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India: Selected Issues

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INDIA

Selected Issues

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Approved by the Asia and Pacific Department

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Contents Page

OVERVIEW

1. **After three years with growth averaging about 7 percent per year, it is clear that India is an emerging economic power**. However, the current rapid growth is presenting new challenges to macroeconomic policy, while ensuring the sustainability of this growth requires broad-based fiscal and structural reforms. The six papers presented here discuss both the progress made in meeting these challenges and the road still ahead.

2. **Higher world oil prices present risks in both the near and medium term**. In the short-run, higher oil prices combined with robust domestic demand threaten to push inflation higher. Over the longer-run, permanently higher oil prices can depress growth and widen fiscal imbalances, in particular if the economy is not allowed to adjust to new price levels. Chapter I analyzes India's response to higher world oil prices thus far and points to the need for a gradual move to full pass-through, with targeted protection for the poor.

3. **India's continued economic ascendance will depend in large part on its ability to benefit from globalization**. India's recent rapid growth has gone hand in hand with a gradual opening of its economy and it is critical to ensure it can continue to thrive in a globalized economy. Chapter II examines India's competitiveness, finding that India's export performance, while solid, can be greatly improved with enhanced infrastructure, lower tariffs and an improved business climate. However, the exchange rate is not seen as an obvious bar to competitiveness, with no evidence that the rupee is misaligned at present.

4. **Despite real progress over the last several years, India's fiscal position remains a barrier to even more rapid growth**. Chapters III and IV examine two key aspects of the government's medium-term fiscal strategy—tax base broadening and reform of center-state relations. In both cases, recent moves by the government are important positive steps, and the analysis points to further potentially important measures. On tax reform, there is considerable scope to generate increases in revenue, but difficult choices will be required. States have been provided with more resources and incentives for adjustment, but more conditionality on transfers and tighter borrowing controls would provide a further impetus for reform.

5. **Recent growth in India has been accompanied by increased financial intermediation**. Chapter V analyzes the rapid credit growth of the last few years, finding it to be a generally positive development, but one that bears close monitoring. In particular, while credit risks are seen as manageable, further tightening of prudential regulations could play a role in minimizing these risks.

6. **Improved statistics are key for enhancing economic policy-making**. India's main inflation measures exclude services. Chapter VI uses implicit prices to examine trends in services inflation and argues for the need to develop broader price measures in India.

I. Dealing with Higher Oil Prices in India[1]

A. Introduction

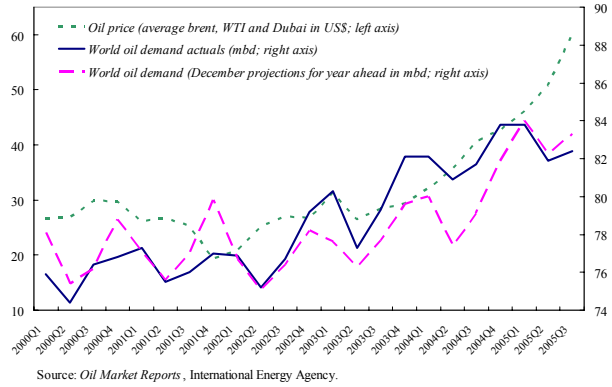
1. **High oil prices are increasingly viewed as a reality for the near and medium term, prompting governments and economic agents to adjust their behavior accordingly**. The Government of India, which maintains controls over the prices of some petroleum products, is no exception and is considering the reinstatement of an automatic pricing formula and assessing the appropriateness of the system of petroleum subsidies and taxes.[2] This chapter provides some considerations that could help guide these reforms. Section B provides some background on the reasons behind the rise in oil prices and why the impact of high oil prices on economic growth has been thus far relatively muted. Section C analyzes the government's response to higher oil prices (mainly increased implicit subsidies) and the costs associated with it. Section D, which forms the core of the chapter, presents some considerations regarding price, subsidy and tax reforms. The final section concludes.

B. The Rise in Oil Prices

2. **Crude oil prices have doubled since 2003, rising by about $30/bbl**. The average price of the Indian basket of crude oil (a 57:43 percent mix of Dubai and Brent crudes) rose by $11 or 39 percent in 2004/05 to an average of $39/bbl.[3] More recently, prices have climbed to around $60/bbl. Futures markets suggest that oil prices could remain around $55-60/bbl in coming years, underscoring the need for economies to adjust to higher oil prices.

3. **The main reasons for the increase in oil prices have been surprisingly strong demand, especially from China, and heightened perceived risks of supply disruptions**. Global demand outstripped expectations in 2003 and 2004 by a wide margin (Figure I.1). More recently, concerns about possible supply shocks appear to have been the main drivers of price increases. The impact of both of these factors on prices has been magnified

Figure I.1. Oil Price and World Oil Demand Actuals vs. Projections



Source: *Oil Market Reports* , International Energy Agency.

[1] Prepared by Enric Fernandez.

[2] To this end, a high-level committee was formed in October 2005.

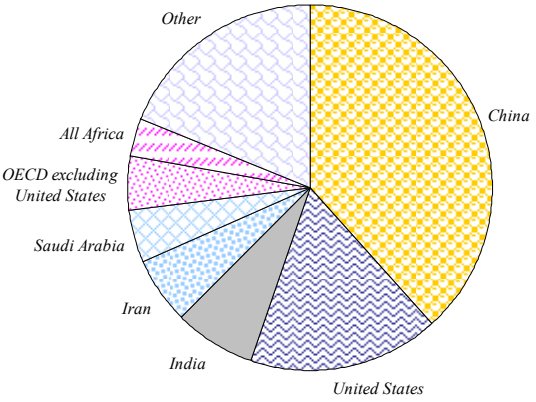
[3] Fiscal year starts April 1.

by historically low spare capacity owing to low investment in the 1990s (when crude oil prices averaged less than $20/bbl). In addition, capacity constraints in the refining sector have added upward pressures to petroleum product prices. Based on current investment plans, production capacity is unlikely to grow fast enough to create adequate spare capacity in the oil market, leaving oil prices vulnerable to spikes in response to supply and demand shocks.

4. **India has accounted for a relatively small portion of the increase in world demand**. While many commentators tend to couple India with China as the largest contributors to increased oil demand, China's contribution over 1999–2004 has been more than five times larger than India's (Figure I.2). Even the United States' contribution has been double that of India.[4] Nevertheless, India has become the world's sixth largest consumer of oil and its share of world consumption has risen to 3.2 percent in 2004 from 2.9 percent in 1999. As regards its role as a supplier of refined products, it is worth noting that the expansion of refineries in India has accounted for almost 25 percent of the total increase in world refining capacity in the last decade.

5. **India's intensity of oil consumption also remains relatively low**. In 2004, oil consumed per unit of GDP (in PPP) was roughly unchanged from a decade earlier and remained low compared to other countries (Table I.1). In recent years, the growth in consumption of petroleum products has been about half as fast as real GDP growth, given the importance of services as a driver of growth relative to manufacturing and the still low rates of vehicle ownership.

Figure I.2. Accounting for the Increase in World Demand for Oil, 1999–2004



Sources: *BP Statistical Review of World Energy June 2005* ; and staff estimates.

Table I.1. Oil Consumed per $1,000 of GDP at PPP, 2003

	Barrels
India	0.30
China	0.35
Philippines	0.36
Pakistan	0.40
South Africa	0.42
France	0.46
Brazil	0.50
Japan	0.59
Indonesia	0.61
Thailand	0.69
USA	0.71
Mexico	0.78
Malaysia	0.79
South Korea	1.03

Source: *BP Statistical Review of World Energy* , June 2005; World Bank, World Development Indicators; and staff estimates.

[4] In contrast, Japan, France, Germany, Italy, and some Eastern European countries, actually reduced their demand for oil over this period.

6. **Looking forward, however, oil demand in India is projected to grow as fast as in China**. The increase in vehicle ownership and the expansion of manufacturing will be key drivers of this growth. International experience suggests that at India's income levels (more than $3,000 of GDP per capita in PPP terms) vehicle ownership rates are likely to grow much faster than GDP (until the latter reaches about $10,000). Thus, the International Energy Agency projects India's oil demand to reach 5.2 mbd in 2030, which implies an average annual demand growth rate in 2004–2030 of about 2.8 percent, compared to a world growth rate of 1.3 percent and growth in China of 2.9 percent. Obviously, this projection is highly uncertain and sensitive to assumptions for income growth and demand elasticity. For instance, assuming an oil demand elasticity of 0.7 (in line with estimates for non-OECD countries) and annual average GDP growth of 6 percent over 2005–2030 would result in oil demand of 7.4 mbd in 2030, more than 40 percent above the baseline projection (Table I.2).

Table I.2. India: Sensitivity of Oil Demand Projections to Income Growth and Elasticity Assumptions

(Millions barrels/day in 2030)

		Average Growth of GDP, 2005–2030 (In percent)		
		5.0	6.0	7.0
Demand Elasticity	0.5	4.9	5.5	6.2
	0.6	5.5	6.4	7.4
	0.7	6.2	7.4	8.9
	0.8	7.1	8.6	10.5

Source: Staff estimates.

7. **Despite the rise in oil prices, growth in India has remained strong**. Growth was around 7 percent in 2003/04–2004/05 and rose to 8 percent in the first half of 2005/06. The impact on world growth from higher oil prices has also been moderate, because some of the increase has been attributable to strong demand rather than a supply shock, energy intensity has declined since the early 1980s, inflationary expectations have been well anchored, and in some cases pass through to domestic prices has been limited. For India, key factors limiting the impact on growth include:

- The rise of India as an exporter of refined products has moderated the impact of the terms of trade shock and the transfer of income abroad (Table I.3). Thus, while petroleum imports rose by more than $8 billion (41 percent) in 2004/05, exports of

Table I.3. India: Basic Petroleum Sector Data

(In billions of U.S. dollars)

	2000/01	2001/02	2002/03	2003/04	2004/05
Oil imports (net)	14	12	16	17	22
Imports	16	14	18	21	29
Exports	2	2	3	4	7
Oil imports (net) (percent of GDP)	3.0	2.5	3.1	2.8	3.2
Imports (percent of GDP)	3.4	2.9	3.6	3.4	4.2
Exports (percent of GDP)	0.4	0.4	0.5	0.6	1.0
Crude oil prices (U.S. dollar)					
Indian basket	26.6	21.9	26.2	27.8	38.9
WEO	28.1	23.0	27.6	29.1	41.3
Indian basket (percent change)	21.8	-17.4	19.3	6.1	39.9
WEO (percent change)	36.5	-18.0	19.6	5.6	41.8
Crude oil production (million tons)	32	32	33	33	34
Percent change	1.5	-1.2	3.2	1.0	1.1
Crude oil consumption (million tons) 1/	103	107	113	122	127
Percent change	20.3	3.7	4.9	8.2	4.3
Consumption of oil products (million tons)	100	100	104	108	112
Percent change	3.1	0.4	3.7	3.5	3.5

Sources: Reserve Bank of India; *Basic Petroleum Statistics*, Ministry of Petroleum and Natural Gas; Standing Committee on Petroleum and Natural Gas (several reports), Lok Sabha.

1/ Includes oil used as an input for refined products that are exported.

petroleum products increased by more than $3 billion (89 percent). In the event, net petroleum imports only rose by 0.4 percent of GDP (to 3.2 percent of GDP).[5]

- The incomplete pass-through of international petroleum prices has also moderated the income effect on domestic consumers. In practice, public oil companies have borne the bulk of these subsidies, which amounted to about 0.7 percent of GDP in 2004/05 and ½ percent of annual GDP in the first half of 2005/06.

- Large international reserves and strong capital inflows have limited the economy's need to adjust by reducing non-oil imports (in fact, the rupee appreciated in 2004/05). Similarly, the sectoral reallocation of resources (away from oil-intensive activities) has been able to take place more smoothly as the economy experiences rapid productivity gains that lower non-oil production costs and increase profit margins.

- Strong global growth has supported export demand, and the maintenance of a supportive monetary policy, made possible by well-anchored inflation expectations has also contributed to domestic growth. By delaying the impact on inflation, the incomplete pass-through of oil prices has also postponed the rise in interest rates to contain potential second round effects.[6]

8. **The benign impact of high oil prices may not continue into 2006**. High oil prices are increasingly viewed as permanent, leading to adjustments in government subsidies in India and around the world. The realization that high oil prices may remain at current levels over the medium term could eventually have a greater impact on inflationary expectations, necessitating a stronger monetary policy response. Lastly, consumer and investor confidence may wane. In India, net petroleum imports are projected to rise by 1 percent of GDP in 2005/06, more than double the increase in the previous year. Growth is expected to moderate from 7.6 percent in 2005/06 to 6¾ percent next year, and to the estimated potential growth rate of about 6½ percent in 2007/08, reflecting further pass-through of higher oil prices and rising global and domestic interest rates.[7]

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[5] The trade balance deteriorated by 3 percent of GDP but this was mostly due to an increase in non-oil imports.

[6] Full pass through would have had an additional direct one-off impact on the wholesale price index of 2½ percentage points.

[7] IMF staff estimates suggest that a permanent $10/bbl increase is associated with 0.2-0.6 percent reduction in global GDP, depending on whether the shock is demand or supply driven. Adverse impacts on confidence would increase the magnitude of this effect.

C. The Government's Response: Pass-Through and Taxes

9. **As mentioned above, the pass through of international prices to domestic petroleum prices so far has been partial**. Prices of gasoline, diesel, kerosene, and LPG—which together account for about three quarter of petroleum consumption—are under government control. After the dismantling of the administered price mechanism in March 2002, oil-marketing companies (OMC) were allowed to adjust prices based on import parity after consulting with the Ministry of Petroleum. (Kerosene and LPG remained subsidized by the central government through the budget but it was envisaged that these subsidies would be phased out gradually.) The system of quasi-automatic price adjustments, however, was suspended at the end of 2003 as oil prices started to climb.[8] Since then, pricing decisions have been made on an ad hoc basis. Kerosene prices have not changed, and the prices of LPG, gasoline, and diesel have only increased by about 20, 30, and 40 percent respectively. Given high taxes, prices of gasoline and diesel are relatively high compared to other countries, but kerosene prices remain among the lowest in the world. Staff estimates that petroleum prices would have to be adjusted by an additional 40–45 percent on average to be fully in line with international prices, with kerosene and LPG requiring the largest adjustments (Table I.4).[9]

Table I.4. India: Pricing of Regulated Petroleum Products (New Delhi)

	Gasoline	Diesel	Kerosene	LPG	Weighted Average 1/
Price changes Dec. 2003-Sep. 2005 (in percent)					
In rupees	10	9	0	53	23
In percent	29	40	0	22	27
Further adjustment required (in percent) 2/					
In rupees	7	2	14	137	50
In percent	15	8	154	46	41

1/ Weights from the wholesale price index (gasoline, 0.163; diesel, 0.372; kerosene, 0.127; and LPG, 0.338)
2/ Staff estimates.

10. **With rising oil prices, the cost of subsidies has increased**. Staff estimates that the cost of subsidies increased from ½ percent of GDP in 2003/04 to 0.7 percent

Table I.5. India: The Burden-Sharing of Subsidies to Petroleum Products

(In billions of rupees)

	2003/04	2004/05	2005/06 Apr.-Sep.
Total subsidies	134	220	178
In percent of GDP	0.5	0.7	0.5
Budget subsidies, Government of India 1/	63	29	15
Refining/distribution companies 2/	40	133	102
Kerosene and LPG	40	116	...
Gasoline and Diesel	0	18	...
Upstream companies 3/	31	58	61

Sources: Published financial results by petroleum companies; Standing Committee on Petroleum and Natural Gas (several reports), Lok Sabha; and staff estimates.

1/ Budget subsidies are for kerosene and LPG.
2/ Indian Oil; Bharat Petroleum; and Hindustan Petroleum Corporations, excludes IBP.
3/ Discounts provided to downstream companies by Oil and Natural Gas Corporation; OIL; and GAIL.

[8] In August 2004, the government approved a system whereby OMCs could adjust gasoline and diesel prices within a ±10 percent price band of a 3-month rolling average of import parity prices but the system never became operational.

[9] Full pass-through prices are estimated by adding international petroleum prices, freight and insurance costs, import duties, excise taxes, distribution and marketing costs, and state sales taxes with information provided by the Ministry of Petroleum.

of GDP in 2004/05. In the first half of 2005/06, subsidies amounted to ½ percent of projected annual GDP (Table I.5). If oil prices remain at current levels ($60/bbl) and petroleum prices are not adjusted further, subsidies for the year as a whole would reach 1–1¼ percent of GDP. Subsidies for kerosene and LPG account for more than 80 percent of all subsidies. While these subsidies have shielded some poor households from the impact of higher oil prices, there is evidence of substantial leakage of benefits to higher income households (see discussion below).

11. **State petroleum companies have borne the bulk of the subsidy costs**. The 2004/05 budget cut in half explicit kerosene and LPG subsidies, which, in combination with price controls, resulted in revenue shortfalls of about 0.6 percent of GDP for marketing companies.[10] About one third of these shortfalls were compensated with transfers from exploration companies mandated by the government.[11] Higher refining margins in their export business and domestic sales of unregulated products also provided some cushion to absorb the shortfalls. Explicit budget subsidies fell from ¼ percent of GDP in 2003/04 to 0.1 percent of GDP in 2004/05. While explicit subsidies were frozen in the 2005/06 budget, the quasi-fiscal cost of price controls amounted to about ½ percent of GDP in the first half of the year. Part of this burden will certainly be passed back to the government and raise the fiscal deficit via lower dividends and taxes and via the issuance of government bonds to the oil companies.

12. **The pass-through of international oil prices also remains incomplete in a number of other countries in Asia and around the world** (Figures I.3–I.6). About half of all countries in Asia have freely determined prices and have experienced full pass-through, but Bangladesh, China, Indonesia, Malaysia, Sri Lanka, Taiwan POC and Vietnam have price controls on petroleum products. Fiscal costs of price subsidies in 2004 ranged from ½ percent of GDP in Cambodia to 3 percent of GDP in Indonesia. In many countries, these costs are expected to rise in 2005 (IMF, 2005).[12] The pass-through of oil prices has also been incomplete in many other countries around the world (Thornton and Amati, 2005).

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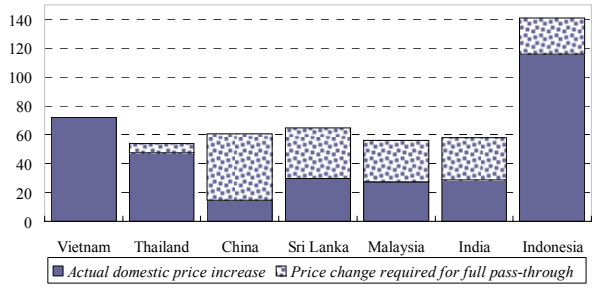
[10] Mainly Indian Oil, Bharat Petroleum, and Hindustan Petroleum Corporations, which are refining and marketing companies.

[11] Oil and Natural Gas Corporation, Oil India, and Gas India. Revenue shortfalls are estimated by staff based on the difference between actual prices and import parity prices.

[12] In response to ballooning subsidy costs, Indonesia raised petroleum prices in October by more than 100 percent (kerosene by 186 percent).

Figure I.3. Economies with Administered Prices: Petroleum Product Price Increase, December 2003–Latest
(Percent change)



Sources: Country authorities; and IMF staff estimates.

Figure I.4. Gasoline Prices in Selected Asian Countries, December 2003 and latest
(U.S. dollar/liter)

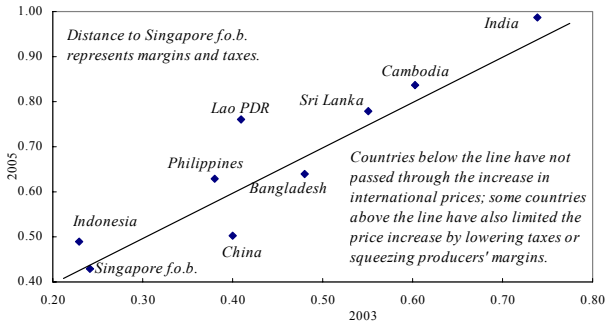


Figure I.5. Kerosene Prices in Selected Asian Countries, December 2003 and Latest
(U.S. dollar/liter)

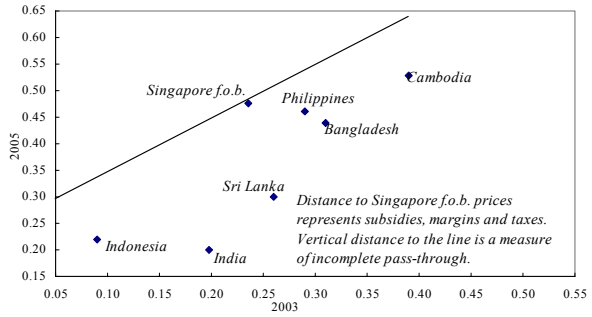
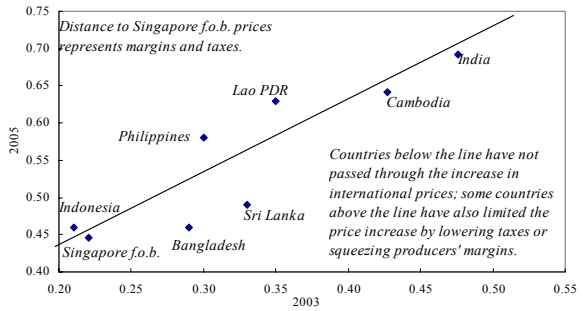


Figure I.6. Diesel Prices in Selected Asian Countries, December 2003 and Latest
(U.S. dollar/liter)



13. **To limit price increases, the Government of India has lowered oil taxes and partly replaced ad valorem excises with specific rates** (Table I.6). In June 2004, when the first price revision of the year took place, excise duties for diesel, gasoline, and LPG were lowered. Two months later, excises for kerosene were cut—which increased producer prices although retail prices remained unchanged—and ad valorem excises for gasoline and diesel were reduced and partly offset with specific taxes on a roughly revenue neutral basis. The 2005/06 budget introduced further changes, notably removing the excises on kerosene and LPG. State governments, which tax petroleum mostly at an ad valorem basis, have kept tax rates broadly unchanged.[13] Despite the tax changes, petroleum tax revenues remained broadly unchanged at about 4 percent of GDP during 2003/04–2004/05 and continue to constitute a large source (25 percent) of general government tax revenue (Table I.7).

[13] State sales tax rates on petroleum products vary widely by state and product: 20–34 percent for gasoline; 9–31 percent on diesel; 0–12½ percent on kerosene; and 1–14 percent on LPG.

Table I.6. India: Taxation of Oil Products

(In percent)

	March 04	June 04	August 04	March 05
Import duties				
Crude oil	10	10	10	5
Diesel	20	20	15	10
Gasoline	20	20	15	10
Kerosene	10	10	5	0
LPG	10	10	5	0
Excises				
Diesel	14+Rs. 1.5/Ltr.	11+Rs. 1.5/Ltr.	8+Rs. 1.5/Ltr.	8+Rs. 3.25/Ltr.
Gasoline	30+Rs. 7.5/Ltr.	26+Rs. 7.5/Ltr.	23+Rs. 7.5/Ltr.	8+Rs. 13/Ltr.
Kerosene	16	16	12	0
LPG	16	8	8	0
State sales taxes (Delhi) 1/				
Diesel	12	…	…	13
Gasoline	20	…	…	20
Kerosene	4	…	…	4
LPG	8	…	…	12.5

Sources: Basic Petroleum Statistics, Ministry of Petroleum and Natural Gas; Standing Committee on Petroleum and Natural Gas (various reports), Lok Sabha Secretariat.

