

**FOR
AGENDA**

SM/06/382

November 30, 2006

To: Members of the Executive Board
From: The Secretary
Subject: **India—Selected Issues**

This paper provides background information to the staff report on the 2006 Article IV consultation discussions with India (SM/06/380, 11/29/06), which is tentatively scheduled for discussion on **Wednesday, December 20, 2006**. At the time of circulation of this paper to the Board, the Secretary's Department has not received a communication from the authorities of India indicating whether or not they consent to the Fund's publication of this paper; such communication may be received after the authorities have had an opportunity to read the paper.

Questions may be referred to Ms. Purfield (ext. 34093), Ms. Poirson (ext. 37072), and Ms. Oura (ext. 38166) in APD.

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the WTO Secretariat on Friday, December 8, 2006; and to the Asian Development Bank, the Food and Agriculture Organization, the United Nations Development Programme, and the World Food Programme, following its consideration by the Executive Board.

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INTERNATIONAL MONETARY FUND

INDIA

Selected Issues

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Approved by the Asia and Pacific Department

November 29, 2006

Contents	Page
I. Asset Prices and the Macroeconomy	2
II. Financial Market Implications of India's Pension Reform.....	15
III. India's Special Economic Zones: International Perspectives	27

I. ASSET PRICES AND THE MACROECONOMY¹

A. Introduction

1. **This paper discusses the policy implications of rising asset prices in India.** This trend is generally viewed as the positive consequence of strong growth, rising incomes, increased openness, and financial deregulation. However, in international policy discussions concerns arise about the implications of rapidly rising asset prices for macroeconomic and financial stability. For example, some countries have found that a sharp turnaround in economic conditions could have adverse consequences for asset price valuations. Moreover, as financial institutions develop greater exposure to assets, sharp price swings can have a major impact on financial system balance sheets, and thus on lending and investment. As households accumulate assets, asset price volatility could also impact consumption.
2. **Policymakers in India have expressed concerns about asset prices.** The Reserve Bank of India (RBI) raised concerns that “financial imbalances are growing in the presence of abundant liquidity, rising asset prices, and a marked increase in risk appetite” (RBI, 2006). To counter potential inflation and financial risks, the RBI has gradually tightened monetary policy and raised risk weights and general provisions on lending to various asset classes.
3. **This paper examines the role of asset prices in India by addressing three questions.** First, how important are asset markets, and how have asset prices evolved? Second, how do asset prices impact the economy; and third, what policies could minimize the potential risks as the role of asset markets in the economy grows?

B. How Significant Are Assets Markets in India?

4. **Real estate is the most important asset class in India.** Households’ investment in real estate far exceeds their holdings of financial and nonfinancial assets. The value of property holdings has more than tripled over the past decade to over 200 percent of GDP, reflecting a growing population, increasing affluence (household incomes and savings have almost doubled in real terms over the past decade), and the declining cost of housing due to the

Table I.1. India: Distribution of Household Assets, 1991–2002

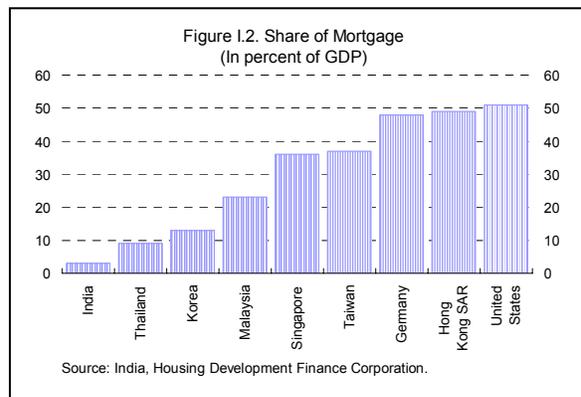
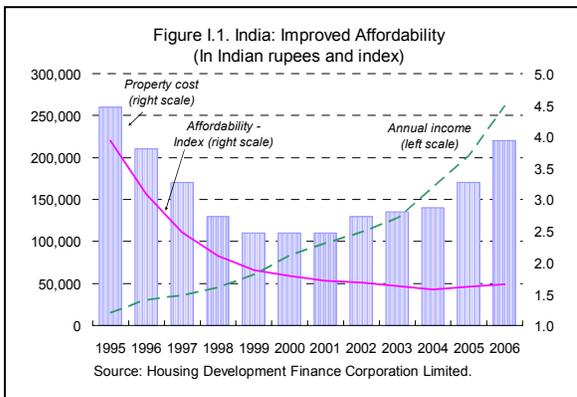
	Rural		Urban		Total	
	1991	2001	1991	2001	1991	2001
(In trillions of Indian rupees)						
Total asset value	10.4	32.9	7.9	23.2	18.3	56.1
Land	6.7	20.8	2.8	8.9	9.5	29.8
Buildings	2.2	7.7	3.1	8.8	5.3	16.5
Livestock	0.4	0.7	0.0	0.0	0.4	0.7
Machinery/equipment	0.4	1.2	0.4	1.3	0.8	2.5
Household durables	0.6	1.7	0.9	1.9	1.5	3.6
Financial assets	0.1	0.7	0.6	2.2	0.8	2.9
Receivables	0.0	0.0	0.0	0.1	0.0	0.1
(In percent of GDP)						
Total asset value	157.4	144.4	119.9	101.5	277.3	245.9
Land	101.0	91.3	42.6	39.1	143.6	130.4
Buildings	33.7	34.0	47.2	38.4	80.8	72.3
Livestock	5.3	3.0	0.5	0.2	5.8	3.2
Machinery/equipment	6.0	5.3	5.8	5.6	11.7	10.9
Household durables	9.3	7.4	13.9	8.5	23.2	15.9
Financial assets	2.0	3.2	9.5	9.4	11.5	12.6
Receivables	0.2	0.1	0.5	0.3	0.6	0.4

Source: NSSO, *Household Assets and Liabilities in India*, 2005 and 1998.

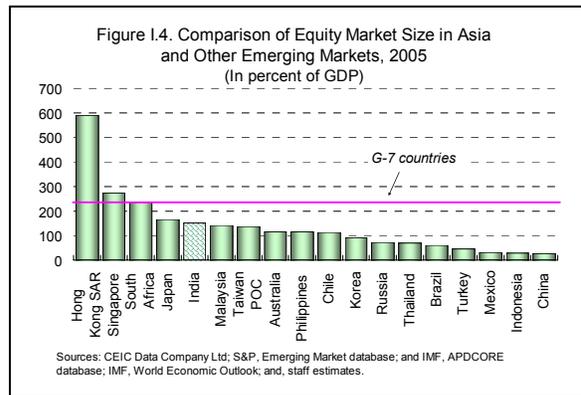
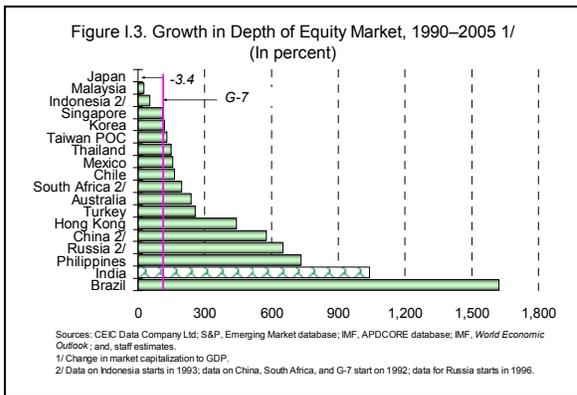
¹ Prepared by Catriona Purfield.

deregulation of interest rates and land use restrictions, as well as the development of retail mortgage lending. The market is likely to expand even further in coming years: another 31 million housing units are needed to meet pent-up demand, while a further 2.7 million additional units per annum are needed to meet the needs of the growing population (Deutsche Bank, 2006).

5. **The commercial real estate sector in India is also very large.** Deutsche Bank (2006) puts the value of India’s commercial real estate stock at \$300 billion (35 percent of GDP), making it the fourth largest commercial real estate market in Asia, after Japan, China, and Korea. The sector has benefited from the rapid development of the services and manufacturing sectors, and greater openness to FDI. Market analysts believe that the market has the potential to grow by \$66 billion in the next five years (Deutsche Bank, 2006).



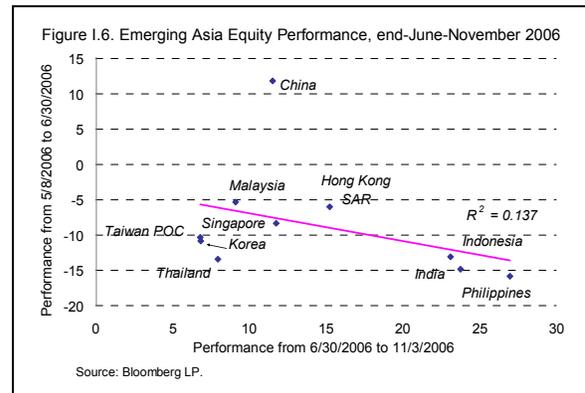
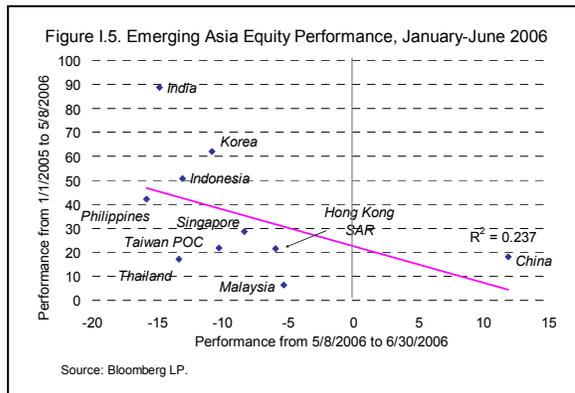
6. **Equity markets are also sizable.** Between 2000 and 2005, stock market capitalization more than trebled to about 137 percent of GDP, reflecting the easing of controls on foreign inflows, the increase in dedicated emerging market funds, rising capital flows, and a growing domestic investor base (Purfield and others, 2006). Foreign investors’ equity holdings now account for about 10 percent of GDP (Lane and Milesi-Ferretti, 2006), and up to one-third of stock market turnover. The domestic investor base has expanded: insurance, pension, and mutual funds’ assets amount to almost 15 percent of GDP.



7. **Gold represents India's third major asset market.** India is the world's largest consumer of gold, accounting for about 20 percent of annual global gold purchases. With annual gold purchases tripling since 1990, households' gold holdings are estimated to be worth 28–42 percent of GDP in 2002 (Bhattacharya, 2002), or \$204–307 billion. This matches the total savings by individuals in the Indian banking sector (Agarwal, 2004).

C. How Are Asset Prices Evolving in India?

8. **Stock market prices have risen sharply particularly relative to other emerging markets.** The SENSEX has increased at a compound annual rate of 17 percent since 2003. This reflects large FII inflows (some \$26½ billion in 2003–2005)² and a growing base of domestic institutional investors.³ Notwithstanding the correction in the Indian stock market in May–June 2006, the price-earnings ratio again exceeds 20, with ratios in the mid-cap and technology markets closer to 30. These valuations appear high by recent historical and emerging market standards.



9. **Valuations appear to be broadly in line with India's growth prospects.** Using a standard risk premium assumption of 6 percent, the expected real dividend growth implied by current valuations appears to be consistent with estimated medium-term growth potential of about 7½ percent.⁴ Ex post risk adjusted returns look reasonable. The Sharp ratio (which

² Indian markets have become more integrated with regional and world markets. India's beta versus world markets has increased from -0.2 in 1995–99, to 0.67 in 2000–03, and almost 1.5 in 2004–2005.

³ For example, domestic mutual funds raised some Rs. 1,018 billion or \$23 billion in 2003/04–2005/06, and in 2005 private provident funds were permitted to invest up to 5 percent of their assets in equity.

⁴ Implied dividend growth rates are calculated with the Gordon valuation model: $P_t = D_t (1 + g_t) / (r_t + \rho_t - g_t)$; where P_t is the equity price; D_t is the dividend; r_t is the real interest rate; ρ_t is the risk premium; and g_t is the real growth rate. The calculations are sensitive to the assumption on equity risk premiums: a higher risk premium of 8½ percent, which is somewhat lower than India's historical equity risk premium of 9.7 percent (Mehra, 2006) would imply dividend growth of about 1–2 percentage points above trend GDP growth.

measures excess returns per unit of risk) of 1.3 between 2001–2005 is broadly comparable to the return on U.S. high yield bonds (Purfield and others, 2006). Corporate profits (after tax) are also growing fast. These indicators on their own do not provide definite evidence that Indian equity markets are not overvalued, but at least at the macro level they do not appear to be grossly out of line with fundamentals.

10. **Property prices are also scaling new highs.** Since 2000, residential housing prices in Bangalore, Delhi, and Mumbai have more than doubled, while those in smaller cities (e.g., Chennai and Pune) have risen by 25–50 percent. Increases in commercial real estate rental prices ranged from a high of about 85 percent in Bangalore to a low of 4 percent in Mumbai. Vacancy rates in India’s three central business districts have fallen to 0–3 percent (Jones Lang La Salle, 2006). Market analysts believe that prices are likely to rise further with demand outstripping supply on account of demographics and rising incomes.

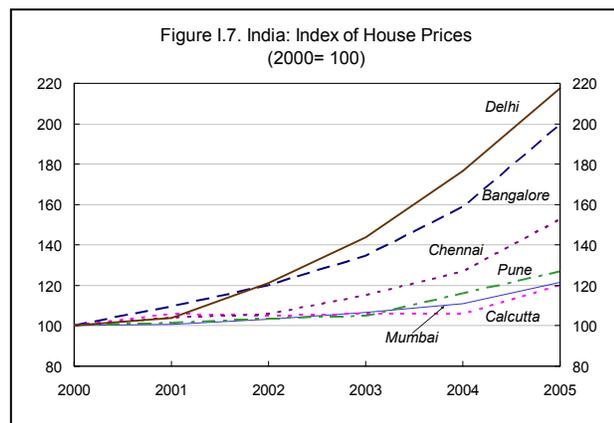
Table I.2. Price-Earnings Ratio 1/
(Period average)

	2006 End-October	2006 H1	2001–06	Before 1997 High 2/
India	23.4	21.4	15.9	31.9
Sri Lanka	18.5	20.6	12.5	14.0
Taiwan Province of China	16.6	18.9	29.7	33.0
Singapore	16.8	16.5	17.9	21.4
Philippines	16.0	16.3	18.9	28.0
Hong Kong SAR	16.8	15.4	16.9	17.1
Malaysia	16.7	15.1	17.7	30.9
China	16.2	14.0	15.2	20.2
Indonesia	17.4	13.8	12.6	24.7
Korea	11.0	12.0	11.9	31.4
Thailand	10.2	10.5	23.8	21.9
World	16.4	17.2	20.9	31.7 3/
Emerging Latin America	12.9	13.8	13.1	17.9 3/
Emerging Europe and Middle East	14.1	15.4	14.9	25.7 3/

Sources: Datastream; and Fund staff calculations.
1/ Based on MSCI country index.
2/ Highest annual average between 1990–97. Each economy can have different data starting point.
3/ Historical high since 1995.

11. **Domestic gold prices have also appreciated aggressively.** Domestic gold prices have more than doubled since end-2000. With households’ nonmonetary holdings of gold estimated to be in the range of 10,000–15,000 tons in 2002 (Bhattacharya, 2002), by September 2006, households’ gold related wealth would have increased by between \$102–153 billion (approximately 20–30 percent of 2002 GDP) on account of rising gold prices.⁵

12. **The analysis suggests that much of the recent rise in asset prices reflects structural changes.** The rapid increase in asset prices, especially in real estate, is likely to have contributed to a relaxing of some of the constraints that had limited households and corporates’ ability to smooth consumption and borrow. Going



⁵ Excluding the impact of exchange rate movements against the U.S. dollar.

forward, asset price developments are likely to become a more important determinant of economic activity, by making consumption and investment less dependent on current income and more sensitive to changes in interest rates and asset prices.

D. How Do Asset Prices Impact Macroeconomic Activity?

13. **There are a number of relationships between asset prices and the real economy.** Specifically, asset prices are leading indicators of future changes in economic activity, because asset prices reflect the present discounted value of expected future dividends (and thus expected future growth). Beyond this passive channel, however, there are five main channels whereby asset prices may affect real activity (Morck, Schleifer, and Vishny, 1990)

- *Wealth effects:* Under the life cycle/permanent income hypothesis, higher asset prices raise individuals' lifetime wealth, leading to higher spending.
- *The financing or cost of capital hypothesis:* Rising asset prices lower the cost of new capital relative to existing capital, spurring investment.
- *The financial accelerator or credit channel:* When credit markets are imperfect, asset price fluctuations can impact borrowing capacity by affecting borrowers' wealth and the value of assets pledged as collateral (Kiyotaki and Moore, 1997 and Bernanke, Gertler and Gilchrist, 1999). These dynamics affect the finance premium on loans, and thus influence investment and consumption. If borrowers are highly leveraged, changes in net worth arising from moves in asset prices disproportionately impact real variables, working to propagate and amplify macroeconomic shocks.
- *Balance sheet effects and financial fragility:* Asset-price swings affect financial institutions' net worth by affecting the valuation of asset portfolios, as well as the health of borrowers as noted above (thus potentially boosting nonperforming loans). Severe asset-price crashes can cause intermediaries to cut back credit, potentially dampening aggregate demand. Large shocks can cause feedback into corporate and household income, further weakening intermediaries and prompting further asset-price declines, especially when intermediaries are highly leveraged.
- *Confidence effects:* To the extent that equity and other asset prices signal faster growth of future real incomes, they can also influence consumption. Likewise, stock market and real estate price changes may provide entrepreneurs with information about market expectations of future demand, thus influencing investment decisions.

14. **Several indicators suggest that wealth and financial accelerator effects in the Indian context are however, likely to be small:**

- **Indian households' holdings of marketable financial asset**

holdings are small. Households' direct holdings of shares account for less than 1 percent of GDP

(about 5 percent of households' gross financial assets). If indirect

holdings via institutions are included, households' holdings rise to about 5 percent of GDP. However, indirect holdings are primarily in the form of public or defined benefits plans, where changes in value of financial assets have little direct impact on households' wealth.

- **Holdings of property and gold are unlikely to be leveraged.** The home equity loan market is not developed. Despite various initiatives to encourage the development of gold markets, retail markets that would allow households to transform gold holdings into capital have failed to flourish (for example, the 1999 gold deposit scheme).

- **Corporates' exposure to nondebt asset markets is also small.** Indian corporates primarily invest in government securities rather than equity. Less than 5 percent of corporate funds are invested in mutual funds, and even less in direct equity holdings. Land and property are less than 3 percent of total fixed and financial assets (5.8 percent of GDP). However, financial data could understate the true value of property holdings if valued at historical purchase prices.

- **The financial sector could be more exposed to asset price movements, due to indirect exposures via their borrowers and direct exposures on asset holdings.**

Private sector credit has grown to 42 percent of GDP (30 percent of GDP in 2000) making the financial sector more exposed to shocks that impact borrowers'

repayment capacity. On the other hand, banks' direct holdings of shares and mutual funds are relatively small (0.8 percent of GDP), partly reflecting high statutory liquidity requirements.

However, a small number of banks may be relatively exposed owing to the importance of equity-linked earnings. Elsewhere

	1993/94	2003/04	2005/06
	(In percent of GDP)		
Total financial assets	12.6	14.0	16.7
Currency	1.5	1.5	1.5
Deposits	5.4	5.8	7.9
Shares and debentures	1.7	0.1	0.8
Government securities/small savings	0.8	2.8	2.5
Insurance funds	1.1	1.9	2.2
Provident and pension funds	2.1	1.9	1.9

Source: Central Statistical Organization; and Reserve Bank of India.

	Equity Linked Businesses	Equity Linked Revenues	Total
	(In percent)		
Kotak	60.0	6.0	66.0
ICICI Bank	19.1	28.0	47.1
HDFC	7.6	25.2	32.8
UTI Bank	0.0	24.7	24.7
HDFC Bank	0.0	9.4	9.4

Source: Morgan Stanley, June 2006.

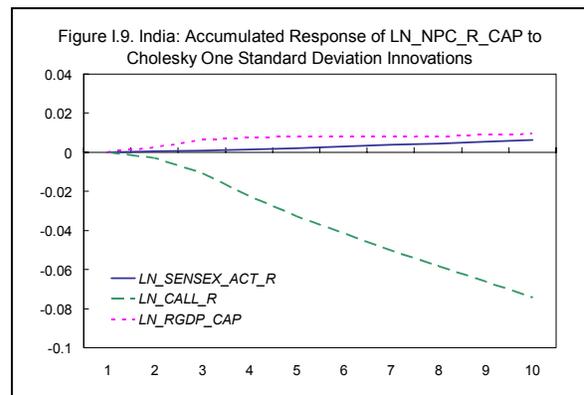
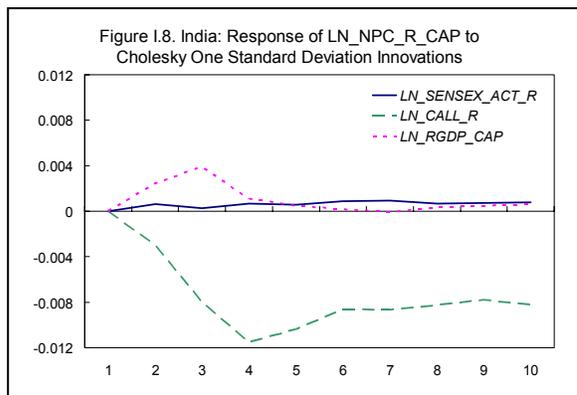
in the financial sector, the insurance sector's exposures to real estate and equity is low and bulk of their assets are held in government securities.⁶

15. **An econometric investigation into the determinants of consumption for India confirms that the macro impact of asset prices is relatively small.** A VECM model is used to examine the linkages between asset prices and consumption using annual data (1979–2005) for four log variables: real private consumption per capita, real stock exchange index to proxy for developments in asset prices, real short-term interest rates to control for the impact of monetary policy, and real per capita income to proxy for income. An exogenous dummy variable to capture the structural changes in the economy following the 1991 balance of payments crisis is included.⁷ The long-run relationship reveals that a 10 percent increase in the stock market index is associated with an increase in consumption of one tenth of 1 percent (with standard errors in parentheses):

$$\text{Consumption} = -3.64 + 0.01\text{Sensex} - 0.05\text{InterestRate} + 0.60\text{Income}$$

(0.00373)
(0.00657)
(0.02093)

The impulse response and accumulated impulse response functions of real per capita private consumption to a one standard deviation shock in stock prices illustrate the fact that changes in stock market value in India have a very small macroeconomic effect.



⁶ IRDA reports that the total fixed assets of Indian insurers amounted to Rs. 146.6 million in 2005/06. Moreover, investments in equity are restricted to those that carry an AA rating and must be liquid, and investments in equity cannot exceed 50 percent of investor and sector exposure limits (10 percent of free capital and 10 percent of total industrial sector exposure).

⁷ Augmented Dickey Fuller tests confirm that the series are I(1), and Johansen trace statistics reveal the existence of a single cointegration vector with a trend and intercept, which can be interpreted as the consumption function. Lag selection tests suggest a lag of two is sufficient for all variables.

E. Should Macroeconomic Policies Adjust to Asset Price Developments?

16. **There is no broad consensus on the role of monetary policy in dealing with sharp asset price movements.** On one hand, Bernanke (2002) proposes that monetary policy should only respond to observed changes in asset prices to the extent that they signal current or future changes in inflation or output. The alternative view, supported by Cecchetti, Genbery, Lipsky, and Wadhvani (2000) is that monetary policy should try to counter directly the expansionary effects of rising asset prices to preserve financial stability and avert sharp output corrections.

17. **A stringent set of preconditions need to be met for monetary policy to respond effectively to asset prices.** It is necessary that (i) policymakers can accurately identify asset price misalignments and bubbles; (ii) fluctuations in asset prices are sizeable, macroeconomically significant, and lead to fallout that monetary policy cannot readily offset after a correction; (iii) there is an identifiable causal relationship from asset prices to aggregate demand, and (iv) there is a dependable relation between changes in monetary policy and changes in asset prices.

18. **These conditions do not appear to be fulfilled in India.** India's economy is undergoing profound structural change, making reliable identification of periods of asset price misalignment difficult. While real estate ownership and credit are growing rapidly, they are doing so from a relatively small base, making it difficult to decipher if rapid growth reflects misalignment with underlying fundamentals or financial deepening. Even if equity and asset prices are misaligned with fundamentals, the previous analysis suggests that a correction is unlikely to have a sizeable macroeconomic impact. Moreover, there appears to be no strong relationship between monetary policy and asset prices (asset prices have continued to climb despite increasing policy interest rates over the past two years).

19. **This is not to say that there is no role for more targeted policies to address potential risks.** Changes in financial regulation can play a useful role in addressing risks associated with asset prices by ensuring appropriate incentives to limit participation in the buildup of price bubbles, so that the consequences of a bust on the financial system become more limited. The RBI has proactively followed such an approach. In general, such policies are viewed as more effective than general interest rate increases because they specifically target problem sectors, which limits the risk of derailing macroeconomic growth.

20. **Various prudential measures have been adopted effectively in other countries, and India has already adopted some of these measures:**

- *Higher and/or differentiated capital requirements or risk weights:* Bulgaria, Bosnia, Croatia, Norway, and Poland (Hilbers and others, 2005) have increased risk weights by loan type, maturity, or currency composition to reduce overall lending capacity, particularly in categories experiencing rapid growth. In 2005 and 2006, India

progressively raised risk weights on loans for housing, consumer credit, capital market investment and commercial real estate to levels above those recommended by the Basel Capital Accord.

- *Tighter/differential loan classification and provisioning requirements:* Bulgaria, Croatia, and Romania have raised general and/or category specific risk provisions to reduce banks' lending capacity. In India, banks have up to 15 months to classify nonperforming loans as doubtful, which is generous relative to best international practice. While general provisioning rates on loans in high-risk areas have been raised, the provisioning rate on priority sector loans remains low.
- *Tightening loan eligibility criterion:* By reducing loan-to-value (LTV) ratios from 90 percent to 70 percent in 1991, and to 40 percent in 1994, Hong Kong's financial system was better able to withstand the 1997 property price correction. LTV ratios of between 60–70 percent in India are relatively conservative. More importantly, lending decisions are primarily based on borrowers' capacity to repay and not asset values.
- *Dynamic provisioning (DP):* A reserve is built to cover expected losses from the time a loan is contracted.⁸ A reserve builds up in years where actual losses fall short of expected losses, and is drawn down when losses exceed the expected level. DP requires the recognition of general provisions as a tax deductible expense, as well as the technical capacity to estimate expected losses.

21. **Supervisory policies have also been tightened in various countries.** Thailand conducts stress tests on bank's vulnerability to large falls in property prices, and requires quarterly reports on approvals of high value real estate loans. Korea requires special diagnostic reports on mortgage lending. Japan identified the largest corporate borrowers and those banks that had greatest exposure to them for closer supervision. In 2006, the RBI mandated Indian banks to conduct stress tests of their asset portfolios. Using this framework, the RBI could encourage banks to apply stress tests to specific asset market exposures "over the economic cycle" (to see how risks evolve over several years from when the economy is a peak, through to its trough and back again) rather than just at a specific point in time. The RBI is also planning to conduct systemic stress tests.

22. **The development of market instruments to manage risk and tax reform can also help limit potential risks.** For example:

⁸ Spain began DP in 2000 in the context of a property price boom and rapid credit expansion. Loans are divided into six categories (ranging from 'without risk' to 'high risk') with the risk weight for each category determined by historical experience of default over the economic cycle.

- *Short selling* adds discipline to valuations by allowing prices to be determined by two groups of investors: those with long positions and those who expect the price to decrease and go short. Restricting short selling may force pessimistic investors from the market and contribute to inflated asset prices (Acker and others, 2000). In India, short selling of equities by foreign and domestic institutional investors is prohibited.
- *Securitization* allows banks to obtain long-term financing, transfer the associated credit risks to capital investors, and reduce capital requirements (IMF, 2006). In India, the growth of the mortgage-backed securities market has been muted. Obstacles to the development of the market include high and divergent rates of state-level stamp duties (ranging from 0.1 percent to 8 percent); lack of a common benchmark interest rate yield curve for pricing; particularly at longer maturities; ineffective foreclosure laws; and lack of a secondary market (as asset backed securities are inadequately defined as a “security” for stock exchange listing purposes).⁹
- *Phasing out of tax incentives*: The gradual removal of mortgage interest deductibility has been successful in moderating property price increases in other countries. (Box I.1). India permits principal and interest (up to a ceiling) to be deducted.

Box I.1. Mortgage Interest Deductibility and Real Estate Prices

The United Kingdom began to gradually phase out mortgage interest deductibility starting in 1974 by placing a cap on the maximum deductible amount, and gradually reducing the deductible tax rate until all incentives were eliminated in 1999. By 1998, the nominal cap applied to over two-thirds of all U.K. mortgages.

In Sweden, mortgage interest payments were fully deductible against the owner’s marginal income tax prior to 1983, which implied a house owner could deduct up to 80 percent of the interest. Since 1983, interest deductions were successively reduced and capped at 30 percent in 1991. Over time, it is estimated that this tax reform caused housing prices to moderate by between 10–15 percent.

Yelten (2006) estimates the impact of phasing out mortgage interest deductibility in the Netherlands. The introduction of a cap on interest deduction while the economy is growing moderates the rise in housing prices over a 6-year period by 17 percentage points relative to a case where interest deductibility remains.

F. Conclusions

23. **Higher income, low interest rates, and financial market liberalization have caused asset markets in India to boom.** Estimating whether these markets are characterized by overheating is, however, tricky. The analysis conducted in this paper suggests that for the most part, asset prices in India reflect structural rather than speculative pressures. This is not

⁹ An amendment to the Securities Contract Regulation Act that will pave the way for the development of a secondary securities market is being reviewed by parliament.

to say the risk of an asset price correction can be ruled out: price increases in some asset segments do appear high, and a shock to growth would likely cause asset prices to adjust.

24. **The linkages between asset prices and the macro economy are at this juncture relatively undeveloped.** Households, corporates and banks' direct holdings of equity are small, and it remains difficult to leverage gold and property holdings. The econometric analysis conducted in this paper confirms that potential wealth effects are small: a 10 percent increase in equity prices is associated with a rise in real private consumption of less than one tenth of 1 percent. Nonetheless, as asset markets gain importance and indebtedness rises, the financial sector will become more exposed to variables that impact borrowers' repayment capacity. As such, financial regulators will have to ensure that borrowers and lenders have the correct incentives to appropriately manage the associated risks.

25. **At this juncture, monetary policy may not be the most effective tool in guarding the financial system against asset price volatility.** In an economy that is undergoing rapid structural change, overly aggressive macro monetary action aimed at deflating asset price bubbles could risk derailing the financial deepening process, and could worsen the effects of an asset price reversal by negatively impacting macroeconomic activity. Moreover, in the case of India the effects of such a policy are not predictable, given the weak relationship between asset prices and macroeconomic indicators.

26. **Instead, targeted changes in financial regulations can better address potential risks.** The measures that appear to have greatest potential include tighter loan classification and provisioning requirements, as well as other prudential measures such as higher risk weights. Efforts to improve accounting and disclosure standards to better capture market, interest, and credit risk, and enhanced stress testing are also needed. Finally, further development of short selling and securitization markets would also facilitate better risk management practices, while the re-evaluation of tax incentives for particular asset classes could help ensure a more orderly evolution of asset prices.

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II. FINANCIAL MARKET IMPLICATIONS OF INDIA'S PENSION REFORM¹⁰

A. Introduction

1. **Several factors have given impetus to pension reform in India.** Central government and state government pension liabilities have increased considerably over the past decade and only 13 percent of the workforce is currently covered by pension schemes. These are government employees, and workers in the organized private sector covered by the Employees' Provident Fund (EPF) 1952 (defined contribution scheme) and the Employees' Pension Scheme (EPS) 1995 (defined benefit scheme).
2. **Faced with these challenges, the government envisages the launch of a New Pension System (NPS).** The move would shift all new government employees to a defined contribution plan from the current noncontributory defined benefit scheme. Participants will have access to a range of investment products from selected companies, under a proper regulatory framework. Once approved, the system would be open on a voluntary basis to nongovernment workers.
3. **Key legislation, however, is still under discussion in Parliament.** As an interim arrangement, contributions from new civil servants that have joined the scheme following a government notification at end-2003 are being deducted and credited a rate of return of 8 percent.
4. **This chapter draws lessons from international experience on the financial market implications of India's pension reform, with a focus on the following two questions:**
 - How do the parameters of the NPS compare with privately-managed systems in other countries? Given its parameters, is the NPS likely to generate fast growth of pension assets and stimulate financial market development?
 - To what extent have regulatory limits, conservative investment practices, and lack of options for investments abroad contributed to sub-optimal returns and constrained the growth of the pension sector in countries that implemented similar reforms? What are other pre-conditions for pension reform to drive demand for bonds and equities?

B. Benchmarking India's Pension System

5. **The section reviews to what extent the pension reforms track blazed by Chile, and later followed by other Latin American and Eastern European countries, is now**

¹⁰ Prepared by H el ene K. Poirson.

being followed by India. The main features of India's NPS are compared with privately-managed systems in other countries. The parameters of the pension reform envisaged in India appear in line with best practice. However, two features set India apart from international common reform practice—the absence of a guaranteed minimum pension for participants (the so-called first pillar) and the only partially mandatory character of the NPS—and may prevent the early achievement of sufficient critical mass.

India's Pension Plan in International Perspective

6. **The draft Pension Fund Regulatory and Development Authority (PFRDA) Bill, 2005, sets a framework for the development and regulation of pension funds in India with a view to promoting old age income security for all individuals.** Once passed by Parliament, the Bill will allow the launch of personal pension accounts in India and make the NPS available to workers in the unorganized private sector. It will also be available on a voluntary basis (in addition to his/her mandatory cover) to any person governed by the organized private sector schemes.

7. **While the reform bill sets only the broad contours of the NPS and many details are yet to be finalized, its preliminary provisions place the new system well within international norms.**

- The employee contribution rate of 10 percent (matched by an equal government contribution) is broadly within the international range. Projected terminal replacement rates are in line with international experience and with the standards recommended by the World Bank, and match benefits under the existing system for government employees.
- Expected management costs are comparable to those in other emerging markets, although high compared to low-cost providers in advanced economies. For instance, the U.S. federal civil servant Thrift Savings Program costs about 0.07 percent of assets and U.S. low-cost private providers such as Vanguard and Fidelity charge fees of 0.2–0.3 percent of assets, less than half the levels envisaged in India (Faulkner-McDonagh, 2005). Larger volumes and larger average accounts for these U.S. providers enable economies of scale and eliminate low balance fees.

8. Two features set India's pension plan apart from common international practice:

- The NPS only provides the second and third pillars (Box II.1). In other countries that have undertaken such reforms, the public pension system continues to provide a first pillar, or comprehensive reform legislation is being considered to introduce one (Chile). India's organized private sector is also covered under a two-pillar system.
- Participation is mandatory only for new employees of the central government and 16 state governments that have joined the NPS. Existing government employees and organized sector pensions schemes and funds are exempt. Other countries, in contrast, mandated participation for all new entrants to the workforce and in some cases also for younger workers.

Box II.1. The New Pension System

The system comprises one (or more) central recordkeeping agency (CRA), a set of pension fund managers (PFMs), point-of-presence agencies (PoPs), and a two-tier structure.

- The CRA shall maintain records, accounts, and effect all instructions regarding subscription, switching of options, and withdrawals, by the subscriber (any individual who joins the NPS). The subscriber may access the CRA directly for information.
- The PFMs will offer a set of schemes with varying risk-return profiles and manage the assets of subscribers.^{1/} Every subscriber shall have an individual pension account (IPA). He/she has the option of selecting the PFMs and schemes composing his/her portfolio.
- The PFRDA shall regulate the NPS and other pension schemes under its purview, protect the interests of subscribers, and establish a grievance mechanism.
- There will be no first pillar. The mandatory second pillar (10 percent contribution matched by the government) will have no withdrawals authorized until exit. A third pillar will provide an option to contribute a further amount into a withdrawable account, which will not have any contribution by the government.

^{1/} The current notification specifies four types of schemes, including an option with 100 percent investments in government securities.

9. The potential for such schemes to build up assets and drive demand for public and private securities is sizeable (see Section D). However, the two features of India's reform discussed above limit that potential.

- The absence of a first pillar may induce a relatively high share of participants to opt for a conservative asset allocation, as subscribers seek to minimize the risk of an unfavorable ex post return on their assets. This “safety bias” could be magnified if the regulator, concerned about investment risk, imposes investment restrictions beyond the provisions of the draft PFRDA Bill 2005 (see Section C). The latter forbids investments in foreign securities, although equities can make up to half of plan assets and 30 percent of the corpus can be invested in corporate bonds.
- Second, a reform largely limited to new government workers may not generate sufficient critical mass early on to kick start financial market development. Over time, while the entire government sector will be covered, the organized private sector will remain exempt.

10. **The scope for voluntary take-up will depend on the relative attractiveness of the new schemes.** Existing private savings instruments in India include small savings (which provide a tax-exempt, above-market rate of return), real estate, or own business. In other countries, while participation of the self-employed has remained low, broad coverage was achieved by providing an option to switch to workers covered under the old system and by keeping the old system’s benefits less generous. Tax incentives also played a role, but India’s fiscal situation constrains that option. Currently, NPS contributions are exempt, while benefits are taxed. To promote a level playing field, different savings products should be subject to the same tax treatment.

11. **In addition to portfolio diversification (see Section C), keeping costs low will ensure net returns that attract new subscribers and provide adequate replacement rates.** High management fees can dramatically reduce returns: net real returns in Chile averaged only 3 percent into the late 1980s, after fees equivalent to 6 percentage points (ppts) of gross returns. In Poland, total fees have also lowered net real returns in the first four years of the reforms to an annual average of only 3 percent (Székely, 2005).

12. **Economies of scale and industry competition can help achieve cost savings.** For instance, operations of an administrative nature—such as collecting contributions—can be centralized (as planned in India). Fees also tend to decline as growth of assets under management (AUM) enables industry consolidation. However, consolidation has raised concerns about market power in some countries (Roldos, 2006). International experience suggests that industry competition is best enhanced by avoiding regulatory imperatives that weaken PFMs’ ability to compete on the basis of rates of return and result in excessive marketing costs—such as minimum return requirements relative to the industry average and overly tight investments guidelines.

13. **The fee structure can also encourage strong performance.** An upfront fee structure results in providers focusing on attracting new accounts rather than achieving higher returns on existing accounts. A fee structure with both fixed and variable components

ensures better incentives. For example, private pension funds in the Dominican Republic can charge a monthly commission of up to ½ percent of the individual wage plus a percentage of annual returns above the benchmark (Samuel, 2006).

C. Investment Policies and Returns on Pension Contributions

14. **This section focuses on the extent to which regulatory limits, overly conservative investment practices, and lack of investment options abroad constrain the achievement of optimal portfolio diversification in existing DC systems.** Sub-optimal returns have implications for the new system’s attractiveness, as argued in the previous section. Tight investment controls can also undermine the expected positive impact of pension reform on private securities’ demand (see Section D).

Investment Limits

15. **In the United States and the United Kingdom, regulations are based on the “prudent person rule,” or a self-regulatory framework.** When accompanied by prudential standards of diligence and expertise, this is generally viewed as superior to rules-based guidelines, because it places fewer restrictions on investment decisions. Most emerging markets, in contrast, regulate private pension funds via quantitative investment limits. There are typically significant restrictions on equity and foreign investments, although those have been loosened over time (Table II.1).

16. **Most countries also restrict investment in corporate bonds and derivatives.** For example, Mexican institutional investors are not allowed to invest in bonds that are rated below A, which limits the investable universe to 20–30 large firms; moreover, they may invest no more than 5 percent of their assets in securities rated single A (Soueid, 2005). There are also tight restrictions on the percentage of a company’s capital or outstanding bonds or on the percentage of assets in a single issue that can be held by pension funds. For instance, Mexican pension funds cannot invest more than 20 percent of AUM in a single issue. Argentinean funds can only hold up to 5 percent of a company’s capital and 5 percent of its bonds. Finally, investment in derivative products is not allowed in most emerging countries, with the exception of Chile.

	Maximum Limits	
	Equity	Foreign securities
	(In percent of the fund size)	
Mature market		
United Kingdom	PPR 4/	PPR 4/
United States	PPR 4/	PPR 4/
Germany 1/	30	20
Japan 2/	30	30
Canada	No limit	30
France	n.a.	n.a.
Italy	PPR	20
Emerging market		
Argentina	50	20
Brazil	50	0
Chile	39	30
Colombia	30	20
Mexico	15	20
Peru	35	10.5
Hungary	50	30
Poland	40	5
Hong Kong SAR 3/	No limit	No limit
Singapore	PPR 4/	PPR 4/

Sources: Chan-Lau (2004); Soueid (2005); and Roldos (2006).

1/ Six percent in foreign equities of non-EU countries, 5 percent in non-EU bonds.

2/ No investment limits for employee pension funds.

3/ At least 30 percent of assets must be invested in Hong Kong dollar denominated assets.

4/ "PPR" stands for "prudent person rule."

Asset Allocation

17. **Investment practices in emerging markets tend to be conservative, with pension portfolios concentrated in fixed income.** In part, this could reflect the rules-based guidelines. It could also be due to factors such as minimum return requirements, lack of financial sophistication of PFMs, weak performance accountability, and dearth of private sector securities.

18. **Indian pension funds have not participated in the corporate debt market, despite being allowed to do so.**¹¹ In part, this could be due to underdeveloped and illiquid conditions of the corporate bond market (see Luengnaruemitchai and Ong, 2005). EPF-exempt corporate pension funds may also be reluctant to invest in such instruments, due to fear of not meeting EPF returns (World Bank, 2005). In other emerging countries, the role of riskier instruments also remains controversial (Table II.2). In the United States and the United Kingdom in contrast, pension funds have a relatively low allocation to fixed income and hold about 60 percent equities (in the form of shares or equity-linked mutual funds).

Table II.2. Pension Fund Portfolio Allocation, 2004
(As a percent of total 1/)

Selected Countries	Cash and Deposits	Bills and Bonds Issued by Public Administration	Corporate Bonds 4/	Loans	Shares	Land and Buildings	Mutual Funds (CIS) 5/	Unallocated Insurance Contracts	Other Investments 6/
Czech Republic	9.6	51.9	31.1	0.0	5.5	0.3	0.3	n.a.	1.3
Bulgaria	19.9	55.2	18.6	n.a.	3.3	1.7	n.a.	n.a.	1.4
Estonia	4.4	33.9	23.3	0.0	35.1	1.0	6.2	0.0	0.8
Slovenia	13.3	46.3	32.4	n.a.	7.7	n.a.	0.3	n.a.	n.a.
Hungary	1.3	74.9	2.0	n.a.	5.2	0.2	7.5	n.a.	8.9
Poland	5.8	58.9	1.4	0.0	33.4	n.a.	0.0	n.a.	0.5
Indonesia 2/	70.9	0.1	11.9	0.7	4.1	6.0	1.3	0.0	6.9
Korea	7.4	24.3	56.4	9.9	0.2	0.0	0.5	n.a.	1.4
Thailand	41.4	23.9	18.2	n.a.	13.7	n.a.	1.8	n.a.	1.0
Singapore 2/	2.7	96.4	0.0	0.0	0.0	0.2	0.0	0.0	0.7
Colombia	0.8	48.5	30.1	0.0	6.2	0.0	2.2	0.0	12.2
Mexico	0.0	85.2	11.7	n.a.	n.a.	n.a.	n.a.	n.a.	3.1
Brazil 1/	44.2	14.9	2.2	3.9	15.9	6.7	11.6	0.0	0.6
Turkey	0.0	72.6	0.0	0.0	13.2	0.0	0.0	0.0	14.2
United Kingdom 3/	2.5	14.7	6.8	0.5	43.4	4.3	15.4	6.0	6.3
United States	8.3	6.4	5.0	0.1	35.5	0.6	30.7	9.4	4.0

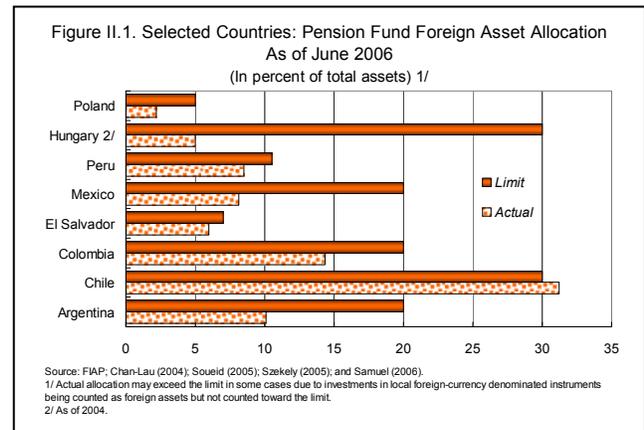
Source: OECD, *Global Pension Statistics*.

1/ Total may not add up due to rounding or to negligible value.
2/ 2002 data.
3/ 2003 data.
4/ "Corporate bonds" includes corporate and financial sector debt instruments.
5/ "CIS" stands for "collective investment scheme."
6/ The values registered on variable "Other Investments" include short term payable accounts to the fund managers (commissions), payable loans and the amount relative to the liquidation of one pension fund (Pessoal da Caixa Geral de Depósitos), transferred amount relative to the liquidation of one pension fund, transferred to social security, worth about EUR 1 billion.

¹¹ Indian pension funds are allowed to invest up to 10 percent of new flows in private corporate bonds.

Diversification Abroad

19. **Emerging market pension fund portfolios are also biased toward domestic assets, with the notable exception of Chile** (Figure II.1).¹² Polish pension funds invest only about 2 percent of their assets in foreign securities, perhaps because the foreign investment ceiling is too small to make it worthwhile for pension funds to develop the related expertise. In El Salvador, pension portfolios are also home-biased as investments in foreign securities, until recently, were limited to those that are traded on the local stock exchange (Samuel, 2006).¹³



20. **Two factors appear to have contributed to Chile's success in achieving global pension asset diversification:** (i) allowing Chilean funds to hedge foreign currency exposure using currency forwards and (ii) allowing them to invest in global mutual funds, bypassing the lack of experience of PFMs. After the 1998 crisis caused domestic returns to plummet, higher foreign allocations also allowed Chilean funds to achieve higher returns and to meet the needs of a sizeable retirement market without crowding-out the local capital markets. Many countries are, however, reluctant to follow that route, in part because it complicates monitoring and involves additional fees, and also due to the accompanying policy objective of developing local markets.

D. Pension Funds and Capital Market Development

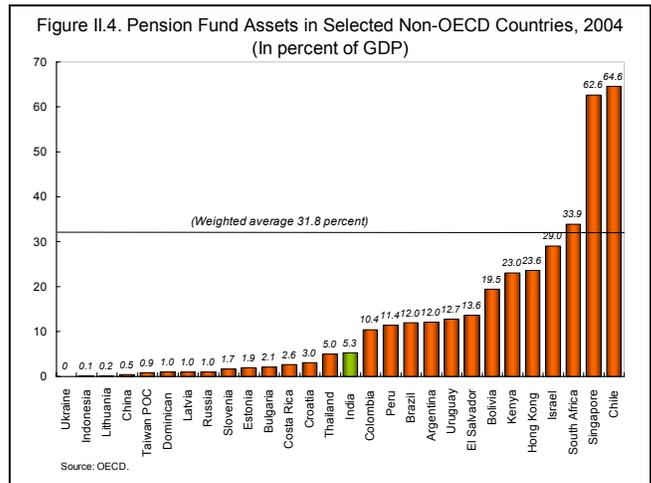
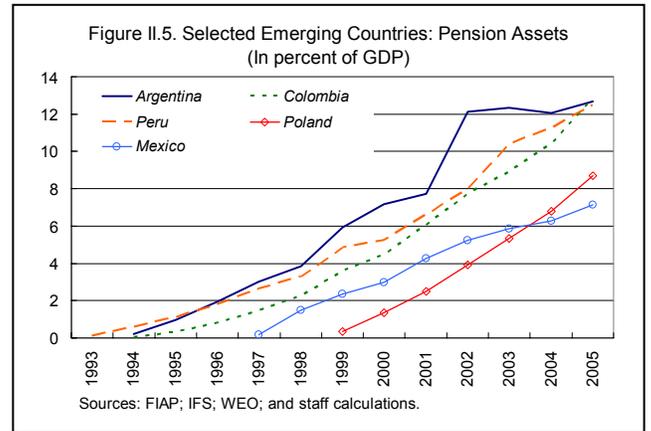
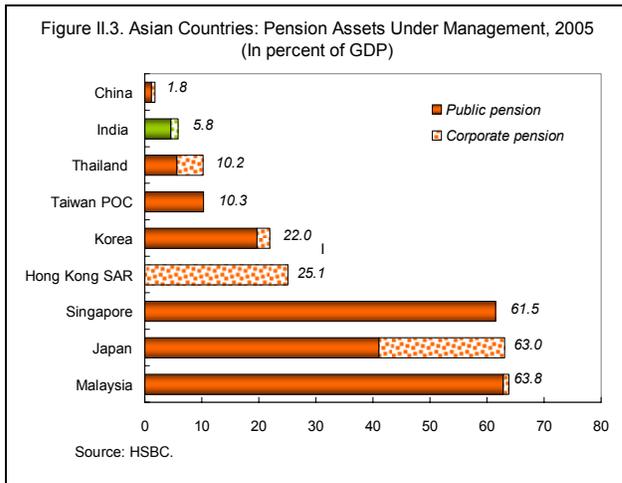
21. **Pension reform is a logical catalyst for increased local institutional investment and asset diversification, resulting in improved allocation of financial savings and instruments.** Sustainable fund inflows into local asset markets reduce volatility and can induce a repricing of equities. Pension reform can also have qualitative effects, including on transparency and governance, market microstructure, and financial product innovation.

¹² Even Chilean pension funds did not diversify meaningfully abroad until after the 1997 Asian crisis, despite the gradual loosening of foreign investment limits, due to high domestic returns (Roldos, 2004).

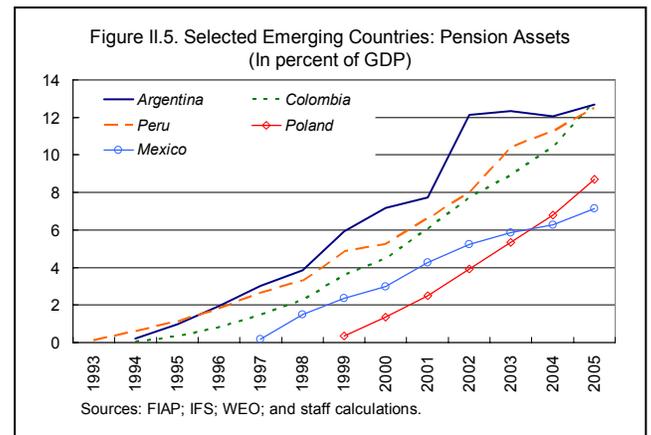
¹³ A law passed in August 2006 allows 10 percent of pension portfolios to be invested abroad.

Financial Depth

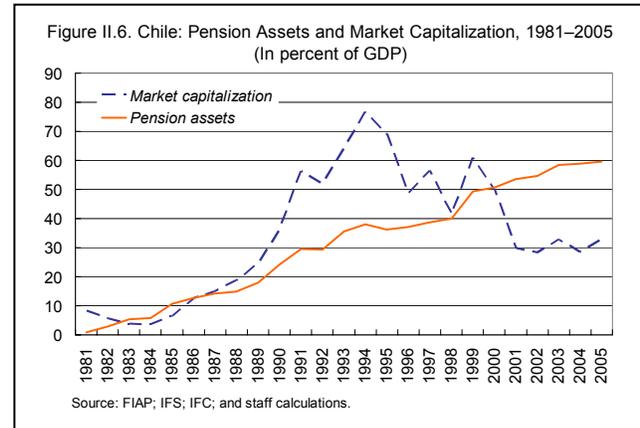
22. **India's pension sector is small relative to more advanced Asian economies and other emerging countries.** While demographic trends should contribute to rising demand for retirement services in the next two decades (Figure II.2), pension assets currently amount to only 5¼ percent of GDP, much below Singapore or Chile (Figures II.3 and II.4).



23. **Emerging market pension fund assets are growing rapidly.** Chile's pension AUM are nearing 65 percent of GDP after 22 years of operation of the fully funded system—a growth equivalent to nearly 3 pts per year. While still below the U.S. level (95 percent of GDP), the size of Chile's pension sector is now similar to the United Kingdom. In the rest of Latin America, pension assets have reached around 12 percent of GDP in AUM in the last decade, implying annual growth of 1–1½ pts, in line with G-7 experience since 1980 (Roldos, 2004). Later reformers, including Mexico, Poland, and Hungary, have experienced similarly rapid growth (Figure II.5).



24. **The buildup of institutional assets contributed to financial deepening.** In the G-7 countries, stock and bond market capitalization rose by more than 40 ppts of GDP and 20 ppts respectively between 1980 and 1998, led by a 20 ppts increase in pension AUM (Roldos, 2004). Since 1981, Chile's market capitalization rose by nearly 30 ppts on the back of surging pension assets (Figure II.6).



25. **Several studies have confirmed a positive impact of institutional investment—**including pension funds—on market capitalization using panel regressions, controlling for other determinants of stock and bond market capitalization, and encompassing both mature and emerging markets. Granger causality tests confirm that where causality exists, it runs predominantly from contractual savings to market capitalization—and not vice versa (see Roldos, 2004, for a comprehensive review).

26. **The positive impact of pension reforms on market development, however, may take time to be reflected in the data.** In Chile, since 1995, the relationship between growth of pension assets and market capitalization has been weak as returns on domestic equity investments turned flat or negative from 1996 onward and pension funds diversified abroad. The later reformers are yet to experience a significant deepening of their financial markets (relative to GDP) despite substantial growth in pension assets, perhaps because AUM have not yet reached sufficient critical mass. Factors such as the absence of supportive capital market regulations and infrastructure may also have hindered financial deepening, in some cases causing the risk of significant distortions and asset price bubbles as growing imbalances emerge between the demand and supply of local securities (see Section E).

Diversification of the Investor Base

27. **A large part of the Indian financial sector is still mainly involved in deposit and loan services.** Pension sector reforms and accompanying introduction of new players, especially institutional investors, would help ensure a stable demand for fixed-income securities and help develop the local corporate bond market. The supply of long-term funds would be enhanced. The average maturity of bond issue in Chile increased from 10–15 years in the first half of the 1990s to 10–20 years more recently. In Mexico in the last five years, institutional investors buy, hold, and trade the bulk of corporate bonds. Notably, pension funds held more than one third of all outstanding bonds as of end-2004 (Soueid, 2005).

28. **Institutional asset growth should also—other things being equal—be an important factor in triggering the repricing of the stock market via reductions in**

liquidity and risk premiums and lower cost of capital. Walker and Lefort (2002) confirm this hypothesis using regression analysis, finding a statistically significant effect of pension funds' AUM on Chile's equity prices and the cost of capital.

29. **Pension funds can also generate growing demand for lower rated corporate instruments, mortgage-backed securities, and foreign exchange and interest rate derivatives.** An increase in institutional investors' demand for such instruments however may require some relaxation of investment restrictions, accompanied by prudential standards of diligence and expertise and the development of a ratings industry.

Increased Market Stability and Efficiency

30. **In India, similar to the rest of Asia, asset markets remain characterized by relatively high volatility although volatility has declined recently** (Purfield and others, 2006). The growth of pension and other institutional AUM combined with asset diversification, could contribute to reduced market volatility and improved resilience to external shocks, as a wider investor base and access to more information and analysis facilitates price discovery.¹⁴ Walker and Lefort (2002) confirm this link empirically in the case of Chile and for a broader sample of 33 emerging economies.

31. **The growth in private pensions' AUM can have other qualitative effects on capital markets.** Walker and Lefort (2002) show that in the cases of Chile, Argentina, and Peru, pension reform contributed significantly to improvement of the regulatory and legal framework, increased transparency and enhanced corporate governance. The reforms also increased financial innovation, by fostering the growth of annuities, mortgage bonds, and other asset-backed securities, the creation of closed-end mutual funds and local rating companies, and improved trading infrastructure.

32. **However, the rapid growth of pension fund AUM may negatively affect local markets, when it outpaces the supply of private local securities.** Volatility is magnified when tight controls limit the investment universe or when regulations such as minimum required returns relative to an industry average induce herding behavior. The resulting concentration of investments in securities from a limited number of local companies tends to magnify asset price swings and can cause asset price distortions. A large size of funds relative to local market supply may also result in liquidity constraints for PFMs, since they cannot sell assets without putting downward pressures on prices (Roldos, 2004).

¹⁴ Moreover, if institutional investors' risk tolerance is assumed to remain relatively constant over time, volatility can be reduced as such investors take advantage of variations in risk premia (perhaps caused by variations in foreign or retail investors' risk tolerance). This is done by purchasing securities when the risk premia is high (at "low" prices) or vice versa.

E. Conclusions

33. **While the broad parameters of the NPS appear in line with international best practice, two features may limit the impact of the reform on financial markets.** The absence of a first pillar and the only partially mandatory participation may result in concentration of pension portfolios in government securities and higher-than-expected management fees as economies of scale are not realized early on.

34. **Nonetheless, international experience points to several ways in which India's planned pension reform could contribute to capital market development.**

- Critical mass could be achieved faster by granting permission for exempt workers to switch to the new system. A less ambitious option could involve outsourcing of all or part of the management of accumulated reserves of EPF to the private sector under competitive bidding procedures (Holzmann and others, 2000). Together with flexible investment regulations, such reforms would ensure faster growth of pension assets.
- Concurrent improvements in capital market regulations, laws, and infrastructure are necessary. When such reforms are delayed, fast growth in AUM can generate imbalances between demand and supply of local securities and magnify volatility.
- Debt management agencies and regulators can support the provision of new instruments for retirement savings by ensuring liquid government bonds (that serve an important benchmark function for the private sector) and issuing price-indexed bonds (to support the issue of price-indexed annuities).
- A limited option for investments abroad can help PFMs diversify country risk, gain expertise and familiarity with new instruments, and relieve pressures in local markets, when the supply of securities is restricted in the short term.

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III. INDIA'S SPECIAL ECONOMIC ZONES: INTERNATIONAL PERSPECTIVES¹⁵

A. Introduction

1. **India has launched an initiative to develop Special Economic Zones (SEZs) with the passing of the SEZ Act in 2005.** The notification of the rules in February 2006 has intensified interest in the zones, and, as of end-October 2006, there are 237 zones with formal approval, 34 of which are “notified” (e.g., may begin operation and start receiving incentives).¹⁶ Some observers see the zones as holding promise for stoking investment and employment. At the same time, some have raised questions about the potential costs of SEZs, in particular about the potential revenue losses owing to tax incentives granted to companies operating in or developing the zones.

2. **This chapter examines international experience to see what lessons can be gleaned for India's SEZs.** It first provides some general background on SEZs in various countries. It then focuses on the international experience with tax incentives. The next section discusses broader experience with SEZs, namely their performance in stimulating employment and investment, looking in particular more closely at the case of China. The chapter concludes with a discussion of the implications of the international experiences for India together with some emerging trends for Indian SEZs.

B. Background on SEZs

3. **An SEZ is a geographical region that has more liberal tax or regulatory environment than the rest of the economy.** As of 2003, there were over 2000 zones (including SEZs and other types of economic zones) in over 120 countries, accounting for over \$600 billion in exports and 80 million direct jobs (Rao, 2004).

4. **The types of SEZs have evolved over time.** In the 1960s and 1970s, SEZs were mainly established in developing economies often by governments as duty free, fenced-in manufacturing zones (Export Processing Zones (EPZs)). Starting in the late 1970s, China launched large-scale zones to attract FDI, as well as to serve as enclaves for experimenting with economic reforms. Since the 1990s, private development of SEZs has gained prominence: these often feature “world-class” infrastructure (e.g., Dubai in United Arab Emirates and South Korea); a focus on the service sector; and heavy private sector

¹⁵ Prepared by Hiroko Oura.

¹⁶ There are three types of approval: in principle approval, which can be given to proposals that might not have acquired the needed land (developers have to come back for formal approval after land acquisition); formal approval, which can be given to proposals that have acquired land; and notification, with which developers can start receiving incentives.

involvement in zone development and management. Economic zones have been established in developed economies as well in recent years; examples include U.S. Urban Enterprise Zones.

5. **SEZs have a variety of objectives**, including promoting exports and investment (FDI in particular); earning foreign exchange; transferring technology and skills; creating employment; diversifying economic activity; and experimenting with structural reforms.

- In the U.A.E., the initial primary objective was to diversify the economic structure away from the oil sector by, for example, developing Dubai as a distribution hub connecting Asia and Europe.
- In the Free Economic Zones established in Korea in 2003, major aims were revitalizing the economy and diversification away from manufacturing to the knowledge-based service sector.
- Unlike typical SEZs, industrial parks in Singapore are not granted preferential tax treatment, and stricter environmental requirements have been placed on the industrial parks than on the rest of the economy.
- In Japan, the Special Structural Reform Zones were established in 2003 as a vehicle to push forward structural reforms, by piloting them at a local level before they are considered for adoption nationwide.
- In the United States, Urban Enterprise Zones were designed to create jobs in economically distressed regions.

6. **India's SEZ Act targets:** (i) generating additional economic activity; (ii) promoting exports of goods and services; (iii) promoting domestic and foreign investment; (iv) creating employment; and (v) developing infrastructure. To achieve these objectives, the following features are envisaged:

- *Heavy private sector involvement in zone planning, development, and management.* A zone can be proposed by the private sector or state government. It is intended that the private sector will be heavily involved with zone construction and management.
- *Tax incentives.* There are incentives for both zone developers and operating units.¹⁷ Developers receive incentives that include a ten-year corporate income tax holiday on all income from a zone; exemption from customs duty, central excise, service tax, central sales tax and local taxes for all inputs for zone construction; and

¹⁷ Incentives apply only to units that are net foreign exchange earners.

- reimbursement of central sales tax paid on purchases from domestic tariff areas. Zone units receive incentives including corporate income tax holidays of 100 percent in the first five years and 50 percent in the next five years from profits on exports. In addition, taxes due up to 50 percent of export profits can be set aside as reinvestment allowances. Units are also exempted from customs duty on imports and exports; central excise on goods from domestic tariff area; and service and central sales tax.
- *Land use.* An SEZ can be established in any part of the country on unused land. Up to 65 percent of the area in a zone can be used for nonproduction purposes (including housing and recreation).
 - *Minimum size.* A minimum area of 1,000 hectares is required for multi-product zones. Different minimum requirements apply for certain regions and sectors. For instance, a 10 hectare minimum requirement applies to IT, biotechnology, and jewelry specific zones.¹⁸
 - *Other requirements.* A unit must be a net foreign exchange earner. Some additional requirements have been put in place by the Ministry of Commerce and Industry with the purpose of limiting fiscal costs. To discourage relocation of existing capital, tax incentives are not provided for used machinery and plant relocated to a zone. In addition, minimum investment requirements have been introduced for SEZ developers to qualify for incentives—Rs. 2.5 billion (\$55 million) for sector-specific SEZs and Rs. 10 billion (\$220 million) for multi-product SEZs.
 - *Labor law.* The central government did not relax labor laws as a part of the Act. However, states have flexibility to liberalize these laws. Each state government may delegate the power of the Labor Commissioner to the Development Commissioner for SEZs, and declare the zones as public utilities, which would limit union activities to some extent. In addition, some states (Maharashtra, Andhra Pradesh, and Gujarat) have issued notifications that lift some provisions under the Contract Labour Act (1970), allowing some flexibility in temporary staffing.

C. International Experience with Fiscal Incentives

7. **An active debate in India surrounds the question of the potential fiscal costs of SEZs.** The fiscal costs can be particularly burdensome for India, with general government expenditure of about 27½ percent of GDP and deficits of about 6½ percent of GDP (2006/07 budget) At the core of the debate is the question of how tax incentives will affect investment. If they stimulate new investment, they may result in revenue gains. If, alternatively, they

¹⁸ Ten hectares are about 13 times the size of an average soccer field.

cause already-planned investment to move to SEZs, this would cause losses of the tax revenue that would have been reaped if those investments had been made outside the SEZs. Various estimates have been produced of the potential fiscal costs. For example, the National Institute for Public Finance and Policy estimates the potential foregone revenue from corporate income tax alone as Rs. 241 billion per year (about 0.7 percent of 2004/05 GDP) using the statutory corporate income tax rate as a benchmark and assuming about 2.8 percent of 2004/05 GDP of investment in zones per year (Rao, 2006). In addition, they estimate Rs. 92 billion (about 0.3 percent of 2004/05 GDP) in one-time foregone revenue from excises and customs exemption for zone construction. On the other hand, the Ministry of Commerce and Industry estimates Rs. 1,400 billion in revenue gains over five years (about 4 percent of 2004/05 GDP) by estimating tax revenues from salaries and other expenditures created by the additional economic activities in the zones and assuming that a certain percentage of SEZ products will be sold to the domestic tariff areas (and hence some profits from these sales will be taxed).

8. **Many countries use tax incentives to induce investment.** In developing and emerging economies, they commonly include breaks on corporate income (often including tax holidays) and trade taxes. In China, for example, foreign funded enterprises operating in SEZs receive tax holidays and a reduced corporate income tax rate, as well as exemptions from customs duties and VAT for imported equipment and technology. In the U.A.E., corporate and personal income tax holidays extend for 50 years. In Korea, where the zone policy is geared to attracting FDI, the income tax exemption extends to the personal income tax of foreign executives working in the zones in addition to corporate income tax. In developed countries, tax incentives tend to be more targeted, and tax holidays are rare. For example, tax incentives for U.S. economic zones, most of which are granted by states, are more targeted toward narrow objectives.

9. **The international experience with the impact of tax incentives—both in SEZs and more generally—is mixed, but a few general points can be gleaned.**¹⁹

- *Tax incentives have some positive impact on economic activity in developed countries, but the impact seems smaller in developing countries.* There is a broad empirical literature in which many, but not all, studies find taxes to have a significant effect on investment for developed countries. Hassett and Hubbard (1998) find an elasticity of investment with respect to the post-tax user cost of capital to be about 0.6 for most major developed countries. Hall and Van Reenen (2000) find that the R&D tax credit in OECD countries has led to one-for-one increases in R&D spending.

¹⁹ The studies cited cover the impact of tax incentives in general, including incentives given in economic zones as a special case. Incentives introduced in this section include ones specific to certain activities (e.g., FDI, R&D, investment, employment, and business sectors) irrespective of their location.

Hines (1999) finds a U.S. elasticity of (inward and outward) FDI with respect to taxes of about -0.6 . Regarding the impact of the U.S. Urban Enterprise Zones, Papke (1991) finds that Indiana's program reduced unemployment claims in the surrounding areas by 19 percent (albeit at an estimated annual cost of \$7,535 in 2005 dollars per each new job created in the state, and \$51,366 in 2005 dollars per new job created in the zones). On the other hand, Boarnet and Bogart (1996) showed that New Jersey's program failed to generate employment. Overlooking developing countries, Shah (1995) finds that tax incentives usually lead to large revenue losses and small gains in investment, partly because incentives (particularly tax holidays) are poorly targeted. He also suggests that tax incentives cannot overcome nontax obstacles such as lack of infrastructure, legal framework, institutions, and distortions including monopoly and credit rationing. As discussed more in the following, tax incentives seem more effective in developing countries as they are well-targeted, and business climate is generally good.

- *Tax incentives are less important to investors than the business climate and stable macro policy.* Two OECD surveys (1994 and 1995) find that for Asian and transition countries, tax incentives are less important in investment decisions than a sound economic and institutional environment.
- *Tax incentives may not be enough to stimulate investment in disadvantaged regions.* In China, the central and western inland provinces attracted only 13 percent of China's FDI despite preferential tax treatment (World Bank, 2006). This suggests that preferential tax treatment may not be enough to compensate for the lack of infrastructure, geographical proximity to major markets, and more general economic viability (Tseng and Zebregs, 2002).
- *Tax incentives can create investment diversion, in which already-planned investment is relocated to the zones.* Halvorson (1995) finds that projects in Thailand had high rates of return, even before benefiting from tax incentives (corporate income tax holiday of 3–8 years), which suggests that they would have been undertaken anyway.
- *Preferential tax treatment can create leakages and incentives for transfer pricing, and efforts to limit such leakages may complicate the overall tax system.* Tseng and Zebregs (2002) point out that China's tax incentives, which are heavily geared towards foreign funded enterprises rather than domestic enterprises, have created a dualism in corporate income tax laws. As economic zones have proliferated and the range of eligible activities has expanded, China's corporate tax system has become more complex. Estache and Gaspar (1995) find that Brazil suffered low investment in the late 1980s despite substantial use of tax incentives. They argue that most of the incentives lead to significant revenue losses with little additional investment, and that

the multiplicity of incentives and loopholes created room for transfer pricing and tax avoidance.

- *Home-country tax regimes might remove any benefit for foreign investors.* In countries that tax income on a global principle (e.g., the United States and the United Kingdom), a company owes tax to its home country revenue office for all the domestic and international income it earns. The company gets an income tax credit for tax paid to a host country to avoid double taxation. This system works against tax incentives in host countries as any tax saved in a host country increases the tax liability to the treasury of the firm's home country, unless there is a special and rare clause included in the bilateral tax treaties between the host and home countries (Zee and others, 2002; and OECD 1998, 2001).²⁰

10. **Targeted incentives are more cost effective than blanket incentives.** In developed countries, tax holidays are generally rare, and incentives that produce a positive empirical impact on investment are well-targeted (R&D/investment credit and depreciation allowances). In Indiana's Urban Enterprise Zones, employment credits, rather than incentives for investment, are the main form of tax breaks (as the primary aim is to create employment). As for emerging markets, several authors calculate model-based investment (or revenue loss) elasticities with respect to tax incentives. Estache and Gaspar (1995) examine Brazil and find that incentives targeted at indirect taxes rather than direct taxes are more effective in reducing marginal effective tax rates. Examining Mexico, Pakistan, and Turkey, Bernstein and Shah (1995) find that targeted incentives (such as investment tax credits, investment tax allowances, and accelerated depreciation) have a much higher elasticity for investment compared to less focused corporate income tax incentives. Mintz and Tsipoulos (1995) look at Central European countries and also find that investment tax allowances and credits are more cost effective than tax holidays in attracting FDI.

²⁰ Countries with residence-based tax systems typically give double taxation relief by providing credits against domestic tax liabilities for taxes paid in foreign countries (foreign tax credits), eliminating the saving from tax incentives in the host country. However, a "tax sparing" clause—a clause that essentially states that tax saving owing to incentives will be deducted from tax liability by the home country—would allow firms to keep the saving. OECD (1998) states that developed countries are increasingly reluctant to grant tax sparing. The U.S has never granted tax sparing. (Zee and others, 2002).

D. International Experience with the Performance of SEZs

11. Two broad points stand out from a review of the international experience with the performances of SEZs:

- SEZs generally account for a small share of employment and exports, especially for larger and more developed countries (Table III.1).
- SEZs in China are particularly successful; for Shenzhen alone, its employment and exports are more than that for any other country on the table.

Table III.1. Selected Countries: Performance of Economic Zones

Country	Number of Zones 1/	Exports		Employment	
		US\$ billions	Percent of total 2/	Thousands	Percent of total
USA	366	20.0	2.0	330	0.2
China	120	...	88 (5/)	30,000	4.1
China (Shenzhen)	1	48.0	16.0	3,000	0.4
Indonesia 3/	...	0.2	0.3	98	0.1
Philippines	77	32.0	71.6	1,128	3.5
Thailand 4/	300	0.9
India	11	4.1	6.6	100	0.3
Sri Lanka	12	1.1	18.1	104	1.5
Bangladesh	6	1.1	15.3	144	...
Taiwan POC	9	7.8	3.5	68	0.7
Pakistan	22	0.1	1.1	411	1.1
S. Korea	5	0.1	0.0	39	0.2

Sources: International Labor Organization (2003); Aggarwal (2005); Rao (2004); Ministry of Commerce and Industry, India; Export Processing Zone Administration, Taiwan POC; Philippine Economic Zone Authority; and IMF, *World Economic Outlook*.

1/ Including SEZs, export processing zones, free trade zones, and industrial parks.
 2/ In percent of goods and services exports.
 3/ Bonded zones.
 4/ Industrial estates.
 5/ In percent of merchandise exports.

12. **Indeed, the success of China's SEZ policy has attracted much attention.** As Tseng and Zebregs (2002) note, various studies have shown that FDI has had a highly positive effect on China's economic performance, adding to capital formation, increasing productivity growth, creating employment, and developing a highly competitive export sector. The success of reforms and opening up of SEZs provided positive demonstration effects, spurring the extension of reforms and liberalization country wide.

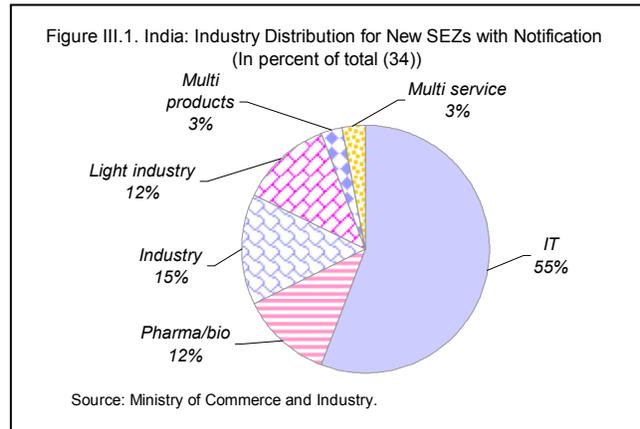
13. **At the same time, the policy had some costs** (Tseng and Zebregs (2002) and World Bank (2006)).

- The bias toward foreign funded enterprises was found to have stymied the development of domestic entrepreneurship and the emergence of globally competitive domestic companies.
- As noted earlier, China's system of income tax incentives has become increasingly complex—which China is now trying to rectify by leveling the playing field.
- The focus on coastal regions under China's initial FDI policy is thought to have contributed to growing income disparities between coastal regions and inland provinces. The Gini coefficient on income has increased from 30 in 1980 to 47 in 2003 (although this could reflect factors other than income disparity across provinces).

E. Implications of International Experiences for Indian SEZs

14. **Are India's tax incentives likely to stimulate or divert investment?** This is a difficult question to answer definitively. However, there are some features of India's SEZs worth noting:

- *Concentration in the IT sector.* So far, most of the SEZs receiving notifications are in the IT sector, which has robust expansion prospects given strong demand. Accordingly, these companies may have ambitious investment plans so that tax incentives for them may not be important at the margin. The IT sector is already receiving fiscal incentives, which are due to sunset in 2009.



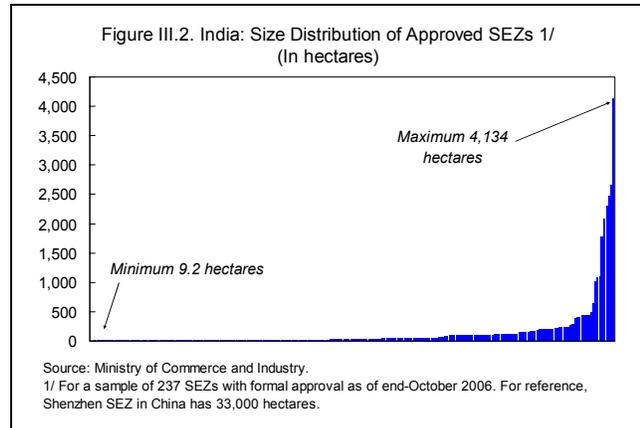
- *Heavy use of tax holidays.* The major part of the tax incentives for Indian SEZs is the corporate income tax holiday. While there are efforts to limit qualifying developers and entrepreneurs, the international experience suggests the instrument per se is not cost-effective compared to more targeted tax incentives.
- *Weak business climate.* India ranks 134 out of 175 economies in the World Bank's Doing Business database. International experience suggests that tax incentives might play only a modest role in new investment decision.

15. **Will Indian SEZs repeat China's success?** The answer is not clear, and several points are worth highlighting.

- *Different stages of economic reforms.* In contrast with the situation in China when it launched SEZs in the late 1970s, India today has already been implementing economic reforms and liberalization country-wide for over a decade. Indeed, one result of the broader liberalization in India is the emergence of a number of world class companies.
- *Conformity with fiscal reforms.* A key feature of India's tax reform strategy is to create a simple tax structure with moderate rates and a broad base, which might be affected by the proliferation of exemptions under the SEZ policy.
- *Potential for regional disparities vs. inclusive growth.* The concentration of notified SEZs in the largest cities in India raises the question of increasing regional

disparities, which might be at odds with the government's objective of inclusive growth.

- *Smaller size of Indian SEZs.* SEZs in India are quite small compared with those in China, raising questions about their contribution to social infrastructure. About 70 percent of the 237 SEZs with formal approval (end-October) fall under 100 hectares. For small SEZs, the operator-cum-developer might be putting up only the buildings and machinery necessary to run that business, rather than adding to social infrastructure. This contrasts with the size of Shenzhen (about 33,000 hectares, Ge, 1999), and the fact that infrastructure was mostly provided by the government in China.



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