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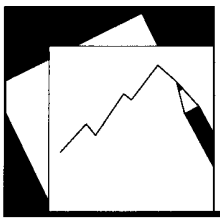

IMF Working Paper

Financial Market Implications of India's Pension Reform

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Financial Market Implications of India's Pension Reform

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Abstract

India's planned pension reform will set up a proper regulatory framework for the pension industry and open up the sector to private fund managers. Drawing on international experiences, the paper highlights pre-conditions for the reform to kick-start financial development, including: (i) the buildup of critical mass; (ii) sufficiently flexible investment guidelