.4	2,247.4	2,657.0	3,060.8
	(In billions of rupees, at constant 1993/94 prices)					
GDP at market prices 2/	9,939.5	10,674.5	11,150.5	11,817.5	12,656.1	13,152.0
Private consumption 3/	6,389.4	6,895.7	7,072.9	7,524.4	7,937.1	8,111.6
Government consumption	1,068.8	1,116.4	1,239.8	1,399.6	1,567.0	1,668.0
Gross capital formation	2,710.2	2,684.3	2,890.6	2,927.0	3,385.4	3,453.2
Gross fixed capital formation	2,457.7	2,494.9	2,548.0	2,769.5	3,008.1	3,148.2
Construction	980.2	1,000.9	1,126.9	1,191.6	1,288.0	1,381.4
Machinery and equipment	1,477.5	1,494.0	1,421.1	1,577.8	1,720.1	1,766.8
Change in stocks	215.6	-107.6	105.3	-13.7	232.9	145.7
Errors and omissions	36.9	297.1	237.3	171.3	144.5	159.2
GDP deflator 4/	119.5	128.2	136.5	147.3	152.5	158.8
	(Percent change at constant prices)					
GDP at market prices	7.6	7.4	4.5	6.0	7.1	3.9
Consumption	6.5	7.4	3.8	7.4	6.5	2.9
Private 3/	6.2	7.9	2.6	6.4	5.5	2.2
Government	8.0	4.5	11.1	12.9	12.0	6.5
Gross fixed capital formation	19.3	1.5	2.1	8.7	8.6	4.7
Construction	6.2	2.1	12.6	5.7	8.1	7.3
Machinery and equipment	29.9	1.1	-4.9	11.0	9.0	2.7
GDP deflator at market prices	9.0	7.2	6.5	7.9	3.5	4.1
GDP at factor cost	7.3	7.8	4.8	6.5	6.1	4.0

Source: Staff estimates based on data provided by the CSO.

1/ Data are provisional.
2/ Data on exports and imports of goods and services at constant prices are not available.
3/ Private final consumption expenditures in the domestic market
4/ Indexed to 100 in 1993/94.

Table 3. India: Employment and Labor Statistics, 1994/95–1999/2000

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
	(In millions of persons, end-of-period)					
Employment in the organized sector 1/	27.5	27.9	28.2	28.2	28.1	28.0
Public sector	19.5	19.4	19.6	19.4	19.4	19.3
Central government	3.4	3.4	3.3	3.3	3.3	3.3
State government	7.4	7.4	7.5	7.5	7.5	7.5
Public enterprises	6.5	6.5	6.5	6.5	6.4	6.3
Local authorities	2.2	2.2	2.2	2.2	2.3	2.3
Private sector	8.1	8.5	8.7	8.7	8.7	8.6
Agriculture and allied activities	0.9	0.9	0.9	0.9	0.9	0.9
Industry	4.9	5.3	5.4	5.4	5.4	5.3
Mining and quarrying	0.1	0.1	0.1	0.1	0.1	0.1
Manufacturing	4.7	5.0	5.2	5.2	5.2	5.1
Electricity, gas, and water	0.0	0.0	0.0	0.0	0.0	0.0
Construction	0.1	0.1	0.1	0.1	0.1	0.1
Services	2.3	2.3	2.3	2.4	2.5	2.5
Trade, hotels, and restaurants	0.3	0.3	0.3	0.3	0.3	0.3
Transport, storage, and communication	0.1	0.1	0.1	0.1	0.1	0.1
Financing, insurance, real estate, and business ser	0.3	0.3	0.3	0.3	0.4	0.4
Community, social, and personal services	1.6	1.7	1.6	1.7	1.7	1.7

Source: CEIC.

1/ All establishments in the public sector and nonagricultural private establishments with ten or more employees.

Table 4. India: Agricultural Production and Yields, 1995/96–2000/01

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
	(In millions of tons, unless noted otherwise)					
Production						
Foodgrains	180.4	199.4	192.3	203.5	209.8	195.9
Rice	77.0	81.7	82.5	86.1	89.7	84.9
Wheat	62.1	69.4	66.3	71.3	76.4	68.7
Coarse cereals	29.0	34.1	30.4	31.2	30.5	29.9
Pulses	12.3	14.2	13.0	14.9	13.4	10.7
Oilseeds 1/	22.1	24.4	21.3	24.7	20.7	18.4
Cotton 2/	12.9	14.2	10.9	12.3	11.5	9.7
Jute 3/	7.7	10.0	10.0	8.8	9.4	9.3
Sugarcane	281.1	277.6	279.5	288.7	299.3	299.2
Tea 4/	0.8	0.8	0.8	0.9	0.8	0.8
Kharif foodgrains	95.1	103.9	101.6	102.9	105.5	103.4
Rabi foodgrains	85.3	95.5	90.7	100.7	104.3	92.5
	(In kg. per hectare, unless noted otherwise)					
Yields						
Foodgrains	1,491	1,614	1,552	1,627	1,704	1,636
Rice	1,797	1,882	1,900	1,921	1,986	1,913
Wheat	2,483	2,679	2,485	2,590	2,778	2,743
Maize	1,595	1,720	1,711	1,797	1,792	1,841
Pulses	552	635	567	634	635	533
Oilseeds 1/	851	926	816	944	892	826
Cotton	242	265	208	224	225	191
Jute	1,875	1,998	1,978	1,875	2,005	2,014
Sugarcane 5/	68	66	71	71	71	69
Tea 4/	1,815	1,875	1,865	1,995	1,840	...

Sources: Government of India, *Economic Survey*; and data provided by the Indian authorities.

1/ Nine major oilseeds.
2/ In million bales of 170 kg. each.
3/ In million bales of 180 kg. each.
4/ Data are for calendar years. For example, data under the heading 1995/96 are for 1995.
5/ In metric tons per hectare.

Table 5. India: Index of Industrial Production, 1995/96–2001/02

	Weight 1/	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	Prelim. 2001/02
				(Annual percent change)				
All industries	100.0	13.0	6.1	6.7	4.1	6.7	5.0	2.7
Manufacturing	79.4	14.1	7.3	6.7	4.4	7.1	5.3	2.7
Food products	9.1	6.7	3.5	-0.4	0.7	4.2	10.1	-1.8
Beverages, tobacco, and related products	2.4	13.3	13.5	19.4	12.9	7.6	4.3	12.0
Cotton textiles	5.5	10.5	12.1	2.4	-7.7	6.7	2.9	-1.8
Wool, silk and man-made fibre textiles	2.3	14.7	10.5	18.5	2.8	11.9	5.8	3.8
Jute and other vegetable fibre textiles	0.6	7.7	-4.5	16.9	-7.3	-0.9	0.8	-5.9
Textile products (including wearing apparel)	2.5	35.7	9.4	8.5	-3.5	2.0	4.0	1.1
Wood and wood products	2.7	24.1	7.1	-2.6	-5.8	-16.2	2.9	-10.9
Paper and paper products	2.7	15.6	9.1	6.9	16.0	6.3	-9.1	3.0
Leather and leather and fur products	1.1	13.7	9.4	2.2	8.1	13.8	10.7	5.9
Basic chemicals and chemical products	14.0	11.2	4.8	14.4	6.6	10.0	7.3	4.6
Rubber, plastic, petroleum, and coal products	5.7	7.8	2.0	5.2	11.3	-1.1	11.8	10.7
Nonmetallic mineral products	4.4	23.6	7.9	13.4	8.3	24.4	-1.2	1.3
Basic metals and alloy industries	7.5	15.8	6.7	2.6	-2.5	5.0	1.8	4.2
Metal products and parts (except machinery and equipment)	2.8	-4.6	9.7	7.9	17.0	-1.2	15.0	-8.5
Machinery and equipment (except transport equipment)	9.6	18.7	5.0	5.8	1.5	17.7	7.3	0.8
Transport equipment and parts	4.0	17.4	12.5	2.5	20.1	5.7	-2.0	6.8
Other manufacturing industries	2.6	25.8	24.7	-1.3	1.0	-16.0	11.6	8.5
Mining and quarrying	10.5	9.7	-1.9	6.9	-0.8	1.0	3.7	1.8
Electricity generation	10.2	8.1	4.0	6.6	6.5	7.3	4.0	3.1
Index of industrial production classified by use:								
Basic goods	35.6	10.8	3.0	6.9	1.6	5.5	3.9	2.8
Capital goods	9.3	5.3	11.5	5.8	12.6	6.9	1.8	-4.0
Intermediate goods	26.5	19.4	8.1	8.0	6.1	8.8	4.7	1.5
Consumer goods	28.7	12.8	6.2	5.5	2.2	5.7	8.0	5.8
Durables	5.4	25.8	4.6	7.8	5.6	14.1	14.5	11.6
Nondurables	23.3	9.8	6.6	4.8	1.2	3.2	5.8	3.8

Source: CEIC.

1/ Weights for 1993/94 base-year data. Weights for index classified by use were revised slightly for data from 1998/99 onwards.

Table 6. India: Saving and Investment, 1995/96–2000/01 1/

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
	(In percent of GDP at market prices, unless noted otherwise)					
Gross domestic saving	25.1	23.2	23.1	21.7	23.2	23.4
Private sector	23.1	21.5	21.8	22.7	24.1	25.0
Household saving	18.2	17.0	17.6	18.9	20.3	20.9
Physical saving	9.3	6.7	8.0	8.4	9.6	9.9
Financial saving	8.9	10.4	9.6	10.5	10.8	11.0
Corporate saving	4.9	4.5	4.2	3.7	3.7	4.2
Public sector	2.0	1.7	1.3	-1.0	-0.9	-1.7
Gross capital formation 2/	26.5	21.8	22.6	21.4	23.3	22.9
Gross fixed capital formation	24.4	22.8	21.7	21.5	21.6	21.9
Private sector	16.7	15.9	15.3	15.1	15.2	15.1
Household	8.5	7.3	7.4	8.5	9.3	9.8
Corporate sector	8.2	8.6	7.9	6.6	5.9	5.4
Public sector	7.7	6.9	6.4	6.5	6.4	6.8
Changes in stocks	2.2	-1.0	0.9	-0.1	1.7	1.0
Private sector	2.2	-1.2	0.6	-0.3	0.9	0.7
Public sector	-0.1	0.1	0.2	0.1	0.8	0.3
Memorandum item:						
Fixed investment deflator 3/	9.2	6.1	3.7	4.2	2.5	4.7

Sources: Staff estimates based on data provided by the CSO.

1/ Data are provisional.
2/ Not adjusted for statistical discrepancy.
3/ Percent change.

Table 7. India: Price Developments, 1995/96–2001/02

	Weight	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	Prelim. 2001/02
				(Annual percent change, end of period)				
Wholesale Price Index (WPI), 1993/94 weights	100.0	4.4	5.4	4.5	5.3	6.5	5.5	1.4
Primary commodities	22.0	3.1	9.2	4.6	7.6	4.0	1.5	3.8
Food	15.4	7.7	11.6	4.0	9.3	7.1	-0.2	4.9
Nonfood	6.1	-6.1	3.3	7.2	2.7	-3.5	5.7	0.9
Minerals	0.5	-10.7	17.0	-8.3	17.8	-11.6	13.5	3.3
Fuel, power, light, and lubricants	14.2	5.1	13.3	13.7	3.2	26.7	15.1	3.8
Manufactured products	63.7	4.7	2.4	2.3	4.9	2.4	4.0	-0.4
Food products	11.5	3.8	10.6	5.8	9.2	-0.3	-3.1	0.5
Beverages, tobacco, and tobacco products	1.3	4.0	10.4	8.3	9.4	3.3	10.0	2.7
Textiles	9.8	-1.3	-9.0	1.5	-2.1	1.8	4.7	-5.7
Wood and wood products	0.2	7.8	0.0	64.6	-0.1	-4.9	-10.8	4.5
Paper and paper products	2.0	15.3	-7.1	1.8	14.5	5.0	15.6	-4.2
Leather and leather products	1.0	2.0	4.4	6.2	0.1	14.6	-6.3	-8.2
Rubber and plastic products	2.2	7.2	-1.6	-0.2	0.1	0.1	1.0	0.8
Chemicals and chemical products	1.4	6.6	4.9	0.7	11.0	5.5	4.2	1.3
Nonmetallic mineral products	2.5	7.8	-3.6	-2.4	2.9	-0.9	15.6	-2.5
Basic metals, alloys and metal products	8.3	6.3	3.7	3.3	1.0	3.2	3.2	-0.6
Machinery and machine tools	8.4	3.9	3.0	-1.5	1.1	-0.5	10.0	1.7
Transport equipment and parts	4.3	8.0	5.0	3.1	2.3	4.7	5.8	1.3
Other	10.7	6.3	5.2	0.7	10.8	5.4	3.9	1.5
Consumer Price Index (CPI)	100.0	8.9	10.0	8.3	8.9	4.8	2.5	5.2

Source: CEIC.

Table 8. India: Balance of Payments 1995/96-2001/02 1/

(In billions of U.S. dollars)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2000/01	2001/02		
							Q4	Q1	Q2	Q3
Current account balance	-5.9	-4.6	-5.5	-4.0	-4.7	-2.6	0.6	-0.3	-1.2	0.8
Trade balance	-11.4	-14.8	-15.5	-13.2	-17.8	-14.4	-2.3	-3.7	-3.2	-2.6
Merchandise exports	32.3	34.1	35.7	34.3	37.5	44.9	12.0	10.7	10.8	11.1
Merchandise imports	43.7	48.9	51.2	47.5	55.4	59.3	14.3	14.5	14.0	13.7
Oil	7.5	10.0	8.2	6.4	12.6	15.7	3.2	3.9	3.8	3.0
Non-oil	36.1	38.9	43.0	41.1	42.8	43.6	11.1	10.6	10.2	10.7
Customs	29.1	29.1	33.3	36.0	37.1	34.9	8.2	8.5	9.6	9.2
Non-customs	7.0	9.8	9.7	5.2	5.7	8.7	2.9	2.1	0.5	1.5
Non-factor services balance	-0.2	0.7	1.3	2.2	4.1	2.5	0.7	0.3	0.2	1.1
Receipts	7.3	7.5	9.4	13.2	15.7	18.9	5.8	4.8	5.5	5.0
Travel	2.7	2.9	2.9	3.0	3.0	3.2	0.9	0.7	0.7	0.8
Transportation	2.0	2.0	1.8	1.9	1.7	1.9	0.5	0.4	0.5	0.5
Insurance	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1
Government nie	0.0	0.1	0.3	0.6	0.6	0.7	0.2	0.2	0.1	0.1
Miscellaneous	2.4	2.4	4.2	7.4	10.2	12.9	4.2	3.5	4.2	3.6
Payments	7.5	6.7	8.1	11.0	11.6	16.4	5.1	4.5	5.3	3.9
Travel	1.2	0.9	1.4	1.7	2.1	2.9	0.8	0.7	0.6	0.4
Transportation	2.2	2.4	2.5	2.7	2.4	3.2	0.8	0.6	0.7	0.6
Insurance	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1
Government nie	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.1
Miscellaneous	3.8	3.2	3.8	6.2	6.7	9.9	3.3	3.0	3.9	2.8
Net investment income	-3.2	-3.3	-3.5	-3.5	-3.6	-3.8	-0.9	-0.7	-0.6	-0.8
Credits	1.4	1.1	1.6	1.9	1.9	2.4	0.6	0.7	0.7	0.5
Debits	4.6	4.4	5.1	5.5	5.5	6.2	1.5	1.4	1.3	1.3
Transfers, net	8.9	12.8	12.2	10.6	12.6	13.1	3.1	3.7	2.3	3.1
Capital account balance	4.2	12.0	9.8	8.4	10.4	9.0	2.4	2.0	0.3	1.9
Direct investment, net 2/	2.0	2.7	3.5	2.4	2.1	1.8	0.5	0.4	0.9	0.8
Portfolio investment, net	2.7	3.4	1.8	-0.1	3.0	2.8	1.6	1.0	0.3	0.1
External assistance, net	0.9	1.1	0.9	0.8	0.9	0.4	0.5	0.0	0.2	0.0
Commercial borrowing, net	1.3	2.9	4.0	4.4	0.3	4.0	-0.5	-0.5	-0.1	0.1
Short-term credit, net	0.0	0.8	-0.1	-0.7	0.4	0.1	-0.4	-0.3	-0.1	-0.4
NRI deposits, net	1.1	3.4	1.1	1.0	1.5	2.3	0.6	0.5	0.6	0.8
Rupee debt	-1.0	-0.7	-0.8	-0.8	-0.7	-0.6	-0.2	-0.4	0.0	0.0
Other capital	-2.9	-1.4	-0.7	1.5	2.9	-1.8	0.3	1.4	-1.5	0.4
Errors and omissions	0.5	-0.6	0.2	-0.2	0.7	-0.6	0.1	-0.2	1.4	0.9
Overall balance	-1.2	6.8	4.5	4.2	6.4	5.9	3.1	1.5	0.5	3.6
IMF, net	-1.7	-1.0	-0.6	-0.4	-0.3	0.0	0.0	...	...	...
Increase in gross reserves (-)	2.9	-5.8	-3.9	-3.8	-6.1	-5.8	-3.1	-1.5	-0.5	-3.6
Memorandum items:										
Foreign exchange reserves	21.7	26.4	29.4	32.5	38.0	42.3	42.3	43.5	44.9	48.1
In months of next year's imports (g & s)	4.7	5.3	6.0	5.8	6.0	6.6	6.6	6.7	6.7	7.1
Export value (in US$ terms; percent change)	20.3	5.6	4.5	-3.9	9.5	19.6	...	...	...	...
Import value (in US$ terms; percent change)	21.6	12.1	4.6	-7.1	16.5	7.0	...	...	...	...
Exports (in volume terms; percent change)	20.2	4.9	8.4	3.1	12.4	22.4	...	...	...	...
Imports (in volume terms; percent change)	113.0	107.6	101.2	-0.3	10.8	2.6	...	...	...	...
Current account (percent of GDP)	-1.7	-1.2	-1.3	-1.0	-1.1	-0.6	...	...	...	...
External debt (percent of GDP)	26.5	24.3	22.8	23.4	22.1	22.0	...	...	...	...
Short-term external debt (percent of GDP) 3/	3.4	3.5	2.9	2.7	2.3	2.0	...	...	...	...
Debt service in percent of exports (g & s)	25.5	22.2	19.3	19.1	18.1	16.3	...	...	...	...

Sources: Data provided by CEIC; and staff estimates.

1/ Indian authorities' presentation. Fiscal year runs from April 1-March 31.
2/ Net foreign direct investment in India less net foreign investment abroad.
3/ Residual-maturity basis, except for medium and long-term NRI deposits, where contracted-maturity basis.

Table 9. India: Official Reserves, 1995/96–2001/02

(In millions of U.S. dollars, end-of-period)

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02
Gold 1/	654	620	596	546	542	508	502
SDR holdings	82	2	1	8	4	2	10
Reserve position in IMF	311	295	284	663	658	616	609
Foreign exchange	17,044	22,367	25,975	29,522	35,058	39,554	51,049
Gross reserves	18,090	23,284	26,856	30,739	36,262	40,680	52,170
Use of Fund credit	2,374	1,313	664	288	26	0	0
Memorandum items:							
Gross reserves (gold valued at market prices) 2/	21,687	26,423	29,367	32,490	38,036	42,281	54,154
Outstanding net forward sales (-) / purchases (+)	-2,216	-345	-1,792	-802	-675	-1,259	-400
Net reserves 3/	17,097	24,765	26,911	31,401	37,335	41,022	53,754

Sources: IMF, *International Financial Statistics*; except for memorandum items, where the data are provided by the Indian authorities.

1/ Gold valued at SDR 35 per troy ounce.
2/ Excluding Reserve position in the Fund.
3/ Defined as gross reserves (with gold valued at market prices) minus use of Fund credit and outstanding forward liabilities.

Table 10. India: External Commercial Borrowing, 1994/95–2000/01 1/

(In millions of U.S. dollars)

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total sanctions	4,367	6,286	8,581	8,712	5,200	3,398	2,837
Financial institutions	476	1,849	1,502	795	150	125	70
Power	1,884	616	1,875	3,014	3,998	2,267	1,065
Railways	...	45	144	179	15	...	...
Shipping	117	105	146	210	37	27	144
Telecom	117	105	289	1,492	75	...	...
Petroleum	129	160	783	230	40	218	150
Civil aviation	18	390	46	373	...	...	...
Others	1,626	3,016	3,796	2,419	885	761	1,408
Gross disbursement 2/ 3/	4,152	4,252	7,571	7,371	7,226	3,187	9,324
Outstanding debt 3/	12,991	13,873	14,335	16,986	20,978	19,943	24,074
(In percent of total external debt)	13.1	14.8	15.3	18.2	21.7	20.3	24.2

Sources: 2001/02 *Economic Survey*; and data provided by the Indian authorities.

1/ Borrowing controlled by "ECB guidelines", including loans from banks abroad, bonds (except foreign currency convertible bonds), and credit from official export credit agencies.
2/ On a balance-of-payments basis.
3/ Includes Resurgent India Bonds and the India Millennium Deposit Scheme.

Table 11. India: External Debt, 1994/95–2000/01 1/

(In billions of U.S. dollars, end-of-period)

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Foreign currency-denominated debt 2/	89.4	85.5	86.0	87.7	92.2	93.9	95.9
Medium and long term	85.1	80.5	79.2	82.6	87.9	89.9	92.5
Multilateral	28.5	28.6	29.2	29.6	30.5	31.4	31.1
Government borrowing	26.1	26.1	26.4	26.3	27.0	27.6	27.4
Concessional	17.8	17.6	17.6	17.8	18.6	19.3	19.1
Of which : IDA	17.4	17.3	17.3	17.5	18.3	19.0	18.8
Nonconcessional	8.4	8.5	8.7	8.5	8.4	8.3	8.3
Of which : IBRD	7.1	6.9	6.8	6.4	6.1	5.8	5.7
Nongovernment borrowing	2.4	2.6	2.8	3.2	3.6	3.9	3.7
Public sector	1.0	1.4	1.3	2.2	2.5	2.8	2.7
Financial institutions	0.8	0.7	0.7	0.6	0.6	0.7	0.7
Private sector	0.6	0.5	0.9	0.4	0.4	0.4	0.3
Bilateral	20.3	19.2	17.5	17.0	17.5	18.2	15.9
Government borrowing	16.8	15.5	13.7	13.0	13.4	14.0	12.2
Of which : Concessional	16.8	15.2	13.4	12.8	13.3	13.6	11.9
Nongovernment borrowing	3.4	3.7	3.8	4.0	4.1	4.2	3.8
Public sector	2.2	1.7	1.7	1.4	1.3	1.4	1.4
Financial institutions	1.0	1.4	1.3	1.5	1.5	1.5	1.3
Private sector	0.3	0.5	0.8	1.1	1.2	1.2	1.0
Export credit	6.6	5.4	5.9	6.5	6.8	6.8	5.9
Commercial borrowing	13.0	13.9	14.3	17.0	21.0	19.9	24.1
Of which : Commercial bank loans	5.8	6.7	8.3	10.0	10.3	10.1	9.8
Nonresident Indian (NRI) deposits 3/	12.4	11.0	11.0	11.9	11.8	13.6	15.4
IMF	4.3	2.4	1.3	0.7	0.3	0.0	0.0
Short term (contracted-maturity basis)	4.3	5.0	6.7	5.0	4.3	3.9	3.5
Of which : NRI deposits 4/	2.3	2.9	3.8	2.2	2.1	1.4	0.8
Rupee-denominated debt 5/	9.6	8.2	7.5	5.9	4.7	4.4	3.7
Total external debt	99.0	93.7	93.5	93.5	96.9	98.3	99.6
(In percent of GDP)	(30.7)	(26.4)	(24.3)	(22.8)	(23.4)	(22.1)	(22.0)
Memorandum items:							
Concessional debt 6/	44.8	41.9	39.5	36.9	37.3	38.2	35.8
(In percent of total external debt)	(45.3)	(44.7)	(42.2)	(39.5)	(38.5)	(38.9)	(36.0)
Short term (contracted-maturity basis)	4.3	5.0	6.7	5.0	4.3	3.9	3.5
(In percent of GDP)	(1.3)	(1.4)	(1.7)	(1.2)	(1.0)	(0.9)	(0.8)
Short term (residual-maturity basis) 7/	...	...	13.6	11.8	11.1	10.3	9.3
(In percent of GDP)	...	...	(3.5)	(2.9)	(2.7)	(2.3)	(2.0)

Source: Government of India.

1/ Data at end-March.
2/ Excludes rupee-denominated debt owed to Russia.
3/ Deposits above one year's maturity. Excludes nonrepatriable, nonresident rupee deposits.
4/ Deposits of up to one year's maturity.
5/ Rupee-denominated debt owed to Russia, converted at current exchange rate, and payable through exports.
6/ Includes mutilateral and bilateral government and nongovernment borrowing.
7/ Except contracted-maturity for NRI deposits.

Table 12. India: Selected Monetary Indicators, 1996/97-2001/02

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02
			(Annual growth rates)			
Reserve money	2.8	13.2	14.5	8.2	8.1	11.4
M3	16.2	18.0	19.4	14.6	16.8	14.0
NM3 1/	15.5	17.8	18.0	15.3	14.7	15.5
Credit to commercial sector	9.2	15.1	14.5	18.3	15.8	11.0
			(In percent)			
Cash reserve ratio	10.0	10.3	10.5	9.0	8.0	5.5
Bank rate	12.0	10.5	8.0	8.0	7.0	6.5
91-day Treasury bill yield	8.0	7.3	8.7	9.2	8.7	5.8
Commercial bank PLR 2/	14.5-15.0	14.0	12.0-13.0	12.0-12.5	11.0-12.0	11.0-12.1

Source: Reserve Bank of India (RBI); and CEIC.

1/ New broad money series.
2/ Relates to five major banks.

Table 13. India: Reserve Money, 1998/99-2001/02 1/

	1998/99	1999/2000	2000/01	2001/02			
				June	Sept.	Dec.	Mar.
Reserve Money	2,593	2,806	3,033	3,138	3,020	3,146	3,378
Currency in circulation	1,758	1,971	2,182	2,319	2,268	2,395	2,508
Currency with public	1,689	1,891	2,096	2,223	2,184	2,302	2,414
Cash with banks	69	80	86	96	84	93	94
Bankers deposits	797	805	815	781	719	725	841
Other deposits	37	30	36	37	33	25	28
Net domestic assets of RBI	1,213	1,147	1,061	1,094	877	824	739
Claims on government	1,525	1,483	1,539	1,696	1,520	1,480	1,545
Center	1,454	1,398	1,465	1,661	1,459	1,411	1,460
States	71	84	73	36	61	68	84
Claims on commercial sector	122	153	133	102	105	108	59
Claims on banks	133	168	130	107	111	143	107
Other items (net)	-567	-656	-740	-811	-860	-907	-973
Net foreign assets	1,380	1,659	1,972	2,044	2,143	2,321	2,640
			(Annual growth rates)				
Reserve Money	14.5	8.2	8.1	14.1	11.0	10.2	11.4
Currency in circulation	16.4	12.1	10.7	12.5	12.1	12.5	15.0
Bankers deposits	11.0	0.9	1.3	21.9	8.7	3.2	3.3
Net domestic assets of RBI	9.8	-5.5	-7.4	-1.3	-19.7	-16.2	-30.4
Claims on government	12.9	-2.8	3.8	8.3	0.1	0.3	0.4
Net foreign assets	19.0	20.2	18.9	24.6	31.6	24.1	33.9
Memorandum item:							
Contribution of RBI credit to government to annual growth of Reserve Money (percentage points)	7.7	-1.6	2.0	4.7	0.0	0.2	0.2

Source: RBI.

1/ Except for March 31, all other quarters are on a last reporting Friday basis.

Table 14. India: Monetary Survey, 1998/99-2001/02 1/

	1998/99	1999/2000	2000/01	2001/02			
				June	Sept.	Dec.	Mar.
Broad money (M3)	9,810	11,242	13,132	13,808	14,068	14,498	14,971
Currency with public	1,689	1,891	2,096	2,223	2,184	2,301	2,414
Deposits	8,083	9,321	11,000	11,547	11,851	12,171	12,528
Nonbank deposits at RBI	37	30	36	37	33	25	28
Net domestic assets	8,031	9,185	10,634	11,295	11,361	11,669	11,824
Domestic credit	8,827	10,279	11,912	12,347	12,523	12,985	13,420
Net credit to Government	3,867	4,414	5,120	5,532	5,603	5,708	5,878
RBI	1,525	1,483	1,539	1,696	1,520	1,480	1,545
Other banks	2,341	2,931	3,581	3,836	4,082	4,228	4,333
Credit to commercial sector	4,960	5,866	6,792	6,814	6,920	7,278	7,542
Commercial bank lending	3,688	4,360	5,114	5,194	5,300	5,597	5,858
Nonfood	3,520	4,103	4,714	4,691	4,817	5,074	5,319
Food	168	257	400	503	483	523	539
Other 2/	1,272	1,506	1,678	1,620	1,620	1,681	1,684
Other items (net)	-796	-1,094	-1,278	-1,051	-1,162	-1,316	-1,596
Net foreign assets	1,779	2,056	2,498	2,512	2,708	2,829	3,147
			(Annual growth rates)				
Broad money (M3)	19.4	14.6	16.8	17.3	16.9	13.9	14.0
Currency with public	16.1	11.9	10.8	12.5	12.1	12.9	15.2
Deposits	20.2	15.3	18.0	18.4	17.9	14.1	13.9
Net domestic assets	17.5	14.4	15.8	16.3	14.4	12.4	11.2
Domestic credit	15.5	16.5	15.9	14.4	14.5	12.8	12.7
Net credit to government	17.0	14.1	16.0	17.6	18.3	15.8	14.8
Credit to commercial sector	14.5	18.3	15.8	12.0	11.6	10.6	11.0
o/w: Commercial bank lending	13.8	18.2	17.3	12.9	13.4	12.5	14.5
Nonfood	13.0	16.5	14.9	9.9	10.6	10.2	12.8
Net foreign assets	28.8	15.6	21.5	21.6	29.0	20.6	26.0
			(Contribution to M3 growth)				
Net domestic assets	14.6	11.8	12.9	13.5	11.9	10.1	9.1
o/w: Net credit to government	6.8	5.6	6.3	7.0	7.2	6.1	5.8
RBI	2.1	-0.4	0.5	1.1	0.0	0.0	0.0
Other banks	4.7	6.0	5.8	5.9	7.2	6.1	5.7
Credit to commercial sector	7.6	9.2	8.2	6.2	6.0	5.5	5.7
Net foreign assets	4.8	2.8	3.9	3.8	5.1	3.8	4.9

Source: RBI.

1/ End-year data are a consolidation of March 31 data for the RBI and the last reporting Friday data for commercial banks.

2/ Includes RBI commercial credit, bank holdings of securities, and credit distributed by cooperatives.

Table 15. India: Financial Performance of Indian Commercial Banks, 1993/94–2000/01

(As a percent of total assets)

	Net Interest Income	Non-Interest Income	Operating Expenses	Pre-Provision Profits	Provisions & Contingencies	Net profits	Cost/Income Ratio
				All Commercial Banks			
1993/94	2.54	1.35	2.64	1.25	2.10	-0.85	0.68
1994/95	3.00	1.44	2.76	1.64	1.22	0.42	0.63
1995/96	3.13	1.49	2.94	1.69	1.54	0.16	0.63
1996/97	3.22	1.45	2.85	1.82	1.15	0.67	0.61
1997/98	2.95	1.52	2.63	1.84	1.02	0.82	0.59
1998/99	2.78	1.34	2.67	1.45	0.98	0.47	0.65
1999/00	2.73	1.42	2.50	1.66	1.00	0.66	0.60
2000-01	2.84	1.32	2.64	1.52	1.03	0.50	0.63
Average	2.90	1.42	2.70	1.61	1.26	0.36	0.63
				Public Sector Banks			
1993/94	2.36	1.28	2.65	0.99	2.14	-1.15	0.73
1994/95	2.92	1.16	2.83	1.41	1.16	0.25	0.67
1995/96	3.08	1.39	2.99	1.49	1.56	-0.07	0.67
1996/97	3.16	1.32	2.88	1.60	1.03	0.57	0.64
1997/98	2.91	1.33	2.66	1.58	0.81	0.77	0.63
1998/99	2.80	1.22	2.66	1.37	0.95	0.42	0.66
1999/00	2.70	1.29	2.53	1.46	0.89	0.57	0.63
2000-01	2.84	1.22	2.72	1.34	0.92	0.42	0.67
Average	2.85	1.28	2.74	1.41	1.18	0.22	0.66
				Old Private Sector Banks			
1993/94	2.97	1.31	2.45	1.82	1.26	0.56	0.57
1994/95	3.04	1.35	2.33	2.16	1.00	1.16	0.52
1995/96	3.14	1.56	2.60	2.10	1.04	1.06	0.55
1996/97	2.93	1.48	2.52	1.89	0.98	0.91	0.57
1997/98	2.57	1.71	2.31	1.96	1.16	0.81	0.54
1998/99	2.15	1.33	2.26	1.21	0.73	0.48	0.65
1999/00	2.33	1.66	2.17	1.82	1.01	0.81	0.54
2000-01	2.51	1.23	1.98	1.75	1.13	0.62	0.53
Average	2.71	1.45	2.33	1.84	1.04	0.80	0.56
				New Private Sector Banks			
1993/94	...			...	...	...	...
1994/95	1.17		0.65	1.07	0.43	0.64	...
1995/96	2.84	1.82	1.89	2.77	0.92	1.85	0.41
1996/97	2.88	2.03	1.94	2.98	1.24	1.74	0.39
1997/98	2.23	2.42	1.76	2.86	1.32	1.55	0.38
1998/99	1.98	1.53	1.74	1.78	0.75	1.03	0.49
1999/00	1.95	1.58	1.42	2.11	1.14	0.97	0.40
2000-01	2.14	1.35	1.75	1.74	0.93	0.81	0.50
Average	2.17	1.79	1.59	2.19	0.96	1.23	0.43
				Foreign Banks			
1993/94	4.21	2.22	2.66	3.79	2.28	1.51	0.41
1994/95	4.24	2.42	2.73	3.93	2.27	1.66	0.41
1995/96	3.74	2.34	2.77	3.35	1.77	1.58	0.45
1996/97	4.13	2.49	3.00	3.62	2.44	1.19	0.45
1997/98	3.93	2.93	2.97	3.91	2.94	0.97	0.43
1998/99	3.47	2.43	3.59	2.32	1.63	0.69	0.61
1999/00	3.92	2.54	3.22	3.24	2.08	1.17	0.50
2000-01	3.64	2.47	3.05	3.05	2.12	0.93	0.50
Average	3.91	2.48	3.00	3.40	2.19	1.21	0.47

Sources: RBI, *Report on Trends and Progress of Banking in India*, 2000/01; and staff estimates.
Note: Average is the eight- year simple average of 1993/94–2000/01.

Table 16. India: Indicators of Financial System Soundness, 1995/96–2000/01

	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Measures of financial strength and performance 1/						
Risk-weighted capital adequacy ratio (CAR)						
Public sector banks	8.7	10	11.6	11.2	10.7	11.2
Domestic private banks	...	12.8	12.7	11.9	12.9	11.8
Foreign banks	...	10.4	10.4	10.8	11.9	12.6
Number of institutions not meeting 9 percent CAR						
Public sector banks	15	6	3	1	1	2
Domestic private banks	10	7	6	6	3	3
Foreign banks	12	8	6	3	0	0
Net nonperforming loans (percent of outstanding net loans) 2/						
Public sector banks	8.9	9.2	8.2	8.1	7.4	6.7
Domestic private banks	4.3	5.4	5.3	7.4	5.4	5.4
Foreign banks	1.3	1.9	2.3	2.9	2.4	1.9
Gross nonperforming loans (percent of outstanding loans)						
Public sector banks	18	17.8	16	15.9	14	12.4
Domestic private banks	...	8.5	8.7	10.8	8.2	8.5
Foreign banks	...	4.3	6.4	7.6	7	6.8
Number of institutions with net NPLs above 10 percent of advances						
Public sector banks	8	10	10	9	5	5
Domestic private banks	3	3	4	8	6	7
Foreign banks	1	3	8	14	11	11
Net profit(+)/loss(-) of commercial banks (percent of total assets)	0.2	0.7	0.8	0.5	0.7	0.5
Public sector banks	-0.1	0.6	0.8	0.4	0.6	0.4
Domestic private banks	1.2	1.1	1	0.7	0.9	0.7
Foreign banks	1.6	1.2	1	0.7	1.2	0.9
Balance sheet structure of commercial banks						
Loan/deposit ratio	59.1	54.6	50.3	47.9	49.3	49.8
Investment in govt. securities/deposit ratio	36.2	35.5	29	29.8	32	33.4
Lending to sensitive sectors (percent of private credit)						
Real estate	0.5	0.6	0.6	0.5	1.6	1.6
Capital market	...	...	...	0.5	1.1	0.9
Commodities	...	...	...	...	1.7	1.8

Source: Data provided by the Indian authorities.

1/ Loan classification and provisioning standards do not meet international standards. Banks will be required to classify loans overdue for 90 days as substandard (compared with the current 180 days) effective March 2004, and loans that have been in the s

2/ Gross nonperforming loans less provisions.

Table 17. India: Consolidated Public Sector Operations, 1996/97–2001/02 1/

	1996/97	1997/98	1998/99	1999/00	2000/01 2/	Budget 2001/02
			(In billions of rupees)			
Total revenue and grants	2,618	3,018	3,331	3,655	4,127	4,926
Tax revenue	1,999	2,205	2,328	2,743	3,091	3,698
Non-tax revenue	607	804	994	901	1,028	1,222
Grants	12	10	10	11	8	7
Total expenditure and net lending	3,806	4,311	5,027	5,820	6,492	7,370
Overall public sector balance	-1,188	-1,292	-1,696	-2,165	-2,364	-2,444
Financing	1,188	1,292	1,696	2,165	2,364	2,444
External (net)	122	54	63	66	118	70
Domestic (net)	1,066	1,239	1,633	2,098	2,246	2,373
			(In percent of GDP)			
Total revenue and grants	19.1	19.8	19.1	18.9	19.8	19.9
Tax revenue	14.6	14.5	13.4	14.2	14.8	14.9
Nontax revenue	4.4	5.3	5.7	4.7	4.9	4.9
Grants	0.1	0.1	0.1	0.1	0.0	0.0
Total expenditure and net lending	27.8	28.3	28.9	30.2	31.1	29.8
Overall public sector balance	-8.7	-8.5	-9.7	-11.2	-11.3	-9.9
Financing	8.7	8.5	9.7	11.2	11.3	9.9
External (net)	0.9	0.4	0.4	0.3	0.6	0.3
Domestic (net)	7.8	8.1	9.4	10.9	10.8	9.6
Memorandum items:						
Primary balance 3/	-2.8	-2.9	-4.0	-5.0	-4.7	-3.5
Net interest payments	5.9	5.6	5.8	6.2	6.6	6.4
Overall public sector balance	-8.7	-8.5	-9.7	-11.2	-11.3	-9.9
Central government	-4.1	-4.9	-5.5	-5.5	-5.8	-5.2
States and Union Territories	-2.7	-2.9	-4.3	-4.7	-4.6	-3.9
Central Public Enterprises	-2.1	-1.8	-1.4	-1.8	-1.4	-1.6
Oil Coordination Committee	-0.7	0.1	0.6	-0.1	-0.3	0.0
Consolidation items 4/	1.0	0.9	0.8	1.0	0.9	0.8
Public sector debt 5/	75.4	76.9	77.6	81.2	86.5	...
External debt	15.7	15.2	14.7	13.7	13.5	...
Internal debt	59.6	61.7	62.8	67.5	73.0	...

Sources: Data provided by the Indian authorities; and staff estimates.

1/ The consolidated public sector comprises the central government, state governments, central public enterprises (PSUs), and the accounts of the Oil Coordination Committee (OCC).

2/ Based on actual outcome for central government and PSUs and revised estimates for state governments.

3/ Overall balance excluding interest payments.

4/ Above-the-line items in central government accounts that cancel out in the consolidation (e.g., loans to states and PSUs).

5/ Staff estimates.

Table 18. India: Central Government Operations, 1996/97–2002/03

	1996/97	1997/98	1998/99	1999/00	2000/01	Rev. Est. 2001/02 1/	Budget 1/ 2002/03
				(In billions of rupees)			
Total revenue and grants	1,318	1,406	1,577	1,905	2,039	2,260	2,595
Net tax revenue	937	957	1,047	1,283	1,369	1,438	1,746
Gross tax revenue	1,288	1,392	1,438	1,718	1,886	1,967	2,358
Of which: Corporate tax	186	200	245	307	357	391	486
Income tax	182	171	202	257	318	344	425
Excise taxes	450	480	532	619	685	745	914
Customs duties	429	402	407	484	475	432	452
Less: States' share	351	435	391	435	517	528	612
Non-tax revenue	369	440	520	611	661	813	840
Grants	12	10	10	11	8	8	9
Total expenditure and net lending	1,883	2,147	2,531	2,969	3,248	3,627	4,070
Current expenditure	1,644	1,871	2,247	2,581	2,891	3,178	3,548
Of which: Interest payments	595	656	779	902	993	1,073	1,174
Wages and salaries	190	259	289	315	276	289	303
Major subsidies	140	182	212	232	259	296	389
Capital expenditure and net lending 2/	239	277	285	388	357	450	521
Overall balance 3/	-565	-741	-954	-1,064	-1,209	-1,367	-1,475
Overall balance (authorities' definition) 4/	-561	-732	-896	-1,047	-1,188	-1,317	-1,355
Financing	565	741	954	1,064	1,209	1,367	1,475
External (net)	30	11	19	12	75	21	8
Domestic (net)	535	730	935	1,053	1,134	1,347	1,468
Of which : Market borrowing	200	444	690	703	729	915	999
Small savings and other funds	131	211	231	221	184	285	279
Disinvestment receipts	4	9	59	17	22	50	120
				(In percent of GDP)			
Total revenue and grants	9.6	9.2	9.1	9.9	9.8	9.9	10.1
Net tax revenue	6.8	6.3	6.0	6.6	6.6	6.3	6.8
Gross tax revenue	9.4	9.1	8.3	8.9	9.0	8.6	9.2
Of which: Corporate tax	1.4	1.3	1.4	1.6	1.7	1.7	1.9
Income tax	1.3	1.1	1.2	1.3	1.5	1.5	1.7
Excise taxes	3.3	3.2	3.1	3.2	3.3	3.2	3.6
Customs duties	3.1	2.6	2.3	2.5	2.3	1.9	1.8
Less: States' share	2.6	2.9	2.2	2.3	2.5	2.3	2.4
Nontax revenue	2.7	2.9	3.0	3.2	3.2	3.5	3.3
Grants	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Total expenditure and net lending	13.8	14.1	14.5	15.4	15.6	15.8	15.9
Current expenditure	12.0	12.3	12.9	13.4	13.8	13.9	13.9
Of which: Interest payments	4.3	4.3	4.5	4.7	4.8	4.7	4.6
Wages and salaries	1.4	1.7	1.7	1.6	1.3	1.3	1.2
Major subsidies	1.0	1.2	1.2	1.2	1.2	1.3	1.5
Capital expenditure and net lending 2/	1.7	1.8	1.6	2.0	1.7	2.0	2.0
Overall balance 3/	-4.1	-4.9	-5.5	-5.5	-5.8	-6.0	-5.8
Overall balance (authorities' definition) 4/	-4.1	-4.8	-5.1	-5.4	-5.7	-5.7	-5.3
Financing	4.1	4.9	5.5	5.5	5.8	6.0	5.8
External (net)	0.2	0.1	0.1	0.1	0.4	0.1	0.0
Domestic (net)	3.9	4.8	5.4	5.5	5.4	5.9	5.7
Of which : Market borrowing	1.5	2.9	4.0	3.6	3.5	4.0	3.9
Small savings and other funds	-0.4	0.6	0.5	0.5	0.4	0.4	0.3
Divestment receipts	0.0	0.1	0.3	0.1	0.1	0.2	0.5
Memorandum items							
Military expenditure	2.2	2.3	2.3	2.4	2.4	2.5	2.5
Primary balance 5/	0.2	-0.6	-1.0	-0.8	-1.0	-1.3	-1.2
Revenue balance 6/	-2.4	-3.0	-3.8	-3.5	-4.1	-4.0	-3.7
Central government debt 7/	49.4	51.1	51.2	52.9	56.4	58.5	59.2
Measured at current exchange rates	56.4	58.1	57.6	59.2	60.2	...	...
Central government guarantees	5.1	4.9	4.3	4.4	...	...	...
Nominal GDP (Rs billion)	13,682	15,225	17,409	19,296	20,880	23,109	25,571

Sources: Data provided by the Indian authorities; and staff estimates.

1/ Revised Estimates reported in the 2002/03 budget documents (released end-February 2002).

2/ Excludes onlending to the states from Small Savings collections in all years.

3/ Staff definition: divestment receipts included in below-the-line financing items.

4/ Divestment receipts are treated as revenues (above-the-line); onlending to states from the Small Savings collections had been included by the authorities in capital expenditure and net lending through 1998/99, but the new definition is reported here (excluding Small Savings onlending).

5/ Overall balance excluding interest payments.

6/ Total receipts (excluding divestment proceeds) less non-capital expenditures.

7/ External debt measured at historical exchange rates.

Table 19. India: State Government Operations, 1996/97–2001/02

	1996/97	1997/98	1998/99	1999/00	Rev. Est. 1/ 2000/01	Budget 2/ 2001/02
			(In billions of rupees)			
Total revenue and grants	1,536	1,722	1,781	2,059	2,438	2,831
Tax revenue	1,062	1,248	1,281	1,461	1,729	2,048
Share of Central Government tax revenue 2/	351	435	391	435	524	616
State taxes	711	812	890	1,026	1,205	1,431
Taxes on income	10	11	14	18	20	22
Taxes on property & capital transactions	74	83	85	97	118	143
Taxes on commodities and services	627	718	790	911	1,068	1,266
Non-tax revenue	235	244	242	299	300	331
Grants from Central Government 2/	239	230	258	300	409	453
Total expenditure	1,911	2,166	2,528	2,974	3,390	3,787
Developmental	1,320	1,453	1,645	1,873	2,240	2,346
Social services	655	735	881	1,030	1,198	1,314
Economic services	665	717	764	843	1,041	1,032
Non-developmental	621	718	865	1,102	1,240	1,454
Less: Recovery of loans & advances	58	55	33	34	83	49
Other (net) 3/	27	51	51	32	-6	37
Overall balance	-374	-444	-748	-915	-953	-956
Financing	374	444	748	915	953	956
Market borrowings (net)	65	73	105	127	129	107
Loans from Center and small savings (net) 2/	178	226	302	365	397	449
Asset sales	2	2	5	0	0	0
Other 6/	130	143	335	423	427	400
			(In percent of GDP)			
Total revenue and grants	11.2	11.3	10.2	10.7	11.7	11.4
Tax revenue	7.8	8.2	7.4	7.6	8.3	8.3
Share of Central Government tax revenue 2/	2.6	2.9	2.2	2.3	2.5	2.5
State taxes	5.2	5.3	5.1	5.3	5.8	5.8
Taxes on income	0.1	0.1	0.1	0.1	0.1	0.1
Taxes on property & capital transactions	0.5	0.5	0.5	0.5	0.6	0.6
Taxes on commodities and services	4.6	4.7	4.5	4.7	5.1	5.1
Non-tax revenue	1.7	1.6	1.4	1.5	1.4	1.3
Grants from Central Government 2/	1.7	1.5	1.5	1.6	2.0	1.8
Total expenditure	14.0	14.2	14.5	15.4	16.2	15.3
Developmental	9.6	9.5	9.4	9.7	10.7	9.5
Social services	4.8	4.8	5.1	5.3	5.7	5.3
Economic services	4.9	4.7	4.4	4.4	5.0	4.2
Non-developmental	4.5	4.7	5.0	5.7	5.9	5.9
Of which: Interest payments	1.9	2.0	2.1	2.3	2.6	2.6
Other (net) 3/	0.2	0.3	0.3	0.2	0.0	0.1
Overall balance	-2.7	-2.9	-4.3	-4.7	-4.6	-3.9
Financing	2.7	2.9	4.3	4.7	4.6	3.9
Market borrowings (net)	0.5	0.5	0.6	0.7	0.6	0.4
Loans from Center and small savings (net) 2/	1.3	1.5	1.7	1.9	1.9	1.8
Asset sales	0.0	0.0	0.0	0.0	0.0	0.0
Other 4/	0.9	0.9	1.9	2.2	2.0	1.6
Memorandum items						
Primary balance 5/	-0.9	-0.9	-2.2	-2.4	-2.0	-1.2
Revenue balance 6/	-1.2	-1.1	-2.5	-2.8	-2.5	-1.9
Net resources transferred from central govt.	5.6	5.9	5.5	5.7	6.3	6.1
Gross borrowing against small savings	0.8	1.0	1.4	1.4	1.6	1.5
State government debt	17.8	18.5	19.6	21.8	24.1	23.9
Of which: Loans and advances from central govt.	10.9	11.3	11.7	11.2	11.0	10.0
State government guarantees 7/	4.6	4.8	5.6	6.5	...	...

Sources: Data provided by the Indian authorities; and staff estimates.

1/ Based on figures published in the RBI's January 2002 "State Finances, A Study of Budgets of 2001–02".

2/ According to central government accounts.

3/ Includes other expenditure, and discrepancies between central government and state sources on share of central government tax revenues and grants from central government.

4/ Includes other financing, and discrepancy between central government and state sources on loans from central government.

5/ Overall balance excluding interest payments.

6/ Total receipts (excluding divestment proceeds) less non-capital expenditures.

7/ Explicit guarantees of 17 major states.

Table 20. India: General Government Operations, 1996/97–2001/02 1/

	1996/97	1997/98	1998/99	1999/00	2000/01 2/	Budget 2/ 2001/02
			(In billions of rupees)			
Total revenue and grants	2,365	2,739	2,996	3,381	3,715	4,512
Tax revenue 3/	1,999	2,205	2,328	2,743	3,091	3,698
Non-tax revenue 4/	355	524	658	627	616	807
Grants	12	10	10	11	8	7
Total expenditure and net lending 5/	3,332	3,837	4,525	5,293	5,888	6,663
General government balance	-966	-1,098	-1,529	-1,912	-2,173	-2,151
RBI: Gross fiscal deficit 6/	-874	-1,107	-1,571	-1,848	-1,996	...
OCC balance	-98	18	109	-29	-63	...
Financing	966	1,098	1,529	1,912	2,173	2,151
External (net)	30	11	19	12	75	19
Domestic (net)	937	1,087	1,509	1,900	2,098	2,132
Disinvestment receipts	6	11	64	17	22	120
			(In percent of GDP)			
Total revenue and grants	17.3	18.0	17.2	17.5	17.8	18.2
Of which : Tax revenue 3/	14.6	14.5	13.4	14.2	14.8	14.9
Nontax revenue 4/	2.6	3.4	3.8	3.2	3.0	3.3
Total expenditure and net lending 5/	24.4	25.2	26.0	27.4	28.2	26.9
General government balance	-7.1	-7.2	-8.8	-9.9	-10.4	-8.7
(including disinvestment receipts)	-7.0	-7.1	-8.4	-9.8	-10.3	-8.2
Domestic financing (net)	6.8	7.1	8.7	9.8	10.0	8.6
Memorandum items						
Consolidated general government						
Revenue balance 6/	3.6	4.1	6.4	6.3	6.2	5.1
Primary balance	-2.0	-2.1	-3.5	-4.2	-4.4	-2.8
Non-defense capital expenditure	2.7	3.0	2.8	3.2	3.2	3.1
Net interest payments	5.1	5.1	5.3	5.7	6.0	5.8
General government balance	-7.1	-7.2	-8.8	-9.9	-10.4	-8.7
Central government	-4.1	-4.9	-5.5	-5.5	-5.8	-5.2
OCC	-0.7	0.1	0.6	-0.1	-0.3	0.0
State and UT governments	-2.7	-2.9	-4.3	-4.7	-4.6	-3.9
Consolidation items 7/	0.5	0.5	0.4	0.5	0.4	0.4
General government debt	65.9	67.5	67.9	71.8	77.2	...

Sources: Data provided by the Indian authorities; and staff estimates.

1/ The consolidated general government comprises the central government (incl. OCC) and state governments.
2/ Based on actual outcome for central government and revised estimates for state governments.
3/ Tax revenue = Tax revenue of central government (CG), including states' share, plus state tax revenue.
4/ Nontax revenue = Nontax revenue of CG (including OCC), less interest payments by states on CG loans, plus nontax revenue of states.
5/ Expenditure and net lending = Total expenditure and net lending of central government (CG), less net loans and grants to states and union territories, plus total expenditure of states (excluding interest payments on CG loans).
6/ From the RBI *Handbook of Statistics*, 2001; the authorities treat disinvestment proceeds above-the-line as capital receipts, while staff's definition treats these as below-the-line financing.
7/ Above-the-line items in central government accounts that cancel out in the consolidation (e.g., loans to states).