1/ State sales taxes as of April 2004 and July 2005 respectively.

Table I.7. India: Government Revenues from Oil Sector

(In percent of GDP)

	2002/03	2003/04	2004/05
Central government	2.6	2.5	2.5
Excises	1.5	1.5	1.4
Import duties	0.4	0.4	0.4
Other (CIT, royalties, dividends, etc.)	0.8	0.7	0.7
State government (sales tax, etc.)	1.3	1.3	1.4
Total (central+states)	3.9	3.8	3.9
Memorandum items:			
General government total revenues and grants	18.3	18.8	19.7
Of which : state taxes	5.8	5.9	6.0

Sources: *Basic Petroleum Statistics* , Ministry of Petroleum and Natural Gas; Standing Committee on Petroleum and Natural Gas (several reports), Lok Sabha Secretariat.

D. Considerations for Reforms

Pricing

14. **Efficiency considerations suggest that higher international petroleum prices should be fully passed on to users**. The Indian authorities recognize this, especially as high oil prices are increasingly viewed as permanent. Higher user prices would provide the right incentives to reduce the consumption of petroleum products, not only in the short run but also in the long run through the adoption of more energy efficient technologies. Unduly delaying this adjustment process may harm competitiveness over time. Indeed, the dramatic improvement in international measures of energy intensity since the 1970s stems to a large degree from the adoption of new technologies in the wake of oil price shocks. Recent consumption data, showing that the secular decrease in kerosene consumption came to a halt in April-September 2005 while diesel consumption declined, suggest that high subsidies to kerosene may also be leading to its overuse, including to adulterate other fuels.

15. **Petroleum prices should also be increased on fiscal grounds**. As mentioned above, the cost of price subsidies could exceed 1 percent of GDP in 2005/06. With oil prices expected to remain high, this level of subsidies would seriously undermine efforts at fiscal consolidation and reduce the fiscal space to raise spending on infrastructure and other priorities.

16. **In general, automatic adjustments to administered prices are preferable to ad hoc adjustments**. International experience indicates that countries with a system of ad hoc changes take longer to adjust prices upward and the size of the adjustment is smaller (IMF, 2005). The experience in India is consistent with this evidence.

17. **The formulas used to determine price changes should be transparent and based on the international prices of petroleum products**. To be transparent, the adjustment formula should be clearly specified and fully documented. International prices are an

appropriate benchmark because they provide a measure of the opportunity cost of fuel consumption. To reduce the volatility of prices, a moving average for the reference price could be used. It is generally recommended that prices be adjusted at least monthly (even more frequent adjustments would be preferable to avoid sharp increases).

18. **Having said this, the existing substantial gaps with world oil prices may have to be closed gradually for socio-political considerations**. In particular, this is likely to be the case for kerosene (used by 87 percent of all households) and LPG (used by close to 45 percent of urban households and a minority of rural households). A gradual adjustment would give time for the government to identify means to cushion the impact of higher petroleum prices on the most vulnerable groups—preferably through direct income transfers intermediated through an appropriate social safety net. A phased adjustment would also avoid a sharp spike in inflation, which could reduce the risk of second round effects. In practice, a phased adjustment could be achieved in the context of a formula by placing a ceiling on the size of any given price change. For the sake of transparency, however, any subsidies (transitional or permanent) should be explicit and channeled through the budget rather than via oil companies. This would also encourage the entry of private sector oil marketing companies, promoting competition, and would set the stage for a full liberalization of petroleum prices over the medium term.

Protecting the Vulnerable

19. **The elimination of kerosene subsidies would have a substantial adverse impact on the real consumption of poor households**. For rural households in the first quartile of consumption expenditure, the full removal of kerosene subsidies would result on average in a decrease of real consumption of about 3 percent.[14] Such a decline would make a material difference to households that are already very poor. Although the lack of data preclude a similar calculation for the removal of LPG subsidies, their impact on the poor would likely be much smaller.[15] There are two main alternatives to mitigate the impact of the removal of kerosene subsidies on the poor: One option would be to maintain the price subsidy but only for the poor while the second would entail the full removal of subsidies accompanied by a system of cash transfers to the neediest.

[14] Staff estimates based on an increase in kerosene prices of Rs. 14; average consumption of rural households of Rs. 1,720 per month (based on NSS, 2005); and average consumption of kerosene of 46 liters per year (NCAER, 2005).

[15] LPG is mostly used by relatively higher expenditure groups in urban areas for cooking. Only 5 percent of rural households use LPG. In urban areas, about 40 percent of households still use firewood or kerosene for cooking and likely to be poorer than LPG using households (NSS, 2005).

20. **The current system of kerosene subsidies generates substantial leakage of benefits to non-poor households**. Subsidized kerosene is sold through the Public Distribution System (PDS) and consumption quotas depend on household characteristics.[16] It is estimated that kerosene consumption of households with below poverty line (BPL) ration cards (which represent 39 percent of all households) accounts for less than 38 percent of all kerosene consumption (Tables I.8–I.9). Moreover, it is estimated that almost 40 percent of kerosene distributed through the PDS is diverted for non-household use or for sale in the black market (NCAER, 2005). As a result of this, poor and non-poor households alike are already forced to pay market rates for about 20 percent of their kerosene consumption (but the government pays for the subsidies!). Thus, the elimination of abuse and corruption in the PDS system together with the targeting of kerosene price subsidies exclusively to BPL households at current benefit levels could potentially save the government 70 percent of the current (budget and off-budget) subsidy costs.

Table I.8. India: Frequency Distribution of Households By Type of Ration Card

	Rural	Urban	Total
Below poverty line 1/	30.0	9.0	39.0
Above poverty line	30.7	20.0	50.7
No card	6.0	4.3	10.3
Total	66.7	33.3	100.0

Sources: NCAER; and IMF staff estimates.

1/ Includes households under special schemes.

Table I.9. India: Distribution of Kerosene Consumption by Household Type

	Rural	Urban	Total
Below poverty line 1/	27.2	10.7	37.9
Above poverty line	30.8	21.6	52.4
No ration card	5.3	4.4	9.7
Total	63.3	36.7	100.0

Sources: NCAER; and IMF staff estimates.

1/ Includes households under special schemes.

21. **Cash transfers would be a preferred alternative to protect the most vulnerable**. These allow for consumer choice, their cost to the budget is explicit and known with greater certainty than generalized subsidies, and they can be better targeted to the poor. This was the route taken by Indonesia after sharply raising petroleum prices last October (World Bank, 2005). Under Indonesia's program, which required a massive effort to identify beneficiaries, more than 15 million poor families (accounting for 25 percent of the population) receive Rp 100,000 (about $10) per month. As was the case in Indonesia, there is no obvious well-targeted social program readily available in India to channel such transfers to the neediest and time would be needed to establish one. However, gains from a better-targeted social safety net that replaces the myriad of welfare programs and subsidies (petroleum and other) currently in place are potentially very large and worth pursuing (Government of India, 2004).

[16] Rules vary by state but quotas usually depend on the type of ration card of the household (which is a proxy for income), and on whether the household uses LPG or not. Households get more than 80 percent of their kerosene demand from the PDS and this share varies little across household characteristics.

Taxation

22. **In India, where a large component of excise taxes is still ad valorem, consideration could be given to converting them to a specific rate (at least in part)**. Any changes, however, should be done on a revenue neutral basis or compensated by other revenue or spending measures. Cross-country comparisons show that excises on petroleum products tend to be at a specific rate and ad valorem taxation is usually limited to VAT at the standard rate (Thornton and Amati, 2005). Thus, the combined level of central and state ad valorem taxes in India (exceeding 40 percent in Andhra Pradesh for gasoline or in Maharashtra for diesel, for instance) is likely to be among the highest in the world. The problem with ad valorem taxes is that they amplify the impact of international price increases and could result in a procyclical fiscal policy, as revenues tend to rise when the economy is hit by an oil price shock, placing an additional burden on the private sector. By amplifying the required price adjustments, they also tend to undermine support for an automatic pricing mechanism. Another general principle to consider when deciding the level of taxes is that close substitutes should normally be taxed similarly, otherwise induced substitutions may lead to revenue losses as well as environmental problems if, as with diesel in India, the more polluting fuel is also taxed more lightly.

23. **It is critical, however, that specific excises be adjusted automatically for inflation**. While it is in fact a virtue of ad valorem taxes that they generally they keep better pace with inflation, specific excises can also maintain buoyancy as long as they are periodically adjusted for inflation. Once a year may be sufficient in a low inflation environment. The Philippines, which did not adjust specific rates of excise for seven years and saw the fiscal deficit balloon in the process, provides a clear example of the risks involved with specific taxes that are not adjusted automatically. In Turkey, when inflation was at two and three digits levels, specific taxes were adjusted automatically on a monthly basis. Given the relative inelastic demand in the short run for petroleum products, specific taxes can also ensure a fairly steady and predictable revenue stream, which facilitates budget planning. In addition to being subject to excises, domestic petroleum products should also be subject to VAT (as a broader base minimizes distortions).

E. Conclusions

24. **This chapter provides some considerations that could help guide petroleum pricing, tax, and subsidy reforms currently under consideration in India**. It argues that user prices that fully reflect market international costs would provide the right incentives to reduce the consumption of petroleum products and adopt more energy efficient technologies. As the prices of some products—namely, kerosene and LPG—require large adjustments to bring them in line with international prices, this catch-up may need to take place gradually. In any event, pricing changes would be best guided by an automatic and transparent formula that translates changes in international prices into domestic price changes. The reduction of price subsidies, however, will be difficult for the poor to bear unless appropriate compensation mechanisms are in place. In this regard, targeted support through direct income transfers, would be preferable, underscoring the need to develop a social safety net. This

could also be used as part of a broader strategy of subsidy reform that tackles other subsidies (such as food, fertilizer, or electricity) and a myriad of poverty alleviation schemes, most of which are believed to be poorly targeted. As regards taxation, the chapter argues that there is room to convert ad valorem taxes into specific taxes but notes that the latter should be adjusted periodically for inflation.

References

BP, 2005, *BP Statistical Review of World Energy June 2005* (London).

Government of India, 2004, *Central Government Subsidies in India* (December) (New Delhi: Ministry of Finance).

International Monetary Fund, 2005, *Asia-Pacific Regional Outlook September 2005* (Washington).

_____, 2000, *The Impact of Higher Oil Prices in the Global Economy* (December) (Washington).

_____, 2005, *Oil Market Development and Issues* (March) (Washington).

Ministry of Petroleum and Natural Gas, 2005, *Annual Report 2004–05* (New Delhi).

_____, Standing Committee on Petroleum & Natural Gas (various reports) (New Delhi: Lok Sabha Secretariat).

National Council of Applied Economic Research, 2005, *Comprehensive Study to Assess the Genuine Demand and Requirement of SKO*, (New Delhi).

Thornton, John, and Amine Mati, 2005, "Developments in Domestic Fuel Prices, Taxes and Subsidies in Selected Countries," mimeo. (November) (Washington: Fiscal Affairs Department, International Monetary Fund).

World Bank, 2005, *Indonesia: Economic and Social Update,* Working Paper October 2005.

II. Assessing India's External Competitiveness[1]

A. Introduction

1. **The appreciation of the rupee in recent years has raised concerns about India's export competitiveness**. Since end-2002, the Indian rupee has appreciated by 5 percent both against the U.S. dollar and in real effective terms. Imports have grown at rapid clip and in the course of the past year, the current account has moved from a position of surplus to one of deficit. Against this background, this chapter assesses external competitiveness, reviewing India's export performance and estimates of the "equilibrium" real effective exchange rate.

B. Export Performance

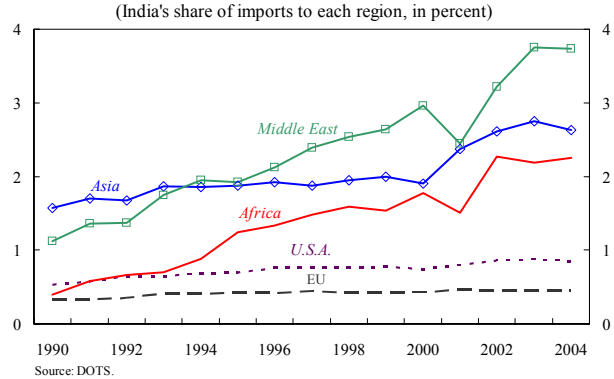
2. **India has witnessed a marked acceleration in export growth in recent years** (Table II.1). Since 2000, the value of India's exports have grown three times faster than in the latter half of the 1990s. This acceleration has been led by services exports—particularly software and IT—which continue to gain momentum with growth pushing past 100 percent in 2004/05.[2] Much less appreciated is the fact that that exports of Indian goods have also performed strongly since 2000. As a result, exports of goods and services now account for about one fifth of Indian GDP, up from a mere 10 percent a decade ago.

Table II.1. India: Indicators of Export Growth

	1995/96-1999/00	2000/01-2004/05	2000/01	2001/02	2002/03	2003/04	2004/05
	(Annual percentage change)						
Export value	6.1	21.0	15.9	0.2	20.5	20.3	47.4
Goods	3.0	15.5	21.1	-1.6	20.3	20.4	24.9
Services	16.4	33.3	3.6	5.4	21.1	20.2	105.7
Export volumes	10.3	14.4	17.0	3.7	15.5	8.0	32.7
Goods	7.1	9.2	22.2	1.7	15.2	8.1	12.4
Services	21.1	26.1	4.5	9.0	16.0	7.9	85.2

Sources: Reserve Bank of India; and staff estimates.

Figure II.1. India: Market Trends for Goods Exports
(India's share of imports to each region, in percent)



Source: DOTS.

3. **India's exports have become more diverse by region** (Figure II.1). The past five years has seen India's market share of Asian goods imports nearly double. As a result, Asia has surpassed the EU as the most important

[1] Prepared by Catriona Purfield.

[2] The high rate of service export growth in 2004/05 may reflect, in part, misclassification of earnings.

destination for Indian exports, accounting for almost one third of total goods exports, suggesting India may be becoming integrated into regional production chains.[3] The EU now only accounts for about one fifth of Indian exports, down from almost 30 percent a decade ago, and the share of the United States has also fallen to 17 percent from 20 percent. With its trading partners becoming more diverse—gains in the Middle East and Africa have been even more impressive than in Asia—India has become less dependent on, and vulnerable to, developments in specific markets. This has helped India to sustain a rapid pace of export growth even as growth in some key industrial markets slowed in recent years.

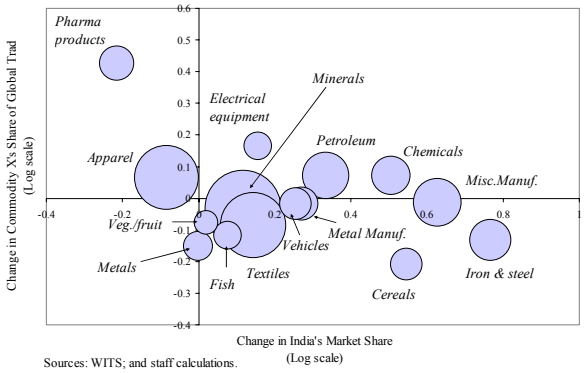
4. **India's export base has also broadened and become more dynamic**. Looking at the composition of India's exports by commodity group and its share of world exports by commodity reveals a pattern of accelerating growth and diversification. In the mid-1990s, export growth was in single digits and narrowly based (Table II.2). The pickup in growth since 2000 has occurred across a wide range of categories. Figure II.2, which plots the changing world market share of India's 15 largest products (at the SITC 3 digit level) against the changing share of those products in world trade illustrates that Indian exporters are moving into some of the most dynamic segments of world trade.[4] In areas such as petroleum products, organic chemicals, and electrical equipment which account for growing share of global trade, India's exports have been growing faster than the global average. Since 1990, India's share of the global petro-product

Table II.2. Composition of Goods Exports

	Share of World Goods Trade			Average Annual Growth Rate			Contribution to Growth		
	1990–95	1996–2000	2000–03	1990–95	1996–2000	2000–03	1990–95	1996–2000	2000–03
Food and live animals	1.0	1.2	1.2	17.0	-2.1	7.8	22.5	-4.2	8.0
Beverages and tobacco	0.3	0.3	0.3	-2.7	0.7	7.4	-0.2	0.1	0.3
Crude materials	0.9	0.9	1.1	-2.4	-4.3	22.7	-1.2	-2.6	8.1
Mineral fuel/lubricants	0.2	0.2	0.5	0.1	39.6	23.4	0.0	8.9	9.9
Animal.vegetable oil fat, etc.	0.7	0.8	0.8	40.7	5.4	0.3	1.7	0.4	0.0
Chemicals	0.5	0.6	0.7	14.1	11.9	15.7	9.0	15.6	14.4
Manufactured goods	1.5	1.6	1.9	13.8	8.9	10.4	43.3	45.6	32.0
Machinery/transport	0.1	0.1	0.1	12.2	6.9	19.5	7.4	7.1	14.2
Miscellaneous manufactured items	1.0	1.0	1.1	11.8	10.5	8.7	19.9	28.6	14.1
Commodities, n.e.s.	0.0	0.0	0.0	-4.7	-	112.3	-2.4	-	-1.0
Total	0.6	0.6	0.7	12.2	7.6	12.2	100.0	100.0	100.0

Sources: WITS; and Fund staff calculations.

Figure II.2. World Market Poistion of Indian Exports, 1990–2003



Sources: WITS; and staff calculations.

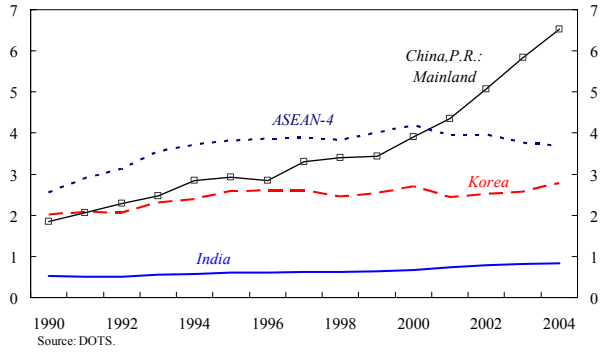
[3] For example, auto components in India are exported as inputs for Asian automobile makers.

[4] The size of the bubble in Figure II.2 represents the value of each export in 2003. So for example, India's market share of global mineral manufactures—its largest manufacturing export where it accounts for 5½ percent of world trade—rose by 1.3 percentage points between 1990–2003 but the share of this good in global exports has fallen marginally.

exports has doubled, while its share of the chemicals and electrical equipment markets has tripled, albeit from a small base.

5. **Despite these gains India's export performance has lagged that of Asia and its share of global exports remains low**. Indian exports have grown more slowly than in the rest of Asia, and particularly China (Figure II.3). India continues to account for a relatively small share of global goods exports. China accounts for over six times as much, and the ASEAN-4 almost four times as much. The picture changes little when exports of services are included with India's market share in global goods and service exports rising only to 1.4 percent.

Figure II.3. India's Export Performance Relative to Asia
(Value of country x's exports in percent of world goods exports)



Source: DOTS.

6. **The fact that greater inroads into world export markets have not been made is surprising given India's low wages and strong productivity growth**. Indians earn only a fraction of their competitors, about $0.60 per hour. While wages in certain sectors, such as IT, have been rising at rates of about 20 percent per annum since 2000, a large informal sector and steady supply of new labor entrants is likely to have limited the pressure on overall wage levels (Table II.3). Labor has also become more productive. Rodrik and Subramanian (2005) estimate that labor productivity in India grew by over 3½ percent since the 1980s. Improvements in labor productivity have helped boost overall productivity in the manufacturing sector with estimates suggesting total factor productivity in the official manufacturing sector rose annually by 3½ percent over the course of the 1990s and the early part of this decade.

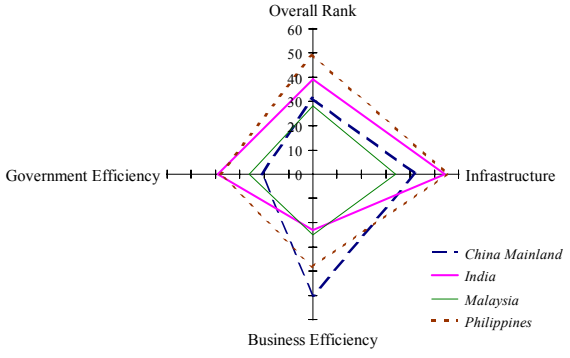
Table II.3. Wage/Earnings Per month in Manufacturing
(In U.S. dollar)

	1996	1997	1998	1999	2000	2001	2002
India 1/	33.6	31.3	29.4	36.0	28.5	40.1	23.8
Philippines 1/	260.0	247.1	189.1	213.5	...	189.1	...
Malaysia 1/	443.2	430.1	...	...	365.3	402.9	...
China, P.R.							
Mainland 1/	56.6	59.6	71.1	78.5	88.1	98.4	110.8
Hong Kong SAR 3/	1,334.8	1,463.6	1,512.1	1,527.9	1,523.5	1,555.8	1,532.4
Brazil 1/	1,289.6	1,275.3	618.1	414.5	417.0	358.2	308.8
Mexico 1/	182.8	206.5	228.8	250.2	307.8	360.5	366.4
Indonesia 2/	77.0	72.0	25.6	38.3	46.5	50.4	...
Thailand 3/	217.1	189.2	154.5	156.2	...	...	...

Source: International Labour Organization.

1/ Earnings per month.
2/ Wage per month.
3/ From survey conducted by Minister of Agriculture.

Figure II.4. IMD Competitiveness Indicators, 2005



7. **Various surveys suggest poor infrastructure and a high regulatory burden hinder India in making greater inroads into world markets** (Figure II.4). Poor roads and inadequate

investment in ports and airports result in long delays and higher transport costs for Indian exporters. It takes 24 days for Indian exports to reach the United States compared to only 15 days from China, and 12 days from Hong Kong. In addition to facing some of the highest industrial electricity prices in the world, electricity outages cost Indian firms 8 percent of annual sales, four times higher than in China. Customs processing times are also slow. Shipments take just over 10 days to clear Indian customs compared to only 7 days in Korea and Thailand. Cumbersome procedures and regulations work to increase the cost of imported and domestic inputs used in producing Indian exports.

8. **High import tariffs have also discouraged exports**. In addition to raising the cost of imported intermediate imports for the export sector, import tariffs lower the price of exports relative to domestic sales making exports less attractive. They also alter the level of wages and rates of return on capital. Despite the progress made in reducing trade tariffs in recent years— the average nonagricultural tariff declined from over 40 percent in 1997 to 14½ percent in 2005—such tariffs are still about twice as high as the ASEAN average. India's import tariffs are equivalent to a tax on exports of about 31 percent, which is well above the simple average export-tax equivalent in developing countries about 12.6 percent (IMF, 2005a). If nontrade barriers, such as technical and safety requirements were included, the anti-export bias implied by India's tariff system would be even higher. These estimates suggest a strategy that seeks to reduce import tariffs by subjecting higher rates to deeper cuts than lower rates could boost the value of Indian exports by as much as 10 percent relative to a 2001 base. Complete elimination of import tariffs would boost their value by 45 percent.

9. **The performance of Indian textiles sector following the removal of the quotas under the Multi Fiber Arrangement (MFA) regime is a case in point**. In the first six months following the removal of these quotas, exports from China to the United States in liberalized tariff lines rose at rates in excess of 200 percent, while those to the EU rose by about 80 percent (Ananthakrishnan and Jain-Chandra, 2005). Through September, Indian exports, in value and volume terms, to the United States grew by a more modest rate of about 20 percent, with similar rates of growth being experienced in the EU market. The fact that India has not gained market share in the textile sector following the removal of the quotas that bound Indian textile exports for decades reflects problems of scale economies, inflexible labor markets, low rates of investment, lack of full duty drawback, and poor infrastructure.

C. Exchange Rate and Competitiveness

10. **The impact of the exchange rate on competitiveness is typically examined by estimating measures of a real "equilibrium" exchange rate**. Studies on India employ one of three approaches. The extended PPP approach assumes purchasing power parity (PPP) holds in the long run but several factors interact to prevent the actual exchange rate from converging to this level in the near term. The "equilibrium" exchange rate is estimated using a single equation relating the actual REER to its determinants. The macroeconomic balance approach estimates the change in REER needed to bring about equilibrium in the balance of payments, where equilibrium is defined as a situation where the current account equals either the 'normal' level of capital inflows, or the 'structural' savings-investment balance. The

third, the base approach compares the actual REER to a base year where the REER and the current account were in "equilibrium." Each approach has drawbacks. The PPP approach assumes that perfect labor mobility links wages in the traded and nontraded sectors, and that law of one price holds continuously for the traded goods sector so that prices in this sector are given exogenously, conditions that may not hold in reality. Results are also sensitive to the variables included in the model. The macroeconomic balance approach relies heavily on researchers' judgment on what constitutes 'normal' balance of payments flows. The base approach does account for how the underlying "equilibrium" evolves over time with changes in the economy.

11. **The various methodologies yield a wide range of estimates about the impact of the exchange rate on competitiveness**. Table II.4 summaries the results from these various studies, including the estimates of the gap between the actual REER and its "equilibrium" level. Estimates of this difference range from a -40 percent to plus 8 percent depending on the methodology used. The wide range of results highlights the extreme difficulty in determining an "equilibrium" exchange rate, particularly in a developing country where a multitude of factors can influence exchange rates and ongoing structural changes make underlying relationships unstable.

Table II.4. India: Estimates of Deviation From the Equilibrium Real Effective Exchange

Study	Sample	Dependent Variable	Independent Variables: Relative productivity	Independent Variables: Net foreign assets	Independent Variables: Other	Assessment Year	Estimated Gap to Equilibrium
Extended PPP Panel Estimates							
Davoodi (2005)	133 countries; *Penn World Tables, 2000*	Relative price level to the U.S.	Relative per capita GDP to the U.S.	…	…	2000	-40 percent
Benassy-Quere et al. (2005)	15 countries, 1980–2001	CPI-based REER	Ratio of CPI to PPP	Cumulative current accounts scaled by GDP	…	2001	-16.4 percent
Lee et al. (2005)	39 countries, 1980–2003	CPI-based REER	GDP per worker relative to trading partners	Cumulative current accounts scaled by GDP	Commodity terms of trade; output of manufacture goods	2004	-30 percent
Macroeconomic Balance Approach							
UBS	India	CPI-based REER	…	…	…	2005	Approx. -7 percent
Base Year Comparison							
JP Morgan/ Deutsche Bank	India	RBI 5 country REER	…	…	…	2005	Approx. +5-10 percent

Developments in the Real Effective Exchange Rate

12. **The accuracy of any assessment of the impact of the exchange rate on competitiveness hinges on an accurate measure of the REER**. An outdated REER index risks giving misleading signals about competitiveness if it does not include information on how inflation and the exchange rate are evolving relative to India's most important trading partners. When assessing developments in India, most analysts have utilized the RBI's five-country REER index that is based on the average bilateral trade shares of G-5 countries during the 1992/93–1996/97 period and WPI inflation rates. Asian and other emerging economies are not included in the index, despite their growing importance as trading partners. The RBI released a revised REER index in December 2005 that include China and

Hong Kong. This study utilizes a revised measure of India's CPI-based REER that is based on updated weights (Table II.5) using data from 46 industrial and emerging market economies derived from Bayoumi, Lee and Jayanthi (2005). In addition to capturing the impact of changing trade patterns, the weights also reflect services, as well as goods trade, and incorporate the competition Indian exports face when they compete with goods of trading partners in third markets.

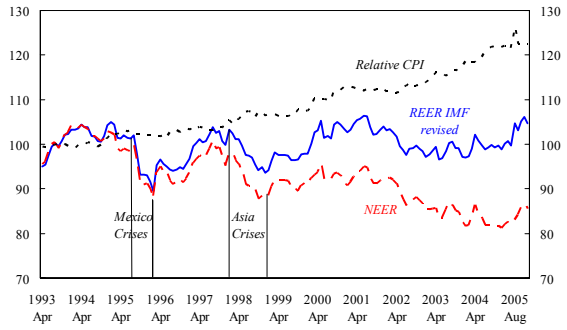
Table II.5. Revised RBI and IMF Country Weights in REER Indices

	Old RBI 5 Country	IMF Broad 43 Country
	(In percent of total)	
Euro Area	...	34.6
Germany	19.7	...
France	6.3	...
United States	38.7	18.8
Japan	18.7	7.1
United Kingdom	16.6	6.2
China	...	3.8
Other emerging Asia	...	13.5
Other countries	...	16.1

Source: Bayoumi, Lee and Jayanthi (2005).

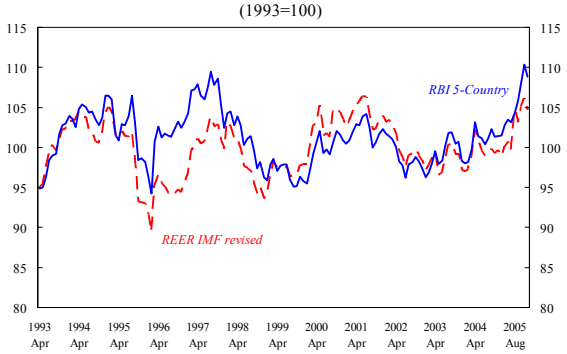
13. **The revised index suggests that the REER fluctuated in a relatively tight band over the past decade, with some marked exceptions**. Since the adoption of a managed float in 1993, pressures on the rupee to appreciate in real effective terms arising from a rising inflation differential with trading partners was contained to a large extent by nominal effective depreciation. However, the exchange rate regime afforded India ample flexibility to cope with shocks, with the slow upward appreciation of the REER punctuated by sharp depreciations in the context of the 1995 Mexican and the 1997 Asian crises when sudden stops in capital inflows triggered large depreciations in the nominal value of the rupee (Figure II.5).

Figure II.5. CPI Based Real Effective Exchange Rate and Its Components
(1993=100)



14. **The updated REER shows that while the rupee has appreciated in real effective terms over the past year, it has done so less than suggested by older measures**. While the revised REER generally tracks the RBI measure quite well the updated index shows that the rupee appreciated in real effective terms by about 4½ percent since 1993, and by 5 percent since the start of 2005/06 fiscal year (Figure II.6). In contrast, the more dated five country RBI REER index points to an appreciation of about twice this magnitude, while the RBI's revised REER index that was released late-December suggests the rupee appreciated in real terms by a more modest 6.4 percent since 1993. However, comparing the current value of the REER to some fixed historical point can present a misleading picture about competitiveness as the appreciation of the exchange rate may reflect improvements in underlying economic fundamentals that do not impair competitiveness.

Figure II.6. India: RBI 5 Country REER and IMF Revised REER Measure
(1993=100)

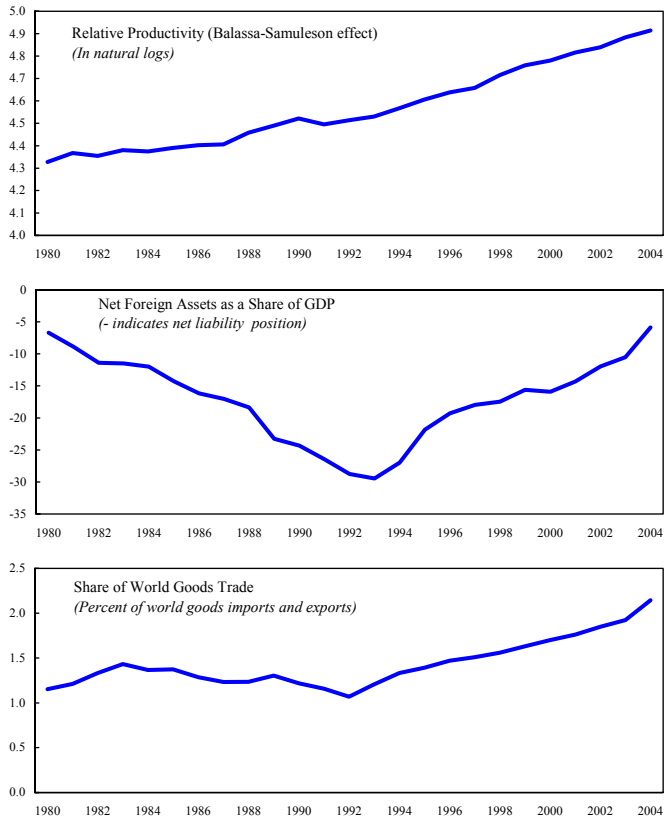


Deriving estimates of the underlying "equilibrium" real effective exchange rate to compare with the actual REER will provide greater insights about how the exchange rate is impacting competitiveness.

Determinants of the Real Effective Exchange Rate

15. **An extended relative PPP approach is used to explain movements in the updated CPI-based REER**. The approach is based on the premise that a country's nominal exchange rate tends to converge to its PPP-determined level, but various factors can prevent convergence in the near term. These factors are used in a single equation to estimate the real effective exchange rate and the latter is said to be in equilibrium when it equals the estimated exchange rate equation. The model estimated here incorporates the impact of relative productivity gains, as well as other fundamentals: (Figure II.7):

Figure II.7. India: Variables Used in Estimation of Equilibrium Exchange Rate



Sources: IMF staff calcuations; Milesi-Ferretti and Lane (2005).

- *Relative productivity gains* proxied by GDP per worker relative to trading partners (In_Prod).[5] According to Balassa-Samuleson, faster productivity growth in the home country's tradable sector relative to its nontradable sector, compared to trading partners, typically pushes up wages in the tradable sectors which in turn leads to higher nontradable wages and prices, and an appreciation in the real exchange rate.

- *Openness to trade* measured by the ratio of the sum of goods and services trade to world trade or, alternatively, Indian GDP. Trade liberalization usually leads to an increase in imports, deterioration in the current account balance, and a depreciation in the real exchange rate. Most studies use the ratio of goods trade to GDP. Here, we

[5] The author would like to thank Jaewoo Lee for providing this data.

broaden the measure of trade to include services so that is more closely matches our measure of the REER. We also measure openness by scaling India's by world trade to try to capture if increased openness translated into a greater share of world trade.

- *Net foreign assets* (NFA) of India scaled by GDP as calculated by Lane and Milesi-Ferretti (2005). A long-run increase in the home country's NFA position (or a decline in its indebtedness) would require a smaller trade surplus over the medium term to match the lower level of debt service, which in turn requires a more appreciated real exchange rate.

16. **The "equilibrium" exchange rate is estimated using cointegration techniques**. The long-run equilibrium (cointergrating) relationship between the real exchange rate and the explanatory variables is derived from a vector error correction model using annual data from India from 1980–2004.[6] The results are reported in Table II.6. Specification 1 measures openness by scaling India's trade by word trade, Specification 2 scales openness by GDP and includes a dummy variable to capture the move to a managed float in 1992–1993. The coefficients of the cointegrating relationship and the realized values of the explanatory variables are used to derive the path of the "equilibrium" exchange rate to compare to the actual real exchange rate. Relative to panel-based studies in Section C, this has the advantage of deriving India-specific coefficients. However, the results derived need to be treated with caution. The relatively short time-series constrains the number of variables that can be included in the model and the series may not be sufficiently long to capture long-run structural relationships, resulting in imprecise estimates. It also limited the number of variables that could be included in the analysis.

Table II.6. Real Effective Exchange Rate Determinants

Variable	Specification 1/	
	1	2
Dependent Varibale: REER		
Constant	-4.69	9.73
In_Prod	4.49	0.77
	(3.98)	*(3.24)*
NFA	-1.64	-0.50
	(-4.27)	*[10.1023]*
Open_World Trade	-7.27	…
	(-4.37)	…
Open_GDP	…	-1.86
	…	*[11.8459]*
Dummy_92-93	…	0.22
	…	*[-5.13789]*

Source: Staff estimates.

1/ T-statistics are reported in parentheses below coefficient estimates. All estimates are derived using VECM. The short-term dynamics derived using the VECM are available on request and include one-year lags of the dependent and explanatory variables and the coefficients are significant and of the expected sign.

17. **While the results are sensitive to model specification, they suggest that the recent appreciation of the rupee has not been out of line with the estimated real "equilibrium" exchange rate**. The coefficients in each model are statistically significant. Specification 1 implies that a 1 percentage increase in India's productivity relative to its trading partners results in a sizeable real appreciation. On the other hand, a 1 percentage point increase in the NFA position is associated with a depreciation of

[6] Stationarity tests confirm the variables are all I(1). Johansen trace and maximum eigenvalue tests point to a single cointegration vector at the 10 percent level of significance.

just over 1½ percent.[7] Comparing the estimated path of the "equilibrium" real effective exchange rate to the actual exchange rate in Figure II.8, suggests that by end-2004 the actual real value of the rupee was about 15 percent below its "equilibrium" level. However, the coefficients in Specification 1 are large especially relative to the other studies, and Figure II.8 also reveals long persistence in deviations in the real exchange rate from "equilibrium" and possible structural breaks in the "equilibrium" relationship[8] that call into question the reliability of the model. Thus, Specification 2 re-estimates the long-run relationship including a dummy variable to capture the change in the exchange rate regime in 1992–1993, and measures openness relative to GDP to avoid problems of endogeneity when scaling by world trade. The coefficients are closer in magnitude to those derived in other studies and imply that the real exchange rate was broadly in line with the real "equilibrium" exchange rate at end-2004 (Figure II.9).

Figure II.8. Specification I: Actual and Estimated CPI-Based REER
(1995=100)

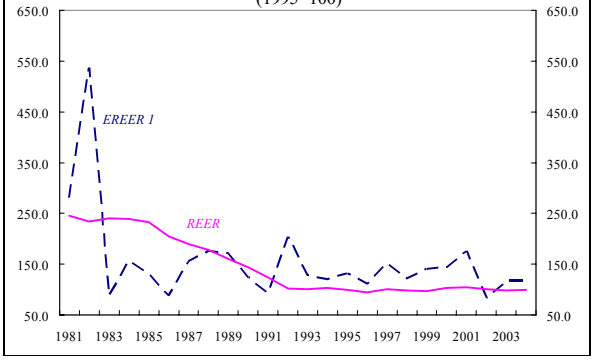
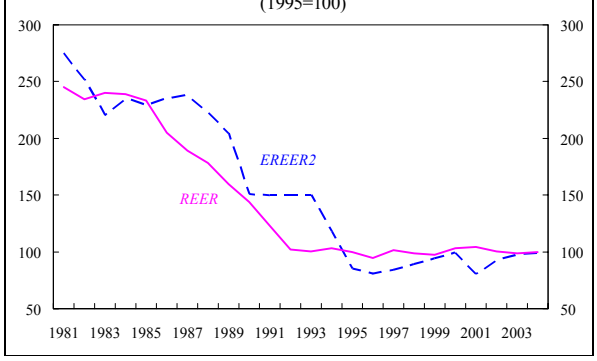


Figure II.9. Specification II: Estimates of the Equilibrium REER
(1995=100)



18. **The findings highlight the difficulty in modeling the "equilibrium" REER and the uncertainty attached to specific point estimates**. Country specific time-series studies of the type conducted here generally give smaller estimates of misalignment than studies that use a panel of countries such as those reviewed in Section C.[9] The results are sensitive to how the fundamentals are modeled, highlighting the problems of relying on point estimates in such a framework. Moreover, the analysis excludes factors such as the terms of trade, the reduction in trade tariffs, and removal of quantitative restrictions, which in India's case would have tended to exert downward pressures on the "equilibrium" real exchange rate.

[7] The sign is counter to expectations. Other studies on Eastern European countries by Rhan, 2003 and Alberola, 2003 find a similar sign. Capital inflows may initially cause debt service to rise and the exchange rate to depreciate until such inflows translate into investment.

[8] The Gregory-Hansen test confirmed the existence of a structural break in the cointegrating relationship in 1992–1993.

[9] See Egért, Halpern and MacDonald, 2004.

Nonetheless, the econometric results and India's recent export performance suggest that at least at end-2004 the exchange rate was not contributing to competitiveness problems.

D. Outlook for India's Export Competitiveness

19. **The econometric analysis suggests that various opposing forces will impact the future direction of the rupee**. As agricultural workers are absorbed by the rest of the economy and structural reforms are implemented, India can expect to see continuing large gains in productivity. This implies that for the foreseeable future India's economy will likely grow faster than that of its trading partners. Using estimates from the model for the Balassa-Samuelsson effect, assuming that India will grow in real terms by 6½ percent per annum, and taking the weighted average medium-term growth rate of India's trading partners, the real exchange rate can be expected to appreciate by just over 2 percent per annum in the coming years.[10] Capital inflows are likely lead to a stronger NFA position, potentially adding to appreciation pressures. However, trade liberalization, and factors such as increased investment in import intensive infrastructure, are likely to work against these pressures.

20. **Going forward safeguarding India's export competitiveness will require flexibility in exchange rate management**. Flexibility in the nominal exchange rate has increased, both in absolute terms and after taking into account differences across countries in the volatility in capital inflows (Figures II.10 and II.11).[11] Given the uncertainty about the future direction of the rupee it will be important to allow two-way flexibility in the exchange rate to respond to the diverging pressures, otherwise India risks experiencing inflationary (or deflationary) pressures.

[10] The 10-year average growth rates reported in IMF (2005b) are 2 percent per annum for the EU, 3.3 percent for the United States, and 5.3 percent for emerging and developing countries.

[11] Exchange rate flexibility is measured by comparing the volatility of the exchange rate to the volatility of reserves. The closer this ratio is to zero, the nearer the exchange rate system is to a fixed regime.

Figure II.10. Volatility in the Nominal U.S. Dollar Exchange Rate
(Standard deviation of monthly, log differences)

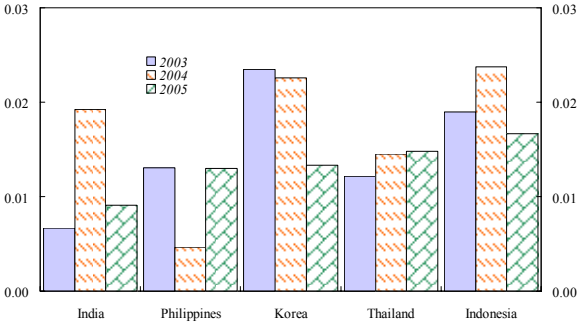
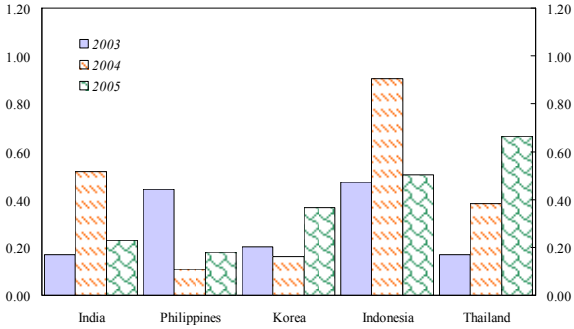


Figure II.11. Effective Exchange Rate Flexibility
(Ratio of exchange rate movements to reserve movements,



E. Conclusion

21. **Despite recent gains, India remains a comparatively closed economy and the strides it has made into global markets in recent years only hint at its potential**. India is making inroads into new markets and product areas, but it still has some way to go before it attains a level of market penetration that can rival its Asian neighbors. Although the real exchange rate has appreciated in recent years this does not appear to have contributed to a competitiveness problem. Looking forward, steps to lower trade tariffs and non-tariff barriers and improve the investment climate, as well as flexibility in exchange rate management, will be key if India is to build on its advantages and become a leading global exporter.

References

Alberola, E, 2003, "Real Convergence, External Disequilibria and Equilibrium Exchange Rates in the EU Acceding Countries," Banco de Espana, mimeo.

Ananthakrishnan, Prasad, and Sonali Jain-Chandra, 2005, "The Impact of Trade Liberalization in the Textiles and Clothing Sector on India," IMF Working Paper No. 05/214 (Washington: International Monetary Fund).

Anderson, Jonathan, 2003, *The Complete RMB Handbook, Asian Economic Perspectives*, UBS Investment Research, Hong Kong (October).

Bénassy-Quéré, Agnès, Pascale Duran-Vigneron, Amina Lahrèche-Révil, and Valérie Mignon, 2005, "Real Equilibrium Exchange Rates: A G-20 Panel Cointegration Approach," in *Dollar Adjustment: How Far? Against What?,* eds. by C. Fred Bersten and John Williamson (Washington: Institute for International Economics).

Bayoumi, Tamim A., Jaewoo Lee, and Sarma Jayanthi, 2005, "New Rate from New Weights," IMF Working Paper No. 05/99 (Washington: International Monetary Fund).

Égert, Balázs, László Halpern and Ronald MacDonald, 2004, "Equilibrium Exchange Rates in Transition Economies: Taking Stock of the Issues," CEPR Discussion Paper Series No. 4809 (London: Centre for Economic Policy Research).

Davoodi, Hamid, 2005, "Long-Term Prospects for the Real Value of the Tenge," in *Republic of Kazakhstan: Selected Issues*, IMF Country Report No. 05/240 (Washington: International Monetary Fund).

International Monetary Fund, 2005a, "Does Import Protection Discourage Exports?," (unpublished; Washington).

_____, 2005b, *World Economic Outlook, September 2005* (Washington).

Lane, Philip R. and Gian Maria Milesi-Ferretti, 2005, "A Global Perspective on External Positions," IMF Working Paper No. 05/161 (Washington: International Monetary Fund).

Lee, J., G. M. Milesi-Ferretti, L. Ricci, and S. Jayanthi, 2005, "Equilibrium Real Exchange Rates: Estimates for Industrial Countries and Emerging Markets," (unpublished; Washington: International Monetary Fund).

Rahn, Jörg, 2003, "Bilateral Equilibrium Exchange Rates of EU Accession Countries Against the Euro," BOFIT Discussion Paper No. 11 (Helsinki: Bank of Finland).

Rodrik, Dani and Arvind Subramanian, 2005, "From "Hindu Growth" to Productivity Surge: The Mystery of the Indian Growth Transition," *Staff Papers*, International Monetary Fund, Vol. 52, No. 2, pp. 193–228.

III. India—Medium-Term Directions for Tax Reform[1]

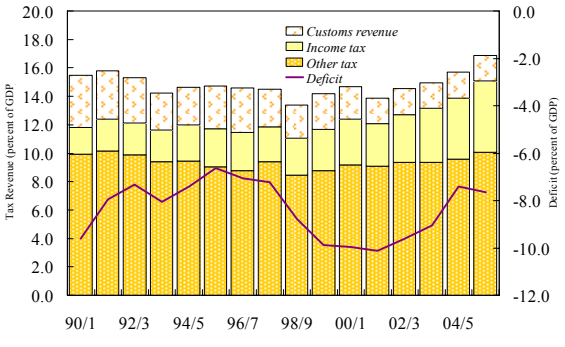
A. Introduction and Overview

1. **Tax reform figures prominently in India's plans for fiscal consolidation and to generate fiscal space for infrastructure investment**. The Indian government has devoted considerable effort to developing a tax reform strategy: the 2003 Kelkar Task Force laid out a strategy for direct and indirect taxation and the Fiscal Responsibility and Budget Managament Act (FRBMA) roadmap and Twelfth Finance Commission report (Government of India, 2004a, 2004b) both explained how reform could contribute to fiscal adjustment. Increases in revenue are expected to contribute almost 3 percent of GDP in fiscal adjustment at the center, and about 1 percent of GDP in the states, permitting 1½ percent of GDP in extra annual investment at the general government level.

2. **International experience has shown that revenue-based consolidation strategies can be successful, but are a more difficult route to take**. The previous literature on fiscal consolidation had emphasized expenditure-based adjustment (Alesina and Perotti, 1996). More recent work has cast a more positive light on revenue-based experiences (Gupta et al, 2004 and IMF, 2004), especially when a country begins its adjustment at a low initial revenue-to-GDP ratio and has developed well-defined tax reform plans which are phased in gradually (as in India at present). However, successful revenue-based consolidations are less common than expenditure-based consolidations even at low revenue levels, mainly reflecting administrative constraints. Countries have also had more difficulties protecting revenue-based gains against new revenue erosions and expenditure incursions.[2]

3. **To date, India's revenue strategy has shown some success**. Measures have been passed to broaden the corporate income tax base, efforts have been made to improve tax administration, and after many years of negotiations and planning, a state level VAT has been introduced. Early returns from the VAT have been encouraging, with half-year 2005/06 indirect tax receipts up by close to 15 percent in those states implementing it. Growth in corporate income tax and personal income tax collections have been enough of late to offset

Figure III.1. India: General Government Revenue and Deficit
(In percent of GDP)



[1] Prepared by Mark Flanagan.

[2] One possibility is that expenditure cutbacks are less reversible, for example if canceling programs permanently weakens the lobby groups promoting them.

the drag to revenues from continuing trade tax reforms; since 1993, the average effective tariff rate has dropped from 34 percent to 17 percent, and trade related revenues have fallen by 1 percent of GDP. (Figure III.1).

4. **The time is ripe in India for further tax reform**. To meet FRBMA deficit reduction targets, the center must yet raise its gross tax collection ratio by another 2½ percent of GDP, to a little over 13 percent of GDP, by 2008/09. With progress on some planned measures behind schedule, and sizable spending commitments on the horizon, new measures may need to be identified. Past studies have emphasized that tax reforms undertaken at a measured pace within a stable macroeconomic environment—the present situation in India—stand a greater chance of success. This paper looks at India's tax reform options in more detail. Section B looks at India's revenue performance in international perspective to identify areas of potential collection gains. Section C considers India's existing tax reform strategy, noting where gaps remain. Section D discusses an important gap: the level of the personal income tax threshold. Section E then discusses how base broadening reforms could be reinvigorated.

B. India's Revenue Performance in International Perspective

5. **International comparisons provide insight into India's revenue collection effort, and directions for future reforms**. In selecting comparators, account must be taken of several factors which are key for establishing taxable capacity: (i) per capita income adjusted for purchasing power parity (it is infeasible to tax a subsistence level of income); (ii) the structure of output (certain sectors like agriculture are .difficult to tax); and (iii) openness to trade and capital flows (a more open economy faces more mobile tax bases). From an administrative angle, it is also important to consider population—the challenge of efficiently administering a tax system grows at least in proportion with the number of taxpayers.

6. **It is useful to consider two groups of comparators for India**. In the first group are countries in India's Purchasing Power Parity (PPP)-adjusted per capita income range which are also broadly similar to India in terms of economic structure (China, Egypt, Indonesia, Pakistan, Philippines, Sri Lanka, Vietnam). In the second group are countries whose structural characteristics place them at a more advanced state of development (Brazil, Colombia, Mexico, Russia, South Africa, Turkey, Ukraine). Table III.1 highlights the differences between these two samples.

Table III.1. India and Other Economies: Socio-Economic Characteristics

		Income			Output Structure		Global Integration			Infrastructure	
	Population	PPP GNI per capita 2003	Rank (of 208)	Distrib. (GINI)	Agri (%GDP) 2003	Services (%GDP) 2003	Goods %GDP 2003	Capital %GDP 2003	FDI %GDP 2003	Power (cons pc) 2002	Mobiles (per 1000) 2003
India	1,091	2,880	146	32.5	22.8	50.7	21.1	3.1	0.8	380	25
Comparators											
China	1,288	4,980	119	44.7	15.0	33.0	60.1	14.3	4.5	987	215
Egypt	68	3,940	132	34.4	16.0	50.0	20.7	8.6	0.3	1,073	84
Indonesia	215	3,210	142	34.3	17.0	40.0	44.9	4.0	1.7	411	87
Pakistan	148	2,040	159	33.0	23.0	53.0	30.3	2.8	0.7	363	18
Phillipines	82	4,640	128	46.1	14.0	53.0	94.3	39.9	0.6	459	270
Sri Lanka	19	3,740	136	33.2	19.0	55.0	64.7	2.4	1.4	297	73
Vietnam	81	2,490	151	37.0	...	...	115.0	5.8	4.0	374	34
Average 1/	82	3,577	...	37.5	17.3	47.3	61.4	11.1	1.9	566	112
Mature EMs											
Brazil	177	7,510	86	59.3	6.0	75.0	25.1	6.7	2.1	1,776	264
Colombia	45	6,410	97	57.6	12.0	58.0	33.8	12.6	3.4	817	141
Mexico	102	8,980	80	54.6	4.0	70.0	54.9	5.4	2.0	1,660	291
Russia	143	8,950	82	31.0	5.0	61.0	48.2	19.6	5.0	4,291	249
South Africa	46	10,130	76	57.8	4.0	65.0	48.5	6.1	1.0	3,860	364
Turkey	71	6,710	94	40.0	13.0	65.0	48.2	6.8	0.9	1,458	394
Ukraine	48	5,430	112	29.0	14.0	46.0	93.1	14.2	2.9	2,229	136
Average 1/	71	7,731	...	47.0	8.3	62.9	50.3	10.2	2.5	2,299	263

Source: World Bank; and IMF, *International Financial Statistics* .

1/ Median for population.

7. **India's revenue collections compare very favorably to the first group of comparators** (Table III.2). Total general government revenues exceed the level realized in direct comparators by almost 2 percent of GDP. The higher performance is mainly due to indirect taxation (sales taxes and excises). India is very much in line with income tax, customs and nontax revenue collection efforts in these other countries. This good performance is not driven by comparisons against the weakest members of the group—India outperforms both China and Philippines, the two highest income comparators in the group.

8. **However, against more mature emerging markets, there are some revealing differences** (Table III.2). These more advanced economies collect some 13 percent of GDP more in general government revenues than India does. The largest difference concerns payroll (social contribution) levies: all but one of the comparators has a formal social security system funded in this way while India does not. Other key differences include income taxation, including an almost 3 percentage point gap in the PIT, and goods and service taxation, where the gap is about 2½ percent of GDP. India collects a little less in nontax revenues, perhaps reflecting more efficient use of state assets elsewhere.

Table III.2. India and Other Economies: General Government Revenues

(In percent of GDP)

			Income				Goods and Services			International	Social			
	Total	Tax	Total	PIT	CIT	Property	Total	VAT	Excises	Trade	Contributions	Other	Grants	Nontax
India	20.30	16.86	5.02	1.75	3.28	0.74	8.65	…	…	1.76	0.00	0.68	0.09	3.90
Comparators														
China	19.41	17.64	4.33	1.27	2.89	0.57	10.85	6.74	…	0.76	0.00	1.13	0.00	1.78
Egypt	20.54	14.17	6.14	2.27	3.87	0.03	5.44	2.48	1.12	1.50	1.06	0.00	0.53	5.34
Indonesia	17.99	12.47	6.32	1.38	4.94	0.61	4.91	3.15	1.77	0.54	0.00	0.08	0.02	5.50
Pakistan	14.45	10.02	2.80	0.40	2.40	0.15	5.32	3.66	1.25	1.76	0.00	0.00	0.30	4.13
Phillipines	17.66	14.85	5.76	3.05	2.71	0.44	6.10	2.88	1.59	0.97	1.58	0.00	0.00	2.81
Sri Lanka	16.44	14.61	2.04	1.22	0.82	0.19	9.57	6.23	3.24	2.02	0.17	0.62	0.43	1.40
Vietnam	22.70	16.50	5.70	0.50	5.20	0.04	8.20	5.90	1.80	2.60	0.00	0.00	0.20	6.00
Average	18.46	14.32	4.73	1.44	3.26	0.29	7.20	4.43	1.79	1.45	0.40	0.26	0.21	3.85
Mature EMs														
Brazil	33.62	29.75	5.66	…	…	…	10.52	8.71	…	0.48	12.30	0.80	…	3.86
Colombia	30.13	20.28	6.13	…	…	…	9.82	5.82	2.87	0.87	2.74	0.72	…	9.86
Mexico	26.05	19.50	5.67	3.32	2.35	0.31	9.91	3.84	1.84	0.41	3.38	0.09	0.00	6.55
Russia	38.61	36.08	8.62	3.43	5.19	…	11.03	6.39	1.47	5.13	7.83	3.46	0.00	2.53
South Africa	24.95	24.35	13.63	7.71	5.49	0.40	9.53	7.12	2.41	0.99	0.00	0.79	0.00	0.60
Turkey	39.67	32.90	7.75	5.15	2.61	1.13	15.91	8.15	6.63	0.28	6.79	1.07	0.00	6.77
Ukraine	39.74	33.91	10.06	4.15	5.91	0.66	11.16	6.67	2.35	1.77	8.71	1.56	0.00	5.83
Average	33.25	28.11	8.22	4.75	4.31	0.63	11.13	6.67	2.93	1.42	5.96	1.21	0.00	5.14

Sources: Country authorities; and IMF staff estimates.

9. **Part of the difference against mature emerging markets will disappear over time as the structure of India's economy shifts**. If the share of agriculture in Indian output were to fall by 13 percentage points in favor of manufacturing and services (which would move its economic structure into line with more mature emerging markets), this could yield close to 1 percent of GDP in additional revenue. However, it would take a long time for this shift in economic structure to occur—20 years, given the present differential between agricultural and non-agricultural growth rates. And there would still be a large gap in total revenues relative to the mature emerging markets if nothing else in the tax system changed.

C. Medium-Term Directions and Strategies for Tax Reform

10. **There are good prospects for India to further raise its revenue ratio by strengthening both goods and services and income taxation**. In fact, plans are already well laid out in India for reform of goods and services taxation, and many aspects of the PIT and CIT reform agenda have also been identified. The thrust of the proposals, consistent with international experience of successful tax reform episodes, is to broaden tax bases.

Goods and Services Taxation

11. **There is already a general strategy to address indirect tax shortfalls**. The Kelkar Commission report and FRBMA roadmap both highlighted the need to move towards a broad-based and integrated goods and services tax.[3] Key steps include: (i) extending the state level VAT to all states, and incorporating services into the base; (ii) eliminating the tax on interstate trade (the CST); (iii) expanding the service tax base at the center (for instance, to incorporate further financial and legal services); (iv) integrating the central VAT and services tax into a new central level goods and services tax (GST) applied at the retail stage; (v) broadening the GST base by eliminating exemptions (including for small scale industries and specific regions); and (vi) introducing a comprehensive goods and services tax (having a common base at the central and state level, but allowing rates to be fixed separately, subject to some limitations).[4] The government is already moving forward on several of these steps.

12. **There is ample opportunity, in moving to a broad-based GST, to close the revenue gap with more mature emerging markets**. In general, international experience has shown that the introduction of a VAT often leads to higher revenues due to base broadening and compliance improvements (IMF, 2004; World Bank, 1997). Looking more specifically at India, estimates suggest that eliminating exemptions for small scale industries and for specific regions could generate an additional ¼ percent of GDP in annual revenue (Bagchi et al., 2005). Expanding the service tax base could alone generate 1 percent of GDP (FRBMA report). In terms of compliance, the sharp distinction in India between a good and service along with the availability of scale and location based exemptions have given companies an incentive to reorganize production and distribution processes to minimize taxes. This has led to many drawn out disputes with the tax authorities, and to complicated and costly-to-

[3] There is also a need to review remaining excises on energy products, alcohol and tobacco. See Chapter I for a discussion of petroleum excise taxation.

[4] This approach can be characterized as a dual VAT. An alternative approach in a fiscal federal system is the CVAT, which imposes a creditable tax on interstate trade to minimize opportunities for cross-border fraud. See Bird and Gendron (2005) for a discussion of the merits and demerits of each of these approaches.

administer rules for imputing taxable values. There is thus much scope for compliance based revenue gains, although the precise amount and timing would be difficult to predict.[5]

13. **An integrated GST is best viewed, however, as a medium-term reform**. Some steps would involve difficult center-state negotiations; for instance, elimination of the CST would produce winners and losers among the states (depending on whether they are net exporters to other states), raising issues of compensation. Others, like service taxation at the state level, involve constitutional issues. Even once these impediments are overcome, international experience has shown that implementing a full GST can take substantial lead time, in order to put in place appropriate administrative arrangements and to train taxpayers. The challenge is magnified for India, given the need to put in place a system of joint or unified audit and establish channels for adequate information exchange between different tax administrations. Taking adequate time to get this right is crucial. Unprepared administrations could face significant revenue leakages, to the detriment of public support for the VAT. At the same time, if taxpayers have difficulty complying with changes, pressures for reversal of reform could become intense (World Bank, 1989; World Bank, 1997).

Personal Income Taxation

14. **India has already reformed key elements of its personal income tax regime**. In the 2005/06 budget, thresholds were increased dramatically, rates were lowered modestly, and a variety of savings related exemptions were consolidated into one deduction. The government is now considering modalities for taxing withdrawals from small savings funds.[6] Small savings incentives cost the government in the range of ¼ percent of GDP annually in foregone income tax revenue (Government of India, 2003a). However, the FRBMA roadmap suggested grandfathering many existing savings schemes, which would limit near-term revenue gains.

15. **There remain important base broadening measures, however, that the Indian authorities could take**. These would not be easy—well-organized vested interests would need to be confronted—but could yield between ⅔ percent and ¾ percent of GDP per annum:

- **Tightening the tax treatment of charities**. Charities are generally exempt from taxes when they perform activities of social value that are not for profit. At present in India, however, trusts carry on many activities that are for profit, and surveys have suggested that business income may represent 50–60 percent of their total income.

[5] *The Report of the Task Force on Implementation of the FRBMA* (2003) foresaw compliance driven revenue improvements of about ½ percent of GDP through the service tax alone.

[6] Deposits, withdrawals and interest earned are exempt from taxation; international practice has moved towards exemptions for deposits and interest only (Government of India, 2004a).

This leads to revenue losses of almost 0.2 percent of GDP per year and distorts competition and horizontal equity (Bagchi et al., 2005).

- **Subjecting agricultural income to taxation**.[7] Besides creating horizontal equity problems, the exemption has led to significant evasion. High administrative and compliance costs could provide a rationale for some special treatment, but the present high income tax threshold in India (see below), which would eliminate all small and many medium-sized farmers, already accommodates this concern.[8] The exemption is estimated to cost ¼ percent of GDP per year (Bagchi et al., 2005).

- **Eliminating the tax deductibility of mortgage interest**. This deduction raises issues of vertical equity—high income taxpayers who face higher marginal tax rates receive a larger benefit—and distorts investment incentives.[9] Its elimination could bring an additional 0.2 percent of GDP per year in revenue (Government of India, 2003a).

16. **India's high income tax threshold would also restrain the growth of revenues over the medium term, but addressing this is not part of the current reform strategy**. Compared to PIT systems in more mature emerging markets, India's threshold for income taxation is very high relative to per capita income, even adjusting for different deductions available (Table III.3).[10] The amount of tax revenue foregone may be significant: perhaps 1⅓ percent of GDP.[11] The PIT threshold has just been raised in India, breaking a long decline over the past 40 years relative to average income (Figure III.2). Section D considers the threshold issue in more detail.

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[7] See Bagchi et al. (2005) for a discussion of the arguments in favor of an agricultural exemption, and why they fail in the Indian context.

[8] The vast majority of developing countries do not exempt agricultural income from taxation (Khan, 2001). However, difficulties in measuring income in the agricultural sector have led to widespread use of presumptive methods of taxation.

[9] See Government of India, 2003a for a discussion of the pros and cons of the deduction. Among countries surveyed in the Kelkar report, one-half of high income countries, and one-quarter of emerging markets and low income countries had such a provision.

[10] This is also before accounting for the fact that social considerations are partly built into the threshold in India: it is 25 percent higher for women, and 50 percent higher for retirees. Such a design is uncommon, although South Africa also applies a higher threshold for the aged.

[11] Calculated using 2003 data, and assuming a threshold of 40 percent of per capita income. Assumes (i) 35 million current taxpayers; and (ii) 70 million new non-agricultural taxpayers with an average income of Rs. 20,000 and savings deductions of Rs. 4,000. Calculations also include agriculture, beyond the value of ending the exemption, and are made using data from Bagchi et al. (2005). The gains should be understood as relevant for the medium term.

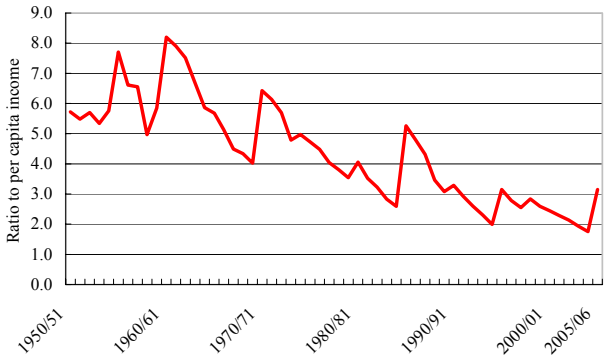
Table III.3. India and Other Economies: Structure of the Personal Income Tax System

	Revenue (%GDP)	Rates No.	Min.	Max.	Surcharge	Thresholds 1/ Min. rate	Max. rate	Social 2/
India	1.75	3.00	10.0	30.0	10	315	788	631
Mature EMs								
Brazil	…	2.00	15.0	27.5	...	132	264	237
Colombia	…	many	…	35.0	...	0	1,474	0
Mexico	3.32	5.00	3.0	32.0	...	7	124	121
Russia	3.43	1.00	13.0	13.0	...	4	4	43
South Africa	7.71	6.00	18.0	40.0	...	120	1,030	135
Turkey	5.15	4.00	15.0	35.0	...	0	678	44
Ukraine	4.15	1.00	13.0	13.0	...	33	33	60
Average	4.75	3.17	12.8	27.9	...	42	515	91
Other								
China	1.27	9.00	5.0	45.0	...	184	678	...
Philippines	3.05	7.00	5.0	32.0	...	17	861	...

Source: Price Waterhouse Coopers 2003b; and IMF.

1/ In percent of per capita GDP.
2/ For a married taxpayer with two children earning the per capita income, and taking advantage of all savings, dependent and education deductions.

Figure III.2. India: Evolution of the PIT Threshold



Sources: Kelkar Report; and IMF staff estimates.

Corporate Income Taxation

17. **Many aspects of India's corporate tax regime are now in line with international practice, but low revenue productivity signals too narrow a base**. India's corporate tax rate remains high, but it has done a good deal of late to bring its other CIT provisions in line with international practice (Table III.4). However, even with these changes, the productivity of the corporate tax lags more mature emerging markets (Figure III.3). This signals significant leakage through exemptions, and India does maintain extensive tax holidays, including for export related activities, specific sectors and regions. The direct cost of holidays for regions, exports and the construction sector alone has been estimated at some ½ percent of GDP (Bagchi et al., 2005), and there is little evidence that these holidays have generated significant investment or employment.[12] One result of excessive leakage in India has been a proliferation of other corporate taxes in India (e.g., the minimum tax and wealth tax), which complicate the tax system and raise administration and compliance costs. Recent practice in more mature emerging markets has been to reduce or eliminate tax holidays.[13]

[12] See Bagchi et al (2005). Aggarwal (2004) considers export zones and finds that exports per employment unit declined sharply after a period, as the incentives could not compensate for poor governance and infrastructure in the zones.

[13] See Zee, Stotsky and Ley (2002) for a discussion of the merits and demerits of various types of investment incentives. Income tax holidays are considered to be among the worst. South Africa's practice—budget subsidies—is an example of a more transparent approach.

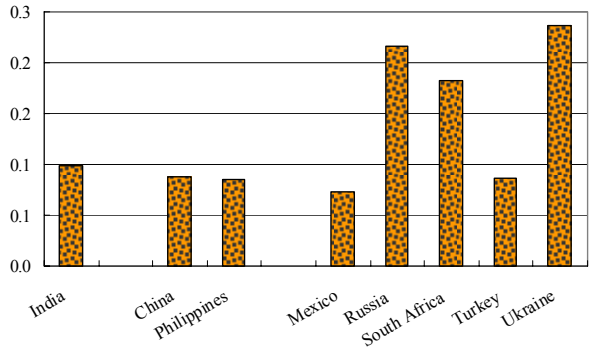
Table III.4. India and Other Economies: Structure of the Corporate Income Tax System

	Revenue (%GDP)	Rate 1/	Minimum Tax	Loss Carry Forward 2/	Deprec. Rate 3/	Investment Incentives: Lower CIT Rate	Accel. Deprec.	Inc. Tax Holidays
India	3.28	33.0	7.5	8	15	No	Yes	Yes
Mature EMs								
Brazil	…	25.5	No	nlim (cap)	10 to 20	No	Yes	Yes
Colombia	…	36.7	Yes	8 (cap)	10	No	Yes	Yes
Mexico	2.35	32.0	1.8	10	...	Yes	Yes	No
Russia	5.19	24.0	No	10 (cap)	5 to 100	Yes	Yes	No
South Africa	5.49	30.0	No	nlim	20	No	Yes	No
Turkey	2.61	30.0	No	5	6.6 to 50	No	Yes	Yes
Ukraine	5.91	25.0	No	nlim	24 to 40	No	No	No
Average	4.31	29.0	...	...	...	...	...	...
Other								
China	2.89	33.0	No	8	10	No	No	Yes
Philippines	2.71	32.0	2.0	3	...	No	No	Yes

Sources: Price Waterhouse Coopers; and IMF.

1/ Including surcharges.
2/ Number of years; "nlim" denotes no limit; "cap" indicates that the amount in any one year is capped.
3/ Machinery and equipment, under straight line method.

Figure III.3. Productivity of the CIT 1/



Sources: Country authorities; and IMF staff estimates.
1/ Productivity defined as collections (in percent of GDP) per each percentage point of tax rate.

18. **The need to broaden the corporate tax base has long been recognized in India**. The Kelkar Report and FRBMA roadmap (Government of India, 2003a and 2004a) advocated the removal of tax holidays and discussed options including upfront elimination, a rapid 2–3 year phase-out, and sunset clauses with no new entrants. Time-consistency would argue in favor of the first option: a phase out would allow vested interests to lobby for continuation. The government has been pursuing the third route, but some setbacks are evident: in the 2005/06 budget, exemptions covering research and development facilities in specific sectors and investments in Jammu and Kashmir were extended by two years. A key issue, considered in Section E, is how to create an environment in which base broadening measures would stand more of a chance of success.

D. The Income Tax Threshold

19. **Elaborating a strategy to increase the PIT threshold over the medium term should be a focus for the Indian authorities**. International experience suggests that having well specified tax reform plans is important: sudden political or economic events often provide an unexpected impetus to reform.[14] Doing nothing would allow inflation to erode the threshold (so-called "bracket creep"), but this would require 25 years to bring the threshold into line with the average in more mature emerging markets. Moreover, without an explicit strategy, there is a significant risk that the threshold will eventually be raised again, leaving the problem in place even as India develops into a more mature emerging market.

[14] See World Bank (1997). The Ukrainian tax reform in 2005 is perhaps an example of this.

20. **Several arguments have been put forward in India in favor of a high threshold**:[15]

- **Tax administration constraints**. Due to resource constraints and organizational shortcomings the tax administration is unable to effectively challenge taxpayers' declarations, allowing them to under declare income. They tend to do so at levels just above the threshold, and thus a higher threshold may even enhance revenues.

- **High compliance costs for taxpayers**. These raise the social cost of extracting resources from the private sector. Chattopadhyay and Das-Gupta (2002) have estimated compliance costs in India to be well above those in developed countries.

- **Social considerations**. There is no formal social security system in India, so that India may require a higher level of exemption to self insure.

- **The high level of indirect taxation relative to comparable developing countries**. A higher threshold may ensure that the effective rate of tax on labor (i.e., including consumption taxes) is reasonable in India for low income earners.

21. **The arguments in favor of a high threshold are less compelling from a medium-term perspective**. Tax administration reforms, for instance the expansion of the taxpayer identification number (TDS system), computerization, introduction of a large taxpayer unit, and expanded collection of third party information, should strengthen tax administration. The information technology revolution should at the same time rapidly reduce compliance costs for taxpayers. In addition, the government has prioritized the enhancement of social spending over the medium term, and is introducing additional elements of a safety net. Finally, in the medium term, India will join the ranks of more mature emerging markets, and compared to them, its level of income taxation lags.

22. **Improvements in tax administration and better targeted social spending could open the door to a change in the threshold**. As administrative and compliance costs fall and the government becomes more effective at redistributing income, political opposition could lessen. A formal social security system funded by a payroll tax is not necessarily needed but, if India does follow the lead of more mature emerging markets and introduces one, the payroll tax could promote better compliance, given the benefit motivation for payroll tax payment and the administrative synergies in payroll tax and PIT collection.

E. Minimizing Tax Exemptions

23. **International experience suggests that base broadening should remain a key thrust of reform efforts**. International experience shows that improvements in simplicity and horizontal equity (fairness) proved to be strong selling points in generating public

[15] See, for instance, Government of India, 2004a.

support for tax reform; vertical equity and economic efficiency did not (World Bank, 1997). Moreover, tax base broadening also seems to be associated with successful revenue-based fiscal consolidation episodes, perhaps due to improved efficiency and macroeconomic outcomes (IMF, 2004).[16]

24. **To promote a broader tax base, many emerging markets have become more transparent about their tax expenditures** (Table III.5). Indeed, in some cases this seems to have had a direct impact on subsequent policy (e.g., Ukraine).[17] The Kelkar commission and FRBMA roadmap recognized the importance of transparency about tax expenditures, and the Ministry of Finance has been working on estimates for major items. Box III.1 discusses the key issues to consider in this process.

Table III.5. Reporting of Tax Expenditures

Country	Reporting Practice
India	No
China	No
Philippines	Partial
Brazil	Yes
Colombia	No
Mexico	Yes
Russia	Partial
South Africa	No
Turkey	Yes
Ukraine	Yes
Korea	Yes
G-7	All except Japan 1/

Source: IMF Fiscal ROSCs.

1/ Italy's reporting is partial.

25. **Maintaining a broad tax base also requires careful administration**. Budget process controls are important and are reasonable in India: the MoF is required to vet and cost all new tax expenditure proposals and can propose alternative modalities for delivering support (e.g., on-budget subsidies). Moreover, the FRBMA in India effectively requires that new measures with a cost be compensated elsewhere. However, the system has failed in practice to stem the flow, and recent legislation on special economic zones evolved to include extensive tax holiday provisions. An option to exert greater control would be to make all steps of the process more transparent, including what would now be internal MoF deliberations on alternative subsidy mechanisms.

[16] See Poirson (2005) for a discussion of the growth enhancing impact that a tax base broadening and rate reduction reform could have.

[17] The Ukrainian authorities began publishing tax expenditure estimates in 2002, and efforts were made to broaden the tax base. Steady successes were followed by sweeping reform in 2005, when a new government sought resources to fund social initiatives.

Box III.1. Enhancing Transparency About Tax Expenditures

Improving transparency about tax expenditures requires consideration of several issues (Craig and Allan, 2001):

- **Definitions**. The two most commonly used approaches are the conceptual and reference law approaches. In the former, tax expenditures are defined relative to a pure theoretical baseline (e.g., a single rate VAT). In the latter, only exemptions relative to the existing tax law are considered (e.g., lower rate of VAT would not be considered a tax expenditure). The conceptual approach produces the widest accounting, but should be tempered to reflect administrative feasibility.
- **Measurement**. The standard approach is to focus only on the reduction of tax liability and to avoid assumptions about a behavioral response. Estimation can be done using survey or other data, but over time tax forms and filing requirements can be adapted to permit more exact measurement. A de minimis rule—the exclusion of small items—can be used to reduce the administrative burden of measurement.
- **Publication**. The budget documents should ideally include information covering the past 2 years, plus the projection, and should distinguish any new initiatives. The documents should spell out the estimation methodology and discuss the risks to revenues, and budget implementation, from misestimation.
- **Ex post assessment and audit**. Standard compliance audit is appropriate, but value-for-money audit is crucial. The Auditor General should ask whether the instrument achieved the policy goal. If this is not feasible, specialized studies can be undertaken, as has been done in India for tax holidays in the northeastern region. Any assessment should be published.

26. **To protect CIT revenues, India may also need to address risks from harmful international tax competition**. As India enters into bilateral and regional free trade arrangements, and companies are able to supply the Indian domestic market from other locations, the various jurisdictions may compete for mobile tax bases.[18] Tax coordination can help to reduce the extent of competition. The least intrusive form would be a non-binding code of conduct (as in the EU). More developed forms would involve agreement on tax floors and on acceptable incentives (see Keen, 2005 and Easson, 2004).

[18] In India, before 2001, states competed for investment via incentives and lower tax rates. An agreement in 2001, which set floor rates of sales tax and eliminated some incentives, was widely seen as mitigating the problem. See Twelfth Finance Commission report (2004).

F. Conclusions

27. **There is ample room for further revenue gains in India**. The introduction of a GST, reduction of income tax thresholds, extension of income tax to the agricultural sector, and elimination of corporate tax exemptions would go a long way to raising India's revenue ratio over the medium term, to achieve revenue collection performance on par with more mature emerging markets (Table III.6).

Table III.6. India: Summary of Key Revenue Reforms

Measure	Potential Yield (Percent of GDP)
Goods and services taxation	1.25
Broaden service tax base	1.00
Eliminate exemptions	0.25
Compliance improvement	Large
Personal income taxation	2.25
Tax agriculture 1/	0.25
Tighten treatment of charities	0.20
Mortgage interest deduction	0.20
Interest exemptions	0.25
Raise threshold 2/	1.35
Corporate income taxation	0.50
Eliminate exemptions	0.50
Total	4.00

Source: Bagchi (2005), Government of India (2003); and IMF staff estimates.

1/ Yield at existing income tax threshold.
2/ Including agriculture.

28. **Moving difficult reforms forward in India requires some thought about strategy**. Fiscal federal agreements would be needed to secure a full GST and agricultural income taxation, while PIT reform would likely gain traction with improvements in the social safety net and tax administration reform. Corporate tax reforms may benefit from improvements in transparency, and from efforts to ensure appropriate tax coordination.

References

Aggarwal, Aradhna, 2004, "Export Processing Zones in India: Analysis of the Export Performance," ICRIER Working Paper No. 148 (New Delhi: ICRIER).

Alesina, Alberto and R. Perotti, 1996, "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects," NBER Working paper 5730 (Cambridge: National Bureau of Economic Research).

Bagchi, Amaresh, R.K. Rao and B. Sen, 2005, "Raising the Tax-Ratio by Reining in the "Tax Breaks,"" (New Delhi: National Institute for Public Finance).

Bird, Richard, and P.P. Gendron, 2005, "VAT Revisited: A New Look at the Value Added Tax in Developing and Transition Countries," paper presented at the USAID Workshop for Practitioners on Tax on May 4, 2005, (Washington: USAID).

Chattopadhyay, Saumen and A. Das-Gupta, 2002, "The Compliance Cost of the Personal Income Tax and its Determinants," (New Delhi: National Institute for Public Finance).

Craig, Jon and William Allan, 2001, "Fiscal Transparency, Tax Expenditures, and Budget Processes: An International Perspective," Proceedings of the Ninety Fourth Annual Conference 2000, pp. 258–64 (Washington: National Tax Association).

Easson, Alex, 2004, "Harmful Tax Competition: An Evaluation of the OECD Initiative," *Tax Notes International* (June 7), pp. 1037–1077 (Falls Church, Virginia: Tax Analysts).

Government of India, 2005, *Budget 2005–06* (New Delhi).

_____, 2003a, *Report of the Task Force on Direct Taxation*, (New Delhi).

_____, 2003b, *Report of the Task Force on Indirect Taxation*, (New Delhi).

_____, 2004a, *Report of the Task Force on Implementation of the Fiscal Responsibility and Management Act, 2003* (New Delhi).

_____, 2004b, *Report of the Twelfth Finance Commission* (New Delhi).

Gupta, Sanjeev, B. Clements, E. Baldacci, and C. Mulas-Granados, 2004, "The Persistence of Fiscal Adjustment in Developing Countries," *Applied Economics Letters*, Vol. 11, No. 4, pp. 209–212 (Oxford: Routledge, Taylor & Francis Group Ltd.).

International Monetary Fund, 2004, "Experience with Large Fiscal Adjustments," (forthcoming; Washington: International Monetary Fund).

Keen, Michael, 2005, "Corporate Tax Competition," mimeo (Washington: International Monetary Fund).

Khan, Mahmood, 2001, "Agricultural taxation in developing countries: a survey of issues and policy," *Agricultural Economics*, Vol. 24. pp. 315–328 (London: Reed Elsevier Plc).

Poirson, Hélène, 2005, "The Tax System in India: Could Reform Spur Growth?" in *India—Selected Issues*, IMF Country Report No. 05/87 (Washington: International Monetary Fund).

PricewaterhouseCoopers, 2003a, *Corporate Taxes 2004–05: Worldwide Summaries* (Ontario, Canada: John Wiley & Sons Canada Ltd.).

_____, 2003b, *Individual Taxes 2004–05: Worldwide Summaries* (Ontario, Canada: John Wiley & Sons Canada Ltd.).

World Bank, 1997, *Tax Reform in Developing Countries*, ed. by Wayne Thirsk (Washington).

_____, 1989, *Tax Reform in Developing Countries*, ed. by Malcolm Gillis (Washington).

Zee, Howell, J. Stotsky and E. Ley, 2002, "Tax Incentives for Business Investment: A Primer for Policymakers in Developing Countries," *World Development*, Vol. 30. No. 9, pp. 1497–1516 (London: Reed Elsevier Plc).

IV. India—State Finances and the Twelfth Finance Commission[1]

A. Introduction and Overview

1. **Long-term fiscal developments in the states have been disappointing** (Table IV.1). Between 1993/96 and 2000/03 states' revenue deficit climbed by 1.9 percent of GDP, their overall deficit by almost 1½ percent of GDP and their debt by over 13 percent of GDP. There are several reasons for this, including the fifth pay commission awards in 1997 (which led to a 60 percent salary increase and a sharp increase in pensions), a relative decline in revenue to be shared with the states (due to poor indirect tax performance), tax competition between the states, a rising interest burden (due to rising nominal interest rates and debt), and low tax buoyancy during the growth slowdown of 2001–2003.

Table IV.1. India: Trends in State Finances

(In percent of GDP)

	1993–96 Average	2000–03 Average	2002/03	2003/04	2004/05 Estimate
Revenue	12.0	11.4	11.3	11.1	11.7
Expenditure	14.6	15.4	15.4	15.5	15.3
Revenue balance	-0.6	-1.9	-2.2	-2.2	-1.3
Overall balance	-2.6	-4.0	-4.1	-4.4	-3.6
Debt	19.3	32.6	31.9	33.0	32.8

Source: Reserve Bank of India.

2. **Staff estimates for 2004/05 suggest that state finances have begun to improve**. States reduced their overall balance to just over 3½ percent of GDP, and their revenue deficit dropped by almost 1 percent, to 1¼ percent of GDP. Recent factors for improvement of state finances have included an upturn in the GDP growth rate, a fall in nominal interest rates, the central government's debt swap facility (which allowed states to restructure their high interest debts), agreement in 2000/01 on floors for sales tax rates and on reduction and elimination of various tax incentives, pension reforms in some states, and incentives from the center to reduce electricity subsidies.

3. **However, states' overall fiscal situation remains problematic**. The aggregate state debt ratio remains around 33 percent of GDP (320 percent of state own revenues); while the interest bill continues to consume more than 25 percent of state own revenues. The situation is even more serious for some individual states, with debt ratios approaching 100 percent in some special category states, and debt-to-revenue ratios as high as 400 percent (in the middle-income state of West Bengal). Looking forward, a lack of free resources constrains state governments' ability to maintain existing infrastructure and invest in new projects, and may limit options to expand social spending.

4. **Against this backdrop, in late 2004, the 12th Finance Commission (TFC) submitted its Report and recommendations on fiscal federal relations in India to**

[1] Prepared by Mark Flanagan.

the government. The Indian constitution requires the appointment of a Finance Commission at least every five years to mediate the sharing of resources between the center and states. The TFC's framework provides three channels through which states can improve their fiscal circumstance. States will benefit from a higher revenue share and higher grants, and from debt restructuring and relief. The latter is conditional on passage and implementation of fiscal responsibility legislation (FRLs) targeting revenue balance by 2008/09 and a 3 percent of GDP overall deficit by 2009/10. States will also confront a stricter borrowing regime, with the center setting global ceilings on borrowings and henceforth only lending to fiscally weak states. Each of these is a step in the right direction, and in line with previous IMF staff recommendations (see, for example, Purfield, 2004).

5. **This chapter looks at the likely impact of TFC recommendations on states' fiscal position**. Section B briefly reviews the key TFC recommendations: more resources for the states, the incentive scheme for fiscal adjustment, and the framework for greater borrowing discipline. Section C then discusses the direct impact of higher resources on both the states and center, and Section D evaluates the incentive scheme and borrowing regime. Section E considers whether the adjustment is on track at an aggregate state level, and Section F examines whether it works for every state. Finally, Section G considers ways in which the fiscal federalism framework could be strengthened, drawing on international practice.

B. Direct Impact on Government Finances

6. **The TFC's framework will have a considerable direct impact on state, central and general government finances**. The direct impacts—due to a higher revenue share, higher grants, and interest relief—are before any behavioral impacts due to incentives (the borrowing regime and the debt-relief facility, which are discussed in more detail below). The impact can be considered against a baseline reflecting a continuation of revenue and spending ratios at levels realized during 2004/05 (Table IV.2). Several important points emerge:

Table IV.2. India: Projected Impact of Twelfth Finance Commission Recommendations on Fiscal Baseline

(In percent of GDP)

	2005–06	2006–07	2007–08	2008–09	2009–10
States					
Total deficit impact	-0.59	-0.44	-0.40	-0.34	-0.31
Tax revenues	0.22	0.22	0.22	0.22	0.22
Nontax revenues (tied and plan grants)	0.38	0.40	0.33	0.25	0.19
Interest	-0.12	-0.11	-0.10	-0.09	-0.08
Spending of tied and plan grants	0.13	0.28	0.25	0.21	0.18
Center					
Total deficit impact (1+2)	0.16	0.14	0.04	-0.07	-0.15
1. Total revenue deficit impact	0.72	0.73	0.64	0.56	0.49
Tax revenues	-0.22	-0.22	-0.22	-0.22	-0.22
Nontax revenues (interest)	-0.12	-0.11	-0.10	-0.09	-0.08
Transfers (tied grants)	0.28	0.30	0.22	0.15	0.09
Transfers (plan grants) 1/	0.10	0.10	0.10	0.10	0.10
2. Impact on net lending	-0.56	-0.58	-0.61	-0.62	-0.64
New loans 2/	-0.82	-0.82	-0.82	-0.82	-0.82
Repayments (maximum debt relief)	-0.26	-0.23	-0.21	-0.19	-0.17
General government: total deficit impact	0.13	0.28	0.25	0.21	0.18

Sources: Government of India, *Report of the Twelfth Finance Commission* ; and Fund staff estimates.

1/ Discretionary.
2/ As in 2005–06 budget.

- **States can realize a large improvement in their deficit in 2005/06,**

with little fiscal effort. Revenue and overall deficits could drop by as much as 0.6 percent of GDP due to higher direct and untied transfers.[2] States appear to have embedded such improvements in their 2005/06 budgets.

- **However, states will need to undertake fiscal adjustment in future years just to maintain their deficit at 2005/06 levels**. The challenge is driven by the fact that grants from the center are (i) fixed in nominal terms, and thus declining in terms of GDP; and (ii) shifting in their composition away from untied gap-filling grants towards tied grants (which must be spent). Thus, to sustain the improvements being realized in 2005/06, fiscal reforms need to continue.

- **The central government must undertake more fiscal adjustment upfront to achieve its fiscal adjustment targets** (i.e., as specified in fiscal responsibility legislation). In 2005/06, the center's revenue deficit would deteriorate by about 0.7 percent of GDP, though the overall central government deficit could remain broadly unchanged if the center stops lending to states as planned.[3]

- **The general government fiscal deficit could deteriorate**. The deficit would increase by an amount equal to the additional tied spending by the states (otherwise, all transfers cancel out in the consolidation). However, the TFC recommended that the center withdraw from spending in areas which are states' responsibility and, if implemented, this would offset the impact of the higher state spending.

C. The Impact of the New Incentive and Borrowing Regimes

7. **The FRL debt relief incentive scheme introduced by the TFC is a positive step, but there are reasons to be cautious about its impact**:

- **International experience to-date suggests that FRLs can assist, but are not sufficient to ensure, fiscal adjustment**. In general, countries where FRLs seem to have been effective are those where the law was imposed after the fiscal adjustment began (see IMF, 2005), and have had well-developed public financial management systems and accountability mechanisms; and comprehensive coverage (e.g., of public enterprises). In some Indian states, fiscal adjustment pre-dated the passage of FRLs, but deficiencies in public financial management systems are widespread (especially in

[2] The initial reduction in the deficit could even be slightly higher once composition effects—the fact that larger states will be receiving more in resources—are accounted for. See Howes and Prasad (2005) for a more detailed analysis of state-by-state impacts.

[3] Lending to states is recorded above the line for the central government (as net lending) but as borrowing—a financing item—for states. Intergovernmental borrowing and lending has no impact on the consolidated general government accounts.

the timely and complete reporting of budget data), and no sanctions (apart from reputation) are evident in the model FRL or in the FRLs already passed.

- **The focus of conditionality in India on difficult-to-monitor above-the-line data (i.e., the revenue balance) creates an additional challenge**. Experience with the previous Fiscal Reform Facility demonstrated that under stress, fiscal adjustment definitions could be flexibly interpreted (see Chapter 11 of the Report of the TFC). This is also consistent with the international experience of fiscal rules. An effort has been made to close a key channel of past misclassification in India: debt and equity "capital" transfers to enterprises in lieu of subsidies. However, looking forward, accrued off balance sheet liabilities (e.g., pensions, and quasi-fiscal activities in PSUs), and public private partnerships (and the difficult-to-value guarantees which they generate) could provide adjustment loopholes, unless correctly accounted for. Timing considerations also present a challenge: the debt service to be forgiven will come due well before audited information will be available about performance.

8. **Similarly, the steps taken to strengthen the borrowing regime are a positive step, but there remain some gaps**:

- **Administrative controls remain to be tested and are loose at present**. In general, administrative controls can create moral hazard, insofar as approval of state borrowing may make it difficult to deny assistance if a state runs into difficulty later on (Ahmad et al., 2005). In India, the central government has long had the power to administratively control borrowing, and has not always used it effectively.[4] In fact, through the required borrowing associated with 5-year plan assistance, and recent requirements that states borrow all resources generated from small savings funds, the center has arguably helped to create the states' debt problem. This implies that particular efforts will be needed to start a tighter and more credible regime of control. Against this backdrop, states' borrowing limit for 2005/06, set well above their projected aggregate deficit level, sends a very mixed signal.

- **The full underpinnings for a system of borrowing based on market discipline are not yet in place**. International experience suggests that for market discipline to be effective, there needs to be (i) no source of soft lending; (ii) a credible no bail-out commitment from the central government; and (iii) public availability of information on all forms of debt.[5] While the central government has withdrawn from lending in 2005/06, soft sources of financing remain: it retains the ability to lend to "weak" states (and under even more favorable terms than in the past); small savings fund

[4] The central government must approve a states' borrowing if the state owes anything to it.

[5] See Ahmad, Albino-War and Singh (2005). Market discipline is most prevalent in developed economies (e.g., the United States and Canada) with long histories of no bail-outs.

(NSSF) deposits remain a captive source of finance;[6] state debt is considered part of banks' statutory liquidity ratio, allowing easy placement of their debt with little mark-up; and the RBI continues to provide ways and means advances. At the same time, the credibility of a no-bail-out commitment may not be high in India, since no state has ever been left to fail, and since bail-outs are not explicitly prohibited. Finally, data on state debt are subject to significant ex-post revisions.

D. Scenarios for Aggregate State Fiscal Adjustment

9. **The total impact of the TFC framework on states' finances depends on the direct impact, the response of states to the adjustment incentives, and on macroeconomic developments**. The TFC developed a full macro-fiscal framework taking these factors into account. It assumed that both the center and states reduced their fiscal deficits to levels targeted in FRLs. This created space for higher public and private investment, which in turn underpinned higher GDP growth.

At the state level, adjustment efforts involved an increase in the revenue-to-GDP ratio (due to buoyancy and tax base broadening), and a decline in revenue expenditure as a share of GDP (due to a declining interest bill, a reduction in the wage bill, and a reduction in subsidies). The adjustment efforts create room for an increase in public investment by ½ percent of GDP annually (see Table IV.3).

Table IV.3. India: State Fiscal Adjustment Scenarios

(In percent of GDP)

	2004/05		2009/10			
	Actual	TFC	TFC	IMF-base	IMF-low	IMF-high
Total revenues	11.7	11.6	13.2	13.3	12.8	13.9
Tax	8.4	8.4	9.7	9.9	9.4	10.6
Of which: own tax	5.9	5.9	6.8	6.7	6.3	7.1
Nontax	3.3	3.2	3.5	3.4	3.4	3.3
Of which: own nontax	1.5	1.2	1.4	1.3	1.3	1.3
Total expenditures	15.3	16.2	16.3	16.3	16.4	16.5
Revenue expend.	13.1	13.6	13.2	13.4	13.8	13.4
Of which: interest	2.8	2.9	2.0	2.8	3.2	2.7
Capital expenditure	2.5	2.6	3.1	2.9	2.6	3.0
Revenue balance	-1.3	-2.0	0.0	-0.3	-1.2	0.3
Overall balance	-3.6	-4.5	-3.0	-3.1	-3.6	-2.5
Debt (end-year)	32.8	30.3	30.8	31.8	34.1	29.6
Memorandum items:						
Growth rate	…	…	7.0	6.5	6.0	8.0
Real interest rate	…	…	1.9	4.2	5.2	5.7

Sources: Government of India, *Report of the Twelfth Finance Commission*; and Fund staff estimates.

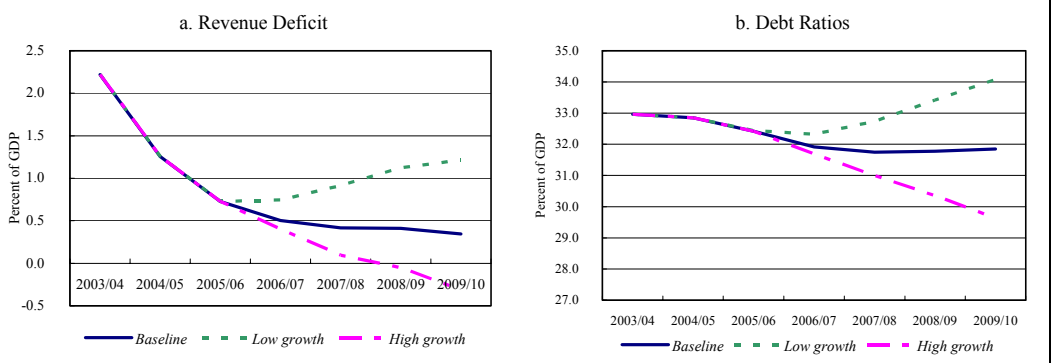
10. **Recent developments suggest a need to update the medium-term fiscal adjustment scenario for the states**. States are in a better initial fiscal position than envisioned: the TFC expected a 4½ percent of GDP overall deficit and a 2 percent of GDP revenue deficit in 2004/05, well above revised estimates. At the same time, it is important to reconsider risks: in the TFC baseline, the projected growth of 7 percent is about 1 percent above its historical average, while the projected real interest rate of 2 percent is about ¾ percent below the 10 year average. Movements towards historical averages—which would narrow the growth-interest rate differential—would have a considerable impact on debt dynamics.

[6] For some states which are in relatively good fiscal shape, the substantially higher-than-market NSSF interest rates represent a significant burden. For other states, they represent a significant subsidy.

11. **Three scenarios are developed, covering a baseline, high growth, and low growth case**. The baseline assumes growth will continue at its recent average, while the high and low cases are about one standard deviation above and below the TFC's baseline growth assumption, respectively. In the baseline scenario, revenue buoyancy is assumed to be in line with recent trends, but rises and falls moderately under the different growth assumptions. In each scenario, states are assumed to try to raise both primary revenue spending (reflecting the need for operations and maintenance and social spending), and capital spending (with a view to achieve the TFC's target of a total investment increase of ½ percent of GDP). However, if the scenario shows a burgeoning deficit, states are assumed to restrain their spending. Finally, since the aggregate state deficit path differs across the scenarios, the total debt and interest relief received by states is allowed to vary across scenarios: over ¾ of states (on a value-weighted basis) receive the debt relief in the high growth scenario, but less than half do in the low growth scenario.

12. **With these assumptions several important results emerge** (Figure IV.1 and Table IV.3):

Figure IV.1. India: Fiscal Outcomes Under Adjustment Scenarios



- **States, in aggregate, are broadly on track to achieve the TFC fiscal targets**. Under the baseline, the revenue deficit is cut by about 1¼ percent, to ⅓ percent of GDP, and the overall deficit falls by slightly under 1 percent to just over 3 percent of GDP by 2009/10. Capital spending also rises to 3 percent of GDP.

- **However, broad achievement of TFC targets would not be sufficient to sustainably reduce state debt ratios**. Under the baseline, state debt would fall initially by about 1 percent of GDP, but then begin rising. It would reach almost 32 percent of GDP by end-period. Even in the TFC's scenario, debt reduction were extremely gradual and a small drop in growth is all it takes to reverse debt dynamics.

- **Result are sensitive to growth and interest rate assumptions**. In the low growth scenario, targets would be missed by a wide margin and debt would rise throughout the period. States are forced to substantially curtail investment by end-period to cope with a rising interest burden. In the high growth scenario, all targets are exceeded.

13. **What policies are needed to shift the outcome towards the high growth scenario**? An active upfront adjustment effort in Indian states, focused more on efficiency enhancing measures and creating more room immediately for infrastructure and other investment would be more likely to stimulate growth than a strategy which relies heavily on revenue buoyancy and interest savings to achieve results over time. To achieve a stronger upfront adjustment and improve economic efficiency, expenditure measures would be important, for instance subsidy and pension reform and wage bill restraint. Tax measures would also be crucial, and base broadening and implementation of the state level VAT (and ultimately the GST) would be key areas to focus on.[7]

E. Fiscal Adjustment in Individual States

14. **Even if states in aggregate achieve a sustainable debt level, some states may yet face significant fiscal stress**. Since states face widely varying initial fiscal conditions and diverse growth prospects, some are likely to require more fiscal adjustment and/or debt relief than others to achieve a sustainable debt position. The TFC framework, however, only sets a minimum absolute requirement common to all states. One approach to examining this problem would be to simulate fiscal policy for individual states over a 10 year period to highlight the direction of each states' debt ratio in the five years after TFC targets have been met. An alternative approach followed here, which is much less data intensive, is to consider whether a state would achieve a debt stabilizing balance if it were to implement the full TFC fiscal adjustment upfront (i.e., revenue balance and a 3 percent of GDP overall deficit) and were to be given all of the proposed debt rescheduling and relief upfront.[8]

15. **In calculating debt scenarios for individual states, assumptions are used which bias the analysis *against* finding problems**. For each state, the historic state growth rate is used, adjusted for the difference between projected growth for the economy as a whole under the baseline macro scenario (Table IV.3) and past growth for the economy as a whole. States are assumed to face the same interest rate on new borrowing, approximately the rate on small savings (which are the largest source for state borrowing at the moment). This rate is assumed to remain above market interest rates, but to evolve over time in line with them. Weaker states would, however, almost surely face a harsher borrowing environment. At the same time, if the adjustment were to be phased instead of undertaken upfront, the initial debt ratio would be higher for many states. On both counts, debt dynamics would be worse.

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[7] See Rajaraman et al. (2005) for an analysis of the need for revenue and expenditure measures by state.

[8] The debt stabilizing primary balance can be calculated as the nominal interest rate minus the nominal growth rate, multiplied by the initial debt ratio, and deflated by the nominal growth rate.

16. **Nonetheless, analysis of the general category states suggests that many of them would indeed continue to face significant fiscal stress** (Table IV.4):[9] [10]

- The primary adjustment required by the TFC varies greatly across them. Some states are already in sustainable positions (e.g., Haryana), but others face gaps exceeding 4 percent of GDP (e.g., Rajastan). For states facing large adjustments this would not likely be feasible over a 5-year period without deep cuts to key programs.

- Not all of the general category states would achieve a debt stabilizing primary balance. Four states would face a need for a further small primary adjustment of about ½ percent of GDP to become sustainable.[11] If states instead can only implement a maximum adjustment equal to 10 percent of their initial spending level, then a further two states (Rajastan and Gujarat) would also fall short of sustainability.

- Finally, for those states that do achieve a sufficient primary balance to reduce debt, debt-to-revenue and interest-to-revenue ratios can nonetheless remain very high (e.g., 360 and 37 percent in West Bengal). This signals that significant crowding out of other budget items is likely.

17. **At the same time, the debt relief incentive scheme may prove insufficient to motivate a full adjustment effort in some states**. While the central government is providing considerable resources to the states in aggregate, for many individual states the debt relief is minor relative to their total outstanding liabilities, and relative to the amount of primary adjustment that they need to undertake (Table IV.4; see also Kurian, 2005). From another perspective, for an amount of debt relief equivalent to only 8½ percent of the transfers they are already set to receive, states would have to undertake very politically difficult policy reforms. For states where there is no present consensus, and which face a very large adjustment requirement, the incentive on offer may prove inadequate.[12]

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[9] Data were not available to assess special category states, but it should be noted that their average debt ratio in 2004/05 was 13 percent of GDP higher than the average for general category states, suggesting that the problem might be more acute for many of them.

[10] The high growth scenario does not improve the outcome, since interest and growth rates move up in tandem.

[11] The residual adjustment for two of the states declines to under ¼ percent of GDP if they simply maintain their current deficit, rather than loosening to achieve TFC targets.

[12] Another category of state—those which have already achieved the FRL deficit targets—may choose not to participate altogether. This would allow them to raise their overall deficit (and thus capital spending), which would otherwise be capped at present levels.

Table IV.4. India: Sustainability of State Debts Post-TFC; Baseline Scenario 1/

	Debt		Debt	Required		Primary Balance 3/			Debt/	Interest/
	2004/05	Post-relief	Relief	Primary Adj.	Incentive 2/	Debt stab.	Projected	Gap 4/	Revenue	Revenue
Andhra Pradesh	33.4	30.9	2.5	-0.1	-0.1	-0.3	0.2	0.4	1.9	0.2
Bihar	56.0	49.1	6.9	0.5	0.1	0.3	1.3	1.0	1.8	0.2
Gujarat	37.3	35.3	2.0	2.0	1.0	-0.3	-0.3	0.1	2.6	0.2
Haryana	27.2	26.4	0.8	-1.9	-2.5	-0.5	-0.2	0.3	2.3	0.2
Karnataka	32.6	30.3	2.3	-0.3	-0.1	-0.1	-0.6	-0.5	1.5	0.1
Kerela	40.8	37.7	3.1	1.8	0.6	-0.6	0.0	0.7	2.3	0.2
Madhya Pradesh	43.5	40.7	2.8	4.2	1.5	0.2	-0.3	-0.4	2.0	0.1
Maharashtra	31.0	29.7	1.3	2.2	1.7	-0.1	-0.6	-0.5	2.2	0.2
Orissa	69.0	64.3	4.7	2.4	0.5	0.5	2.1	1.7	2.7	0.2
Punjab	53.9	51.8	2.1	2.5	1.2	0.5	1.1	0.7	2.4	0.2
Rajastan	58.9	57.0	1.9	4.3	2.2	0.2	1.4	1.2	2.8	0.2
Tamil Nadu	27.9	26.2	1.7	-0.3	-0.2	0.0	-0.6	-0.5	1.9	0.2
Uttar Pradesh	51.3	48.2	3.1	2.1	0.7	0.3	1.1	0.8	2.7	0.2
West Bengal	44.5	42.7	1.8	2.5	1.3	-0.9	1.4	2.3	3.6	0.4

Source: World Bank; IMF staff estimates.

1/ Assumes that all debt relief and fiscal adjustment were to be realized up-front.
2/ Amount of adjustment required to realize 1 percent of GDP in debt relief.
3/ Assumes an overall deficit of 3 percent of GDP.
4/ When a positive gap exists, the overall debt level would be declining.

18. **For those states whose fiscal problems would not be solved even by fully following TFC recommendations, more ambition in adjustment efforts is needed**. The TFC did not limit states' fiscal adjustment to that necessary to achieve a revenue balance and a 3 percent overall deficit. Thus the MoF in the central government should encourage all states to embed a *primary* balance target in their FRL sufficient to ensure that their debt level will ultimately *fall*. Borrowing limits should be tailored to this target (see Section D). To provide an incentive towards a more appropriate target, the MoF could offer to cancel a small amount of remaining central government debt (consistent with its own fiscal capacity) at the end of the 5-year period, conditional on fiscal targets having been achieved.

19. **More direct measures may ultimately prove necessary for states which do not follow TFC recommendations**. For these states, if there is no sign of progress by the time of the 13th FC and they remain in a state of severe fiscal stress, more direct intervention could be considered. While a higher incentive may not be feasible, given the fiscal constraints faced by the central government (nor desirable, in light of concerns about moral hazard), tighter conditionality on grants could be pursued, with an aim to bring about policy reform measures to improve their underlying fiscal balance.

F. Improving the Borrowing Regime and Incentive Structure

20. **Given the risks to achieving TFC targets, especially at the individual state level, there is good reason to consider ways in which the borrowing and incentive regime could be strengthened**. On the borrowing side much can be done in the short term; however, on the incentive side, due to the constitutional prerogative of Finance Commissions over the design of fiscal federal relations, some of the more attractive options may need to await the Thirteenth Finance Commission (which would likely report in late 2009).

21. **India could in the near term take measures to strengthen the borrowing regime**:

- The central government could set **borrowing ceilings** more in line with FRL adjustment targets. It could also harden the rules for approval of new borrowing: as in some countries with FRLs (Brazil, Ecuador, and Colombia), it could condition approval of borrowing on demonstrating compliance with the FRL. Ultimately credibility will be cemented only when the system is tested (e.g., when growth and revenues unexpectedly fall short) and the government does not raise borrowing limits.

- In terms of **market discipline**, the various soft sources of finance need to be progressively restricted and eliminated, and information provision improved. Some countries penalize lenders for assisting subnational governments in borrowing beyond their legal limits—for instance Brazil requires immediate repayment with no interest—and such sanctions could alter lenders' incentives in India.

- Finally, it would help to improve both market discipline and the credibility of administrative control if India were to legally rule out future bail-outs. The Czech Republic and South Africa took this approach after past problems with bail-outs.

22. **The government could also, at the same time, pursue greater cooperation with states, with peer pressure as a sanction**. Under a cooperative approach, negotiations with subnational governments determine a global borrowing ceiling, which is then apportioned to the various government entities (see Ahmad, Albino-War and Singh, 2005). Enforcement can be through an independent intergovernmental entity (e.g., Austria) or through a subnational government association (e.g., Denmark), and should involve some form of financial sanction. In Spain, for instance, subnational governments who violate agreed borrowing ceilings are required to contribute to any fines assessed by the EU (under the Stability and Growth Pact). In India, the central government regularly engages the states on their individual borrowing plans, and has plans to set up a borrowing council (involving the MoF, RBI, Planning Ministry and states). This council could discuss the determination of a global all-state borrowing ceiling, and agree to sanctions for exceeding state-specific targets.

23. **In terms of the incentive regime, stronger requirements on information provision, and stronger sanctions would help make it more effective**:

- **A key problem to overcome in making the incentive regime more effective is information provision**. Key issues would include establishing standardized definitions, accounting systems, and classifications; upgrading and standardizing IT systems; and ensuring that states maintain databases on all financing sources. The central government could also increase the incentive for states to improve information provision by suspending grants when it is inadequate. Brazil and Ecuador have applied information related conditionalities in their FRLs, with Ecuador requiring information provision within 15 days of the date set out in the FRL, upon penalty of suspension of grants (see IMF, 2005; Webb, 2004).

- **The center can encourage states to amend their FRLs to incorporate sanctions for nonperformance**. The FRLs (or related legislation) would hold accountable those

individuals who were responsible for any breaches of the law. Examples of sanctions include financial reimbursement and loss of employment. The Brazilian framework again provides an example, and while it has not been formally tested, observers see it as having changed civil servant behavior (see Webb, 2004).

24. **Looking forward to the next FC, the center may also consider grants which are more tightly linked to fiscal performance, to provide a stronger institutional sanction**. In general, there is a good justification for grants conditioned on fiscal performance, given the negative spillovers that excess deficits and debt in any one state can generate (see Ahmad and Craig, 1997). Brazil, Ecuador and Peru have all embedded provisions to suspend grants in their FRLs due to poor fiscal performance. In Peru, the suspension is temporary (for 90 days), and this can avoid worsening the subnational authorities' fiscal situation. Brazil is seen as having enjoyed good success with its framework, and indeed subnational balances have improved markedly since its introduction (see IMF, 2005; Webb, 2004). Constitutional issues arise in India, however, insofar as the revenue share cannot be subject to conditions. An option might then be to reduce the revenue share, and to use the freed funds to create an equivalent (and ex-ante fixed) grant for each state. This grant could be suspended at least temporarily if a subnational government fails to meet its fiscal adjustment targets.

G. Conclusion

25. **The recommendations of the TFC represent a step forward in the process of state level fiscal consolidation in India, but other steps are needed to supplement the framework**. The extra resources available to states will give adjustment a significant push, but a stronger adjustment strategy, both in the aggregate and for individual states, would improve overall and individual state prospects. Strengthening borrowing controls will be critical to outcomes, and in this context there is a need to tighten administrative controls and remove impediments to more market discipline. At the same time, the conditionality on fiscal performance could be strengthened, with a focus in particular on sanctions at the state level for not meeting targets, information provision, and sanctions by the center (in the form of withheld grants) for fiscal performance shortfalls.

References

Ahmad, Ehtisham, Maria Albino-War and Raju Singh, 2005, "Subnational Public Financial Management: Institutions and Macroeconomic Considerations," IMF Working Paper 05/108 (Washington: International Monetary Fund).

Ahmad, Ehtisham and Jon Craig, 1997, "Intergovernmental Transfers," in *Fiscal Federalism in Theory and in Practice*, ed. by Teresa Ter-Minassian (Washington: International Monetary Fund).

Chelliah, Raja, 2005, "Malady of Continuing Fiscal Imbalance," *Economic and Political Weekly*, Vol. XL, No. 31, pp. 3399–3404 (Mumbai, India).

Government of India, 2004, *Report of the Twelfth Finance Commission 2005–10* (New Delhi).

Howes, Stephen and Mona Prasad, 2005, "Note on Twelfth Finance Commission. What Does it Mean for the States?" mimeo. (New Delhi: World Bank).

International Monetary Fund, 2005, "Fiscal Responsibility Laws," (unpublished; Washington: International Monetary Fund).

Kurian, N. J., 2005, "Debt Relief for States," *Economic and Political Weekly*, Vol. XL, No. 31, pp. 3429–3434 (Mumbai, India).

Purfield, Catriona, 2004, "The Decentralization Dilemma in India," IMF Working Paper 04/32 (Washington: International Monetary Fund).

Rajaraman, Indira, Shashank Bhide and R.K. Pattnaik, 2005, "A Study of Debt Sustainability at State Level in India,"mimeo (Mumbai: Reserve Bank of India).

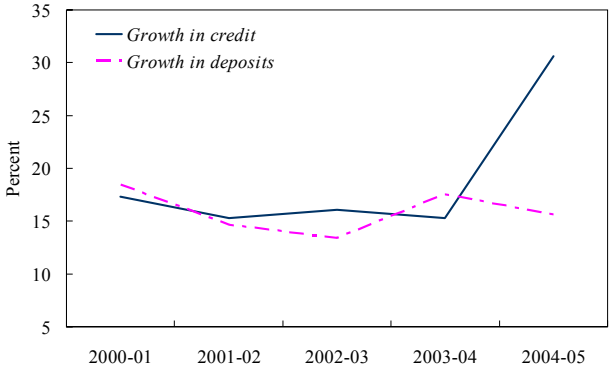
Rao, M. Govinda, and Pratap Jena, 2005, "Balancing Stability, Equity and Efficiency," *Economic and Political Weekly*, Vol. XL, No. 31, pp. 3405–3412 (Mumbai, India).

Webb, Steven, 2004, "Fiscal Responsibility Laws for Subnational Discipline: the Latin American Experience," World Bank Policy Research Working Paper No. 3309 (Washington: World Bank).

V. India—Credit Growth and Related Risks[1]

1. **In 2004–2005, annual growth of bank credit in India exceeded 30 percent** (Figure V.1). In contrast, total deposits of the banking system grew only by 15.4 percent over the same period. As a result, the credit-to-deposit ratio exceeded 60 percent in March 2005, and nearly reached 100 percent when only new loans and deposits are considered. For foreign banks, the difference between the growth rates of loans and deposits was particularly large (24.5 percent and 7.9 percent, respectively), bringing their credit-to-deposit ratio to 87 percent by the end of the period.

Figure V.1. India: Growth in Total Credit and Deposits, 2000–05



Source: Reserve Bank of India.

2. **In 2004, India had the fastest real rate of credit growth in Asia, followed by Indonesia** (Table V.1). However, India was outpaced by several countries in emerging Europe and Central Asia, where real rates of credit growth exceeded 40 percent, driven in part by financial deepening and by the entry of foreign banks. Credit growth rates were lower among the industrialized countries in Europe, but in some of them significantly exceeded the GDP growth rates (notably in Ireland, Spain and Greece).

Table V.1. Real Credit Growth in Selected Countries and Regions, 2002–04

(In percent)

	Real Growth in Credit to Private Sector 1/			Private Sector Ceredit to GDP			Capital to Risk-Weighted Assets	NPLs to Gross Loans	ROA
	2002	2003	2004	2002	2003	2004	2004	2004	2004
India	16.5	5.7	25.3	33.5	32.9	38.3	13.4	6.6	1.2
Indonesia	5.4	13.4	18.9	18.9	20.9	23.4	20.9	13.4	2.5
Sri Lanka	4.4	9.7	12.9	28.6	29.9	31.5	10.0	16.0	...
Bangladesh	12.5	3.8	10.2	27.2	26.8	28.2	8.7	17.6	0.7
China	18.2	19.4	7.1	135.8	147.1	140.5	3.9 2/	15.6 3/	...
Emerging Asia	6.2	4.6	8.1	77.5	78.1	77.1	14.2	10.9	1.3
Memorandum items:									
Emerging Europe	15.1	22.5	21.0	32.1	34.7	38.0	17.5	7.6	1.5
Western Europe	3.0	5.0	7.1	133.7	137.2	141.1	12.7	1.9	1.0
Latin America	1.6	-3.9	3.8	33.8	31.5	31.0	16.1	6.6	1.6
Middle East and Central Asia	14.6	15.8	20.5	35.1	36.0	37.6	18.3	13.6	1.7
Sub-Saharan Africa	11.5	11.8	8.3	14.1	15.2	14.7	16.9	13.3	3.1

Source: IMF, Monetary and Financial Systems Department, *Financial System Trends,* September 2005.

1/ Deflated by end of period CPI.
2/ Not risk-weighted capital ratio.
3/ State-owned commercial banks.

A. Reasons of Fast Credit Growth in India

3. **Existing literature generally identifies three main drivers of rapid credit growth** (IMF, 2004; Hilbers et al, 2005). First, credit tends to grow more quickly than output during the development phase of an economy ("financial deepening"). Second, credit typically

[1] Prepared by Dmitriy Rozhkov.

expands more rapidly than output at the beginning of a cyclical upturn due to firms' investment and working capital needs. Third, excessive credit expansion may result from inappropriate responses by financial market participants to changes in risks over time. For example, over optimism about future earnings may boost asset valuations, lead to a surge in capital inflows, increase collateral values, and allow firms and households to sharply increase borrowing and spending.

4. **In practice, it may be hard to distinguish between these three reasons of fast credit growth, since all three may be present in various degrees at the same time**. Financial deepening can easily coincide with the cyclical growth in lending, which, in turn, can be accompanied by an asset price bubble.

5. **In India, credit expansion is taking place against the backdrop of relatively shallow financial markets, suggesting that financial deepening may be an important factor behind this rapid growth**. To the extent that it reflects financial deepening, fast credit growth should be seen as a positive development, since a number of recent studies indicate that financial development is one of the determinants of economic growth.[2] In India, the ratio of private sector credit to GDP grew from 33 percent in 2002 to around 40 percent in 2005. This is still relatively low, although it is higher than in most developing countries that experienced high rates of credit growth in 2002–04.[3]

6. **Many types of credit—in particular retail credit—are growing from a very low base, as banks in India have tended to invest a large share of their deposits in government securities**. Even after a recent decrease, government securities still account for 31 percent of banking system assets, while net loans account for about 50 percent. Although growing rapidly, retail loans (which include housing loans, consumer durables, credit card receivables, and other personal loans) are still small at about 7 percent of GDP. The expansion of the retail banking segment can be attributed to a growing middle class with high disposable income, wider choices of consumer durables, increased acceptance of credit cards and increased demand for housing loans, spurred by attractive tax breaks. In addition, the RBI has taken a number of initiatives to increase transparency and competition in the credit market, including the dissemination of information on lending rates of banks since 2002, and the creation of a credit registry.

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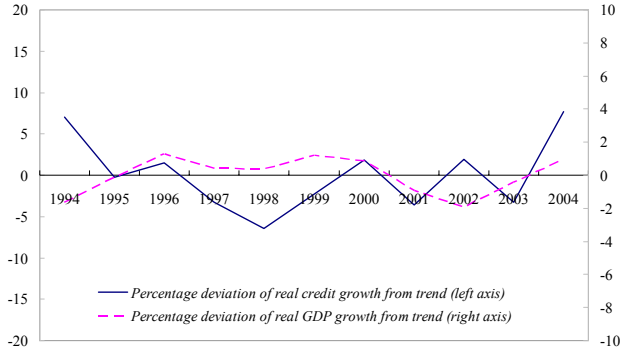
[2] King and Levine (1993), Levine (1997), Rajan and Zingales (1998), and Favara (2003).

[3] In Central Asia, average credit to GDP almost doubled over the last three years, but remains very low at around 17 percent. In many countries in emerging Europe, the level of financial deepening is also still low, especially compared to the EU levels.

7. **Cyclical factors are also present, with strong income growth, rapidly growing consumer demand, and decreasing borrowing costs contributing to rising demand for credit**. Cyclical credit growth is more of a potential cause for concern, since in periods of booms, risks tend to be underestimated, which can lead to an increase in nonperforming loans ratios after the boom has ended. India is now going through an upward phase of an economic cycle, with real GDP growing at an average annual rate of about 7 percent over the last three years. Staff estimates using the Hodrick-Prescott filter indicate that recently credit growth has begun to outpace the cyclical upturn (Figure V.2). In 2004, credit growth in India was 8 percent above trend, compared to 1 percent for the GDP.

Figure V.2. India: Cyclical Components of Real Credit Growth, 1994–2004 1/



Sources: Reserve Bank of India; and staff estimates.
1/ Trends are estimated using the Hodrick-Prescott filter.

8. **Current rapid credit growth is also accompanied by considerable exuberance in asset markets, suggesting that asset overvaluation may be a concern**. Real estate prices in major metropolitan areas (such as Mumbai, Bangalore, and Kolkata) have increased at an annual rate of about 20 percent since 2003, with prices accelerating in the second half of 2004. In addition, Indian stock market has been growing at an annual rate of about 37 percent since early 2004.

B. What Types of Credit are Growing?

9. **Credit growth has been broad-based** (Table V.2). In the year ending in March 2005, nationalized banks[4] (accounting for 47 percent of total credit of the banking system) saw their credit growing fastest, at 33.6 percent, but other groups of banks were not far behind. Credit in metropolitan areas was the fastest growing (Bangalore and Mumbai witnessed the fastest growth of credit, 49 percent and 42 percent respectively), but credit in rural areas (representing 9 percent of the total) also grew by 25 percent.

Table V.2. India: Growth of Loans and Deposits by Type of Bank and by Region

	Deposits Mar-04	Deposits Mar-05	Loans Mar-04	Loans Mar-05	Share in Total Credit Mar-05
	(Annual growth rates, in percent)				(In percent)
By groups of banks					
SBI group	19.7	15.7	16.1	26.0	23.1
Nationalized banks	16.2	15.9	15.6	33.6	47.4
Foreign banks	28.6	5.2	15.3	24.6	6.7
Regional rural banks	12.1	10.0	18.2	24.7	2.8
Other scheduled commercial banks	23.4	17.8	23.8	31.9	20.1
All scheduled commercial banks	18.7	15.6	17.3	30.6	100.0
By population groups					
Rural	10.7	9.4	14.0	24.9	9.2
Semi-urban	11.2	10.5	19.7	28.9	11.3
Urban	14.1	13.7	24.8	24.4	16.4
Metropolitan	26.6	19.8	15.5	33.4	63.1
By major banking centers					
Mumbai	31.3	20.5	10.5	41.8	27.5
Delhi	28.6	22.3	15.9	26.6	12.2
Chennai	21.6	13.7	16.4	16.7	5.0
Bangalore	33.6	19.9	31.6	49.0	4.3
Kolkata	16.4	17.7	13.8	22.5	3.9
Hyderabad	17.8	18.4	31.3	34.7	2.6
Ahmedabad	41.4	34.3	11.6	25.9	1.6
Pune	13.6	17.5	20.0	27.7	1.2
Jaipur	12.5	19.2	40.8	35.9	1.0
Chandigarh	10.8	17.1	42.5	3.5	1.0

Source: Reserve Bank of India.

[4] Public banks in India comprise the State Bank of India (SBI) group and banks that were nationalized in late 1970s and early 1980s.

10. **Over the last 10 years, the share of industry in the total loan portfolio of commercial banks has declined**. This share fell from 54 percent in 1995/96 to 38 percent in 2004/05. Over the same period, Indian corporations have reduced their reliance on bank loans as a source of financing, and started to use the capital market and external borrowings more actively. The share of industries in the total loan portfolio was taken up by consumer loans and loans to priority sectors (which include agriculture and small scale industries).

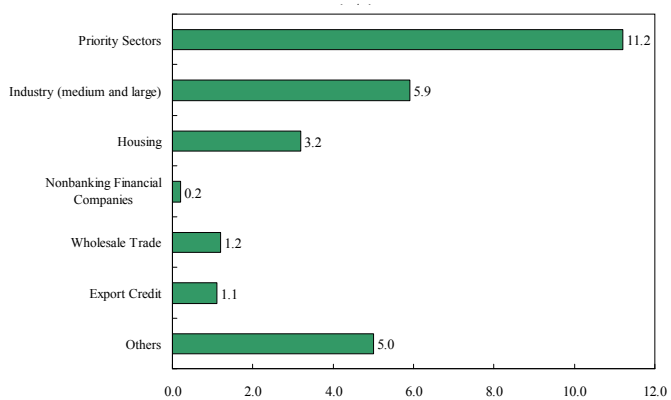
11. **This trend continued in 2004/05, with priority sectors the main contributors to the growth in nonfood credit** (Table V.3 and Figure V.3). Priority sectors accounted for 40 percent of the total 28 percent growth of nonfood credit. Banks exceeded the government's 23 percent target loan growth in priority sectors by a margin of 8 percent. Within the priority sectors, agriculture loans in particular were an important driver of growth with a 35 percent increase in 2004–05. Industrial loans and housing loans have been also important drivers of the recent credit growth.

Table V.3. India: Credit Growth by Sector

	2003/04	2004/05
	(Percent change)	
Priority sector	24.7	31.0
Agriculture	23.2	35.2
Small-scale industry	9.0	15.6
Others	38.3	37.0
Industry (medium and large)	5.1	17.4
Petroleum	-16.8	19.2
Infrastructure	41.6	52.3
Automobiles	-5.8	20.0
Cement	-11.5	7.4
Housing	42.1	44.6
Nonbanking financial companies	18.9	10.8
Wholesale trade	10.1	36.0
Export credit	17.2	14.3
Gross nonfood bank credit	17.5	27.9

Source: Reserve Bank of India.

Figure V.3. India: Sectoral Contribution to Credit Growth, March



Source: Reserve Bank of India.

12. **Consumer credit in India is starting from a very low base, but is growing rapidly**. In 2004, total household credit (which includes mortgage loans and consumer durables credit) was lower than in most emerging Asian markets, when measured in percent of GDP or of total credit (Table V.4).[5] However, mortgage loans were growing at a faster rate than in any other emerging Asian economy, and credit card debt was picking up as well, albeit from very low levels.

[5] For comparison, in central and southeastern Europe, which also experienced a period of rapid growth of consumer loans from a low base, consumer loans at end-2004 were equal to 12.4 percent and 11.9 percent of GDP, respectively.

Table V.4. Consumer Credit in Asia, 2004

	Hong Kong	India 1/	Korea 2/	Malaysia	Philippines 2/	Singapore	Taiwan	Thailand
Household credit (percent of GDP)	58.9	7.2	61.0	52.4	5.4	54.1	52.5	22.6
Household credit (percent of total credit)	35.6	22.0	56.2	44.5	16.4	50.3	41.6	24.4
Mortgage loans (percent of total household credit)	83.0	47.3	55.1	56.5	38.4	61.9	59.8	65.9
Credit card debt (percent of total household credit)	6.4	3.3	35.4	37.7	16.1	35.4	31.7	26.8
Growth of mortgage loans in 2003–04	-1.9	42.0	15.5	15.4	4.1	15.9	15.5	15.6
Growth of credit card debt in 2003–04	0.7	36.0	-36.1	14.0	16.1	-0.3	31.1	29.7
NPL ratio for credit cards debt	5.4	6.3	34.0	4.2	19.4	3.2	n.a.	n.a.

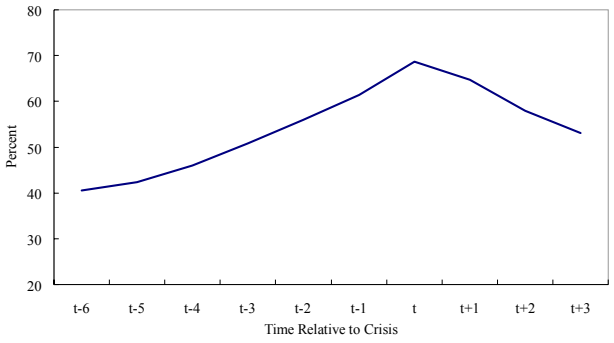
Sources: For India, Reserve Bank of India; for other countries, "The Growth of Consumer Credit in Asia," *HKMA Quarterly Bulletin* , March 2005.

1/ Numbers for end-March 2004.
2/ For Korea and the Philippines, NPL ratio is for 2003.

C. Risks from Rapid Credit Growth

13. **While most lending booms do not end up with a banking crisis, most significant episodes of banking distress in the last 20 years were preceded by rapid credit growth** (Figure V.4). Various empirical studies estimate the likelihood of a banking crisis following a lending boom to be as high as 20 percent.[6] Some countries that experienced a financial crisis in the last 20 years had a credit-to-GDP ratio at the time of the crisis as low as 40 percent, similar to the current Indian level.

Figure V.4. Average Credit to GDP Ratio in Eight Countries That Had Financial Crisis in 1987–1997



Source: Duenwald, Gueorguiev, and Schaechter (2005).

14. **Fast credit growth can trigger banking distress through two channels—macroeconomic imbalances and deterioration of loan quality**. At present, macroeconomic risks from fast credit growth appear to be minimal in India. Although credit growth has led to a reduction of banks' holdings of government securities, this has so far led to only a modest increase in T-bill rates. Moreover, while imports and the trade and current account deficits are rising, RBI reserves are sufficiently large. The key risk, then, appears to be credit risk, to which we now turn.

[6] Duenwald, Gueorguiev, and Schaechter (2005), IMF (2005), Kaminsky and Reinhart (1999).

Credit Risk

15. **In cases when rapid credit growth did lead to a banking crisis, it was usually due to a failure by banks and supervisors to maintain asset quality, properly account for risks, and to ensure that adequate buffers were built in anticipation of a possible downturn**. In times of rapid credit growth, the mere quantity of loan applications makes risk assessment difficult, and often results in a decreased quality of new loans. In addition, risk tends to be underestimated during booms and overestimated in recessions.

16. **The aggregate NPA ratio of the Indian banking system is currently low, but may increase in the future**. The aggregate NPL ratio was 5 percent at end-March 2005, after having steadily decreased for the last five years. However, the most recent decreases in the NPL ratio may be due in part to credit growth, as a growing share of the stock of loans is relatively new. Deterioration in asset quality typically occurs with a lag of 1–2 years, since a loan is classified as nonperforming only after it has not been serviced for a certain time. Therefore, the NPL ratio may increase in the future, and needs to be closely monitored.

17. **The NPA ratio is highest in public banks, which dominate the sector, and in lending to priority sectors, which is the biggest contributor to the overall credit growth** (Table V.5). The ratio of net NPAs to capital for public banks was at 13.6 percent in March 2005, significantly higher than for private or foreign banks. Loans to priority sectors had a 6.7 percent gross NPA ratio, while loans to small scale industries had an aggregate NPA ratio of 11.2 percent. These numbers may not be high enough for serious concern at the moment, but they suggest that the policy of encouraging banks to increase their lending to priority sectors should at the least be conditional on appropriate credit assessment by banks.

Table V.5. India: Nonperforming Assets, March 2005

	Public Banks	Private Banks	Foreign Banks	All Banks
NPAs to gross loans	5.5	4.4	2.8	5.2
Provisioning ratio	61.3	50.0	62.8	59.7
Net NPAs to capital	13.6	9.5	4.5	11.7
NPA ratios in:				
Priority sectors	7.5	3.2	1.8	6.7
Agriculture	6.4	2.2	8.1	5.6
Small scale industry	11.6	11.1	2.7	11.3
Other	6.4	1.9	1.3	5.3
Consumer loans	2.5	1.7	2.4	2.2
Mortgage loans	2.4	1.0	1.1	1.9
Credit card debt	25.0	11.4	5.4	7.9

Source: Reserve Bank of India.

18. **State banks have played the major role in rapid growth in domestic credit**. This creates another potential source of risk, because state banks can have a different objective function than private banks. As a result, they may provide credit based on considerations such as economic development needs, without sufficient assessment of risks. In addition, empirical studies suggest that the presence of foreign banks

Table V.6. India: Key Financial Soundness Indicators by Bank Ownership, end-March 2005

	All Banks	State Banks	Domestic Private Banks	Foreign Banks
			(In percent)	
Market share (in assets)	100.0	74.4	18.8	6.8
Capital to risk weighted assets	12.8	12.9	12.2	14.0
Tier I capital to risk weighted assets	8.4	8.0	8.5	11.2
Gross NPLs to gross loans	5.2	5.5	4.4	2.8
Net NPLs to capital	11.7	13.6	9.5	4.5
Personnel expenses to total income	15.3	17.2	9.0	10.3
Return on assets	0.9	0.9	0.8	1.3
Return on equity	13.6	14.7	11.7	10.8

Source: Reserve Bank of India.

may lower risks through improved risk management techniques and more realistic provisioning against bad loans, and may contribute to making more capital or liquidity available when needed (Moreno and Villar, 2005; Levine, 1996). Key financial soundness indicators of foreign banks in India are somewhat better than for public or domestic private banks (Table V.6).

19. **Rapid credit growth also puts pressure on banks' capital**. New loans to the private sector increase risk weighted assets, making it more difficult for banks to satisfy the capital adequacy requirement. So far, capital adequacy of the system appears sound. The aggregate capital adequacy ratio was at 12.8 percent as of end-March 2005, and only two banks out of 87 were violating the RBI requirement of 9 percent. However, there are indications that some banks may have started to feel pressure on their capital. At end-March 2005, eight banks had a CAR between 9–10 percent (against only one bank a year before), and there were reports of some banks issuing significant amounts of subordinated debt to shore up their Tier II capital.

Stress Tests

20. **Staff conducted a series of stress tests, to assess the vulnerability of the Indian banking system to credit risk**. Three scenarios were considered: (i) an increase in provisioning to the levels consistent with international best practices;[7] (ii) an increase in NPLs by 25 percent; and (iii) an increase in NPLs due to a portion of the "new" loans becoming nonperforming. In the third scenario, we assume that all loans made in the last two years are currently performing. Then, we assess the effect of these "new" loans becoming nonperforming at the same NPL rate that the "old" loans currently have. Assuming that the NPL ratio of the "old" loans reflects the average quality of risk assessment mechanisms currently in place and the average riskiness of lending in India, this is a fairly realistic scenario.

21. **The results of the stress tests indicate that the Indian banking system as a whole is resilient to the tightening of provisioning requirements and to the deterioration in credit quality that typically accompanies periods of rapid credit growth** (Table V.7). No group of banks would experience serious capitalization problems as a result of increased provisioning or a 25 percent increase in NPAs (in the latter case, only the old private banks would have the CAR fall under 9 percent). In the third scenario, which has the biggest effect on banks' capitalization, most groups of banks still remain above or very close to the capital adequacy requirement of 9 percent. The only exception are old private banks, whose aggregate CAR falls to 6 percent, but these banks together account for less than 6 percent of

[7] Current regulations require provisioning of 20 percent on all substandards loans (defined as 3–12 months overdue), gradually increasing to 100 percent for loans that are more than three years overdue. In the stress tests, we test the effect of introducing a more stringent requirement of 25 percent provisioning on all substandard loans, and 100 percent provisioning on all loans that are overdue for more than 12 months.

the market. Capital adequacy of all of the six largest banks in the country remains above 8 percent in this scenario. However, the next four banks (accounting for 12 percent of the system's assets) would see their capital adequacy fall to the levels of 4 to 7 percent. While this is a significant reduction compared to their current levels of capitalization, it need not present a systemic risk for the banking sector, and the affected banks should be able to restore their capital adequacy relatively quickly through new capital injections, consolidation, or other means.

Table V.7. India: Stress Tests—Capital Adequacy Ratio Under Various Scenarios

	All Banks	Public Banks	Old Private Banks	New Private Banks	Foreign Banks	Ten Largest Banks
Actual at end-March 2005	12.8	12.8	12.5	12.1	14.1	12.7
Stress tests scenarios						
Increased Provisioning	12.0	11.9	10.7	11.7	13.8	11.8
NPLs increase by 25 percent	10.4	10.0	7.5	11.1	13.2	10.1
New loans become NPLs at the same rate as old loans	9.4	8.8	6.0	10.7	12.8	9.0
Memorandum item:						
Market share (assets)	100.0	74.8	5.8	12.5	6.8	55.4

Sources: Reserve Bank of India; and staff estimates.

Other Potential Risks

22. **In addition to borrowing domestically from banks, large Indian companies have also increased their external commercial borrowing, and raised substantial funds on the capital market**. According to some reports, in the first eight months of 2005, Indian corporates raised almost three times more funds from the securities markets than from the banking system. When companies borrowing externally do not have foreign exchange earnings, this may create an indirect credit risk for local banks, since those companies can experience financial difficulties in case of a depreciation of the rupee. However, while it was not possible to quantify this risk, most market participants believed that it was negligible, since companies borrowing in foreign exchange are primarily exporters.

23. **Some banks that are experiencing high rates of credit growth have very high loans-to-deposits ratios, and may encounter liquidity problems**. While the aggregate loans-to-deposits ratio is slightly over 60 percent, it is not evenly distributed (Table V.8). In bank branches that had loan-to-deposit ratios over 100 percent in March 2005, loans grew by 30 percent in 2004/05, compared to a 5 percent growth in deposits. While so far there is no evidence that banks are experiencing serious liquidity problems, such problems may arise in the future, if current trends continue.

Table V.8. India: Distribution of Reporting Bank Branches by Loans to Deposits Ratio, end-March 2005

Loans to Deposits (%)	Deposits Growth Rate (%)	Credit Growth Rate (%)
0 - 25	20.4	12.0
25 - 50	12.3	22.1
50 - 60	12.8	25.4
60 - 70	10.0	26.2
70 - 80	13.1	24.5
80 - 100	10.4	26.1
> 100	5.4	29.8

Source: Reserve Bank of India.

24. **Experience of other Asian countries suggests that the growth of consumer credit has to be closely monitored** (Box V.1). As mentioned before, consumer credit is still at low levels in India, and the NPL ratios are low (2.2 percent for all retail loans, 1.9 percent for

housing loans, and 7.9 percent for credit card debt). However, the rapid rise in credit card debt (36 percent in 2004/05), as well as the already sizable share of nonperforming loans and reports of unfair market practices, point to the possibility of future problems. Experience of other countries shows that developments in this area need to be closely monitored, especially given the current exuberance in real estate and housing markets, and in the environment where the concept of consumer credit is new for most borrowers. The RBI is well aware of these risks, and has recently issued a set of guidelines for credit card operations, aimed at raising consumer awareness and punishing the unfair market practices.

Box V.1. Korean Credit Card Crisis: Lessons for India

In recent years, Korea experienced a period of rapid growth in consumer credit, in particular credit card debt. Household debt increased from 37 percent of GDP in 1999 to more than 62 percent in 2002. During this period, many credit card companies abandoned good credit risk practices and competed aggressively to increase market share. The government itself sought to promote the use of credit cards as a stimulus to consumption through tax incentives, lottery promotions, and the relaxation of restrictions on cash advances. Supervisory oversight of the conditions under which lending institutions extended credit on cards was not strong enough, a factor cited by the Bureau of Audit and Investigation in its subsequent examination of the crisis. Both lenders and the government were implicitly relying on what they perceived to be the traditional financial conservatism of Korean households and did not closely monitor changing attitudes or incentives to encourage borrowing.

The problem was exacerbated by the structure of the loans extended on the cards issued. As much as 50 percent of credit card usage in Korea financed a cash advance payable in full at the end of one month, not a revolving credit balance subject to a minimum monthly payment. Combined with the lack of full information on borrower payment histories and lax screening, it generated an incentive for many borrowers to rotate payments on cards until limits were eventually hit. Eventually, this resulted in a large number of individuals delinquent on multiple credit cards.

The overuse of credit cards eventually resulted in an explosion of household defaults, with nearly 10 percent of the adult population becoming delinquent on their debts. The impact of the loan losses on financial institutions has been limited by strong bank earnings on their other lines of businesses, recapitalizations of impacted institutions, and government intervention. However, the effect of the overhang on debtor households and consumption has been more pronounced and long-lasting.

D. Possible Steps by the RBI to Mitigate the Risks

25. **Although there are currently no signs of serious asset quality problems in the banking system, rapid credit growth combined with risk factors noted above creates the potential for future problems**. The aggregate ratio of credit to deposits is still moderate, capital adequacy ratios are sufficiently high, and the NPA ratios are low. Nevertheless, credit developments need to be closely monitored, to ensure that potential risks do not materialize. Prudential rules and regulations play a crucial role here.

26. **The RBI has already taken several steps to respond to potential risks**. The RBI has increased the risk weights on consumer and housing loans, and on commercial real estate

and capital market exposures.[8] It has also tightened loan classification rules in line with the international best practices, by requiring that a loan be classified as nonperforming after it has not been serviced for 90 days, instead of the previous 180 days. More recently, general provisioning for nonpriority sector loans was increased from 0.25 to 0.4 percent.

27. **Nevertheless, additional steps could be considered, especially if the rapid credit growth continues**. Experience of other countries that had periods of high credit growth can be useful. Hilbers et al, 2005 explored the policy options that are available to counter and reduce the risks resulting from fast credit growth. Table V.9 outlines those regulatory measures that could be considered by the Indian authorities. The general approach is to ensure that the necessary safeguards against excessively risky lending are in place, while at the same time allowing the financial deepening to continue. These recommendations are in line with the Basel Core Principles (BCP), and their implementation would improve India's compliance with these standards.

[8] Risk weights on housing loans went up from 50 percent to 75 percent, and weights on consumer credit and capital market and commercial real estate exposures were raised from 100 percent to 125 percent, above those recommended in the Basel Capital Accord.

Table V.9. India: Existing Bank Regulations and Possible Changes

Area of Supervision	Current Indian Regulation	Possible Further Steps
Capital Adequacy	Banks are required to maintain CAR of at least 9 percent. Risk weights were recently raised for housing loans (from 50 percent to 75 percent), consumer loans, capital market and commercial real estate exposures (from 100 percent to 125 percent).	Increasing risk weights for loans with high NPL rates (e.g., priority sector lending).
Asset Classification and Loan Loss Provisioning	Loans classified as sub-standard when overdue for at least 90 days; doubtful, if they stay in the sub-standard category for 12 months; and loss, when so identified (by the bank, auditors, or the RBI). Provisioning requirements: Standard assets—general provision of 0.25 percent on priority sector loans, and 0.4 percent on other loans; Substandard assets—20 percent Doubtful assets—100 percent on unsecured portion; provision rates on secured portion range from 20 percent to 100 percent depending on the period for which the asset remains doubtful. Loss assets—100 percent, if remaining in the books; otherwise the entire asset should be written off. Exceptions are made for loans to agriculture (loan is classified as substandard if it has not been paid for one or two crop seasons, depending on the purpose of the loan).	Classify loans as doubtful after 180 days, loss after 1 year. Unify the general provisioning rate at 0.4 percent. Introduce a category of "special mention loans" (overdue for 1-90 days, or borrower defaulted on another loan), with provisioning of 2-5 percent Require provisioning of at least 25 percent on substandard loans, 50 percent on doubtful loans, and 100 percent on loss loans.
Large Exposure Limits	Up to 15 percent of regulatory capital can be lent to an individual borrower, and up to 40 percent to a group. With the board's approval, the limit can be raised by 5 percent in each category. Limit can be raised by an additional 10 percent (group) and 5 percent (individual borrower), if credit exposure is to infrastructure projects.	Consider reducing limit for a group to 25 percent.
Connected Lending Limits	The aggregate amount of all advances to "connected parties" cannot exceed 50 percent of Tier I capital. All advances to bank subsidiaries must be deducted from Tier I capital.	Consider reducing the limit to 25 percent.
Other measures		Encourage the use of stress tests by banks themselves as well as by supervisory authorities; Intensify surveillance and onsite-offsite inspection of potentially problem banks. Accelerate the introduction of credit bureaus.

References

Duenwald, C., N. Gueorguiev, and A. Schaechter, 2005, "Too Much of a Good Thing? Credit Booms in Transition Economies: The Cases of Bulgaria, Romania, and Ukraine," IMF Working Paper No. 05/128 (Washington: International Monetary Fund).

Favara, G., 2003, "An Empirical Reassessment of the Relationship Between Finance and Growth," IMF Working Paper No. 03/123 (Washington: International Monetary Fund).

Hilbers, P., I. Otker-Robe, C. Pazarbasioglu, and G. Johnsen, 2005, "Assessing and Managing Rapid Credit Growth and the Role of Supervisory and Prudential Policies," IMF Working Paper No. 05/151 (Washington: International Monetary Fund).

International Monetary Fund, 2005, "Credit Booms: The Good, the Bad, and the Ugly?" in *Thailand—Selected Issues,* IMF Country Report No. 06/19 (Washington).

_____, 2004, "Are Credit Booms in Emerging Markets a Concern?" in *World Economic Outlook, April 2004*, Chapter IV (Washington).

Kaminsky, G., and C. Reinhart, 1999, "The Twin Crises: The Causes of Banking and Balance of Payments Problems," *American Economic Review*, Vol. 89, No. 3, pp. 473–500 (Nashville, Tennessee: American Economic Association).

King, R. G., and R. Levine, 1993, "Finance and Growth: Schumpeter May Be Right," *Quarterly Journal of Economics*, Vol. 108, No. 3, pp. 717–37 (Cambridge, Massachusetts: The MIT Press).

Levine, R., 1997, "Financial Development and Economic Growth: Views and Agenda," *Journal of Economic Literature*, Vol. 35, No. 2, pp. 688–726 (Pittsburgh: American Economic Association Publications).

_____, 1996, "Foreign Banks, Financial Developments, and Economic Growth," in *International Financial Markets: Harmonization Versus Competition,* ed. by Claude E. Barfield (Washington: The AEI Press).

Moreno, R., and A. Villar, 2005, "The Increased Role of Foreign Bank Entry in Emerging Markets," BIS Papers No. 23 (Basel: Bank for International Settlements).

Rajan, R., and L. Zingales, 1998, "Financial Development and Growth," *American Economic Review*, Vol. 88, pp. 559–86 (Nashville, Tennessee: American Economic Association).

VI. Inflation and the Services Sector in India[1]

A. Introduction

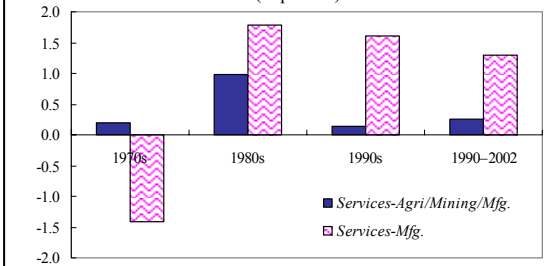
1. **Little is known about the evolution of prices in the services sector, which presently accounts for more than half of India's aggregate output**. The recent debate over the reliability of the wholesale price index (WPI) as an indicator of inflation focuses on its lack of representation of the services sector. Sectoral price movements are of clear interest in the framing of monetary policy, where the absence of a services' price index particularly frustrates assessment of the second round effects of various shocks.

2. **This paper examines inflation in the services sector and the related dual inflation rates in the traded and nontraded sectors**. A faster rate of growth of services prices has been a key source of divergence in traded and nontraded goods inflation in recent years. In this context, the paper explores the role of Balassa-Samuelson effects as well as price and trade liberalization in the adjustment of relative prices. The paper also discusses the consequences of a possible understatement of inflation and the implications of dual inflation rates for economic policy. It is important to develop a price index that adequately reflects services, and the government's forthcoming revision of the WPI to broaden its base and the proposed construction of a services' price index are steps in the right direction.[2]

B. Inflation in the Services Sector

3. **In the absence of a services' price index, implicit sectoral price series can be derived from nominal and real output data**.[3] The implicit sectoral inflation rates (Figure VI.1) show the inflation differential between services and non-services to be consistently positive since the 1980s, and is larger if we compare services with manufacturing only. As a result, price indices that do not capture services—such as the

Figure VI.1. Relative Services Inflation Differential
(In percent)



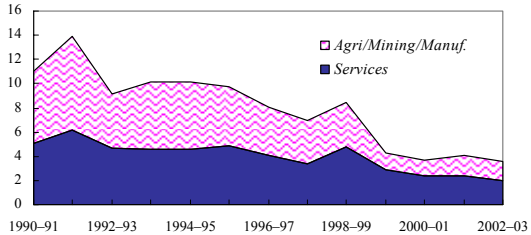
[1] Prepared by Renu Kohli and Sudip Mohapatra, Resident Representative Office in India.

[2] The Working Group for the revision of the WPI is examining the compilation of a Producer Price Index (PPI) to enable a switchover from the WPI. The terms of reference also include the extension of the coverage of the WPI/PPI to the services sector.

[3] The implicit price deflators represent farmgate prices of goods and services and are producer price inflation proxies. Approximately 54 percent of services GDP is estimated through the "direct method," while the balance is estimated "indirectly." Potential circularity in our analysis arising from the use of WPI or CPI as deflators is limited, as this approach is used for only 23 percent of services' GDP or 12 percent of aggregate GDP.

WPI—are likely to understate inflation. These differentials can be seen as rough approximations to tradables/nontradables price differentials, an issue addressed in further detail below. In recent years, services' inflation has increased its contribution to the rise in overall inflation (as measured by the GDP deflator) from a 47 percent in the first half of the 1990s to 60 percent from 1998–99 onwards (Figure VI.2).

Figure VI.2. Contribution of Services' Inflation and Agri/Mining/Mfg. Inflation to Overall Inflation
(In percent)



4. **The lack of high frequency, comprehensive information on sectoral prices hampers assessment of short-term inflation developments**. Annual sectoral inflation differentials ranged from almost 50 basis points in 1997–98 to 243 basis points in 1999–2000. Uncertainty about possibly differential speeds of price adjustment across sectors as well as feedback and transmission processes also arise, particularly in the context of assessment of second round effects of supply shocks. Given the priority accorded to inflation control as a policy objective, a comprehensive, high frequency inflation indicator is needed.

5. **Several hypotheses can be explored to explain the higher rate of inflation in the services sector**. Standard supply-side theory regards these trends as induced effects of differential productivity growth across sectors, while demand-side explanations focus upon the role of wage pressures or income growth. For economies in transition, such as the Indian economy, liberalization could also be a driving force behind nontradable inflation. The next two sections examine the role of productivity growth and price and import liberalization in explaining the higher rate of inflation in the services sector.

C. Inflation Differentials: The Balassa-Samuelson Effect

6. **A secular increase in the relative price of nontradables—and therefore services—is a well-documented feature of economic development**. Supply-side models interpret this increase as part of a *catch-up* process, i.e., cross-country convergence in productivity levels (Balassa, 1964; Samuelson, 1964). Faster technological progress and productivity growth in the tradable sector increases the relative price of nontradables. Sectoral productivity growth differentials thus translate directly into sectoral inflation differentials and are typically observed as countries open up and their tradable sector is exposed to international competition.

7. **The sectoral inflation differentials noted in the previous section are maintained with a tradable-nontradable classification based on export/production ratios**. Services are typically treated as nontradables, but given the high growth of exports of services in India, a natural proposition to examine is that some services should be treated as traded goods (Giovannini, de Gregorio and Wolff, 1994). On the other hand, a substantial portion of agriculture and some manufacturing sub-sectors could include nontraded goods. Using a 5 percent share of exports in the total value of output as the threshold for determining tradability, all of agriculture is nontradable, while all but three manufacturing sub-sectors and three out of eleven services are tradable (Table VI.1). Utilizing this distinction, sectoral inflation differentials averaged more than 1 percent in the 1990s (Figure VI.3). In addition, there appears to be a structural break in the 1990s when the nontradable-tradable inflation rate differential became large and positive.

8. **The Indian economy exhibits certain attributes, i.e., a fast growing tradable sector with rapid productivity growth, that suggest the presence of Balassa-Samuelson effects**. Since 1990, export growth has been robust and evenly dispersed across agriculture, manufacturing and services sectors (Figure VI.4). The share of total output exported doubled for each sector during1990–2000, while labor productivity in the tradable sector grew rapidly during the same time period.[4]

Table VI.1. India: Tradable-Nontradable Classification by Total Export/Total Production Ratio

(In percent)

	1980–2002	1990–2002	1995–2002	T/NT
Agriculture	1.7	2.2	2.7	NT
Mining	7.6	7.3	6.6	T
Manufacturing	8.5	10.1	11.0	
Food products	4.0	5.0	5.2	T
Beverages, tobacco, etc.	14.6	12.2	11.7	T
Textiles	17.4	22.8	24.1	T
Wood, furniture, etc.	1.1	1.3	1.3	NT
Paper and printing ,etc.	0.8	1.3	1.8	NT
Leather and fur products	10.0	8.8	7.4	T
Chemicals, etc.	6.2	8.7	9.7	T
Rubber, petroleum, etc.	5.2	5.9	6.3	T
Non-metallic products	45.7	58.9	64.7	T
Basic metal industries	2.9	4.6	5.6	T
Metal products	7.3	9.2	10.4	T
Non-electrical machinery	6.3	7.8	9.0	T
Electrical machinery	3.7	4.7	5.8	T
Transport equipment	2.9	3.8	3.9	NT
Other manufacturing	14.9	17.5	20.1	T
Services	4.4	5.2	6.2	
Travel and transportation	26.9	28.2	27.2	T
Insurance	7.9	8.1	8.4	T
Business (including software), legal and communication services 1/	51.2	47.7	53.6	T

Sources: Central Statistical Organisation, National Accounts data; RBI *Handbook of Statistics;* WITS database; and staff calculations.

1/ The three services have been clubbed together as the export data (miscellaneous exports) indicates export values in aggregate for these services.

Figure VI.3. Nontradables-Tradables Inflation Differential

(In percent)

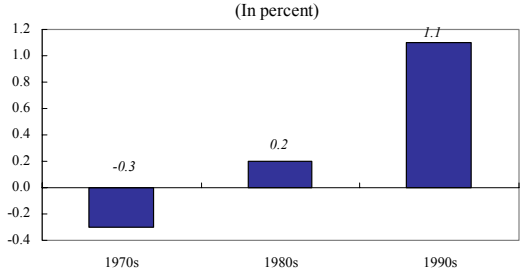
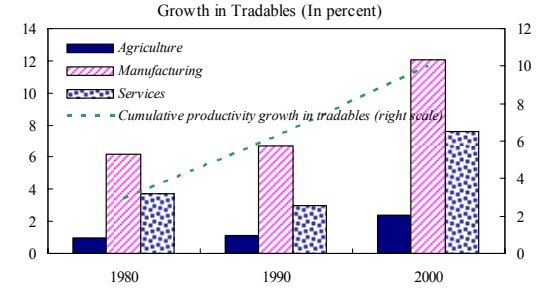


Figure VI.4. Sectoral Export/Total Production Ratios and Productivity Growth in Tradables (In percent)

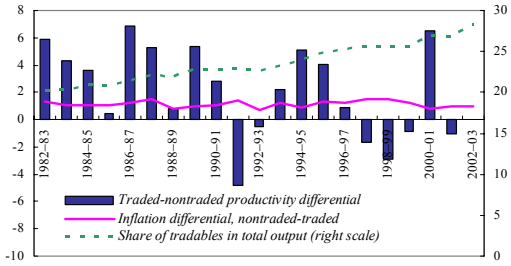


[4] Labor productivity is computed as the value of output per worker. Employment figures, from the CEIC Data Company Ltd. are unadjusted for quality changes over time. Given that more disaggregated employment data are not available, the tradable sector is proxied here by manufacturing, and the nontradable sector by services and agriculture. We use labor

(continued)

9. **Productivity growth and inflation differentials between the tradable and nontradable sectors appear to be related**. Consistent with the Balassa-Samuelson hypothesis, labor productivity growth in the tradable sector has generally exceeded that of nontradables consistently from 1982–83 onwards (Figure VI.5) while nontradables have consistently experienced higher inflation.[5] Further support for a supply-side influence is provided by the rising share of tradables in total output, from 19 percent in the 1980s to 23 percent in the post-reform period (1992–2002).

Figure VI.5. Productivity and Inflation Differentials, Tradables and Nontradables



D. Import Liberalization and Price Deregulation

10. **Trade liberalization accelerated after 1991, likely contributing to relatively higher inflation in nontradables**. The average effective tariff rate in India has been falling since 1991 (Table VI.2), impacting import prices. These, in turn, are reflected in falling input costs and consequently, and lower prices in the tradable goods sector, in particular manufacturing (Figure VI.6).

Table VI.2. India: Weighted Average Import Duty Rates

(In percent)

	All Commodities	Peak Customs Duty 1/	No. of Basic Duty Rates 2/
1991–92	72.5	150.0	22.0
1992–93	60.6	110.0	20.0
1993–94	46.8	85.0	16.0
1994–95	38.2	65.0	16.0
1995–96	25.9	50.0	12.0
1996–97	24.6	52.0	9.0
1997–98	25.4	45.0	8.0
1998–99	29.2	45.0	7.0
1999–00	31.4	40.0	7.0
2000–01	35.7	38.5	5.0
2001–02	35.1	35.0	4.0
2002–03	29.0	30.0	4.0

Sources: *Report of the Task Force on Employment Opportunities* , Planning Commission, Government of India, July 2001; and staff estimates

1/ Includes the impact of surcharges in the years 1996–97, 1997–98, and 1998–99. In 2000–01, duties for many agricultural products were raised above the general peak in anticipation of the removal of QRs. This explains why the average for all commodities exceeds the peak rate in 2001–02.
2/ Refers to *ad valorem* duty rates.

11. **Relative price changes could also result from price liberalization**. The post-1991 period is a period of fundamental, structural changes in price and production structures. A role could have been played by deregulation of administered prices and liberalization or the adjustment of regulated prices to cost-recovery levels during the transition (Backé, 2002b). The experience of European transition economies is that in the

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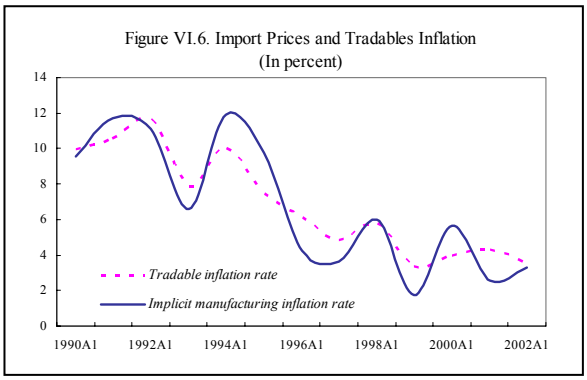
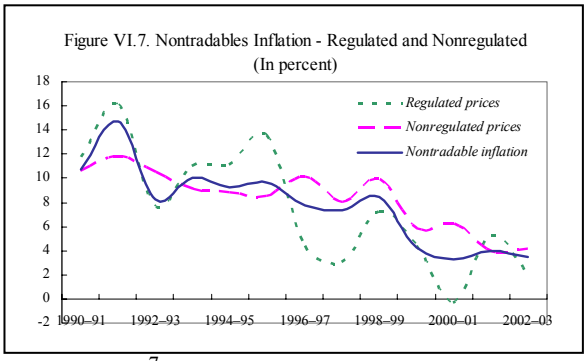
productivity instead of total factor productivity as data on sectoral capital stocks are not available for services sector.

[5] The exceptions, 1991–92 and 1997–1999, are years with shocks; 1991 is a crisis year with a 22 percent devaluation while faster nontradable productivity growth during 1997–99 is likely due to large public sector wage increases in 1998–99 (visible as the spike in nontradables inflation), which overstates services sector output, and a 9 percent exchange rate devaluation in 1998.

early phase of transition, substantial initial adjustments of relative prices (higher prices in the tradables' sector) were associated with rapid price and trade liberalization. This phase was followed by a moderation of inflation, a relatively faster increase in nontradables' prices and a trend appreciation of the real exchange rate (Backé, 2002b). Competition and labor market segmentation may also play a role in driving up the relative price of nontraded goods.[6] Differences in wage bargaining patterns in the two sectors (Canzoneri et al, 1998), or government regulation or support of inefficient firms (de Gregorio, Giovannini and Krueger, 1994) could also give rise to different rates of inflation.



12. **Deregulation of administered prices or their adjustment to cost-recovery levels has been a recent phenomenon in India**. Competition and interest rate deregulation were initiated in the banking sector from 1990 onwards. The insurance sector was deregulated in 1998–99, although insurance premia are set by the insurance regulatory body. Price liberalization in telecommunications followed the insurance sector in 1999–2000. Figure VI.7 suggests that, in the aggregate, such deregulation has led to a decline in inflation for initially regulated industries.[7] Price liberalization, then, has not contributed to the maintenance of an inflation differential between tradables and nontradables. As administered prices are still to be freed in many sectors, price liberalization will continue to impact relative prices for some time.



E. Conclusions

13. **The existence of dual inflation rates has implications for the formulation, conduct and effectiveness of monetary policy**. The findings of this paper underline the need for a services price index. The growing importance of services in the economy demands

[6] Since the nontradable goods sector is typically sheltered from competition as opposed to the tradable goods sector there tend to be higher inflation pressures in the former sector.

[7] Railways, communications, banking and insurance, public administration and defense and agriculture are classified as sectors with regulated prices, while the rest of the services for which prices are market-determined are included in the nonregulated sector.

more information on the short-term evolution of its prices to inform monetary policy. There is also a need for services price data as a deflator in the national accounts.[8] The need to understand the impact of the service economy on productivity growth, particularly given services roles as a driver of growth, further underscores the need for such data. The government's proposed revision of the current inflation indicator, the WPI, to include the services sector will help overcome the information gap.

[8] Presently, the WPI and CPI are used as deflators in some sub-sectors for compilation of annual and quarterly national accounts.

References

Backé, P., 2002a, "Inflation Developments in Central and Eastern European Accession Countries: Implications for Exchange Rate Policies and Regimes," ICEG EC Working Paper No. 4, January (Budapest: International Center for Economic Growth, European Center).

_____, 2002b, "Disinflation in Central and Eastern European EU Accession Countries," background paper for the *Conference of the National Bank of Poland on Economic Policy Directions in the OECD Countries and Emerging Markets: Analyzing the Experiences*, Warsaw, March 21–22.

Balassa B., 1964, "The Purchasing Power Parity Doctrine: A Reappraisal," *Journal of Political Economy*, Vol. 72, No. 6, pp. 584–596 (Chicago: University of Chicago).

Canzoneri, M. B., Cumby, R., Diba, B., and Eudey, G., 1998, "Trends in European Productivity: Implications for Real Exchange Rates, Real Interest Rates and Inflation Differentials," OeNB Working Paper 27 (Vienna, Austria: Oesterreichische Nationalbank).

DeGregorio, Jose, Alberto Giovannini, and Holger Wolf, 1994, "International Evidence on Tradables and Nontradables Inflation, " *European Economic Review* 38, pp. 1225–1244 (Miamisburg, Ohio: Reed Elsevier Inc., ScienceDirect).

DeGregorio, Jose, Alberto Giovannini, and T. H. Krueger, 1994, "The Behaviour of Nontradable-Goods Prices in Europe," *Review of International Economics*, Vol. 2, Issue 3, pp. 284–305 (Ames, Iowa: Department of Economics, Iowa State University).

Samuelson, Paul, 1964, "Theoretical Notes on Trade Problems, " *The Review of Economics and Statistics*, Vol. 46, No. 1, pp. 145–154 (Cambridge, Massachusetts: MIT Press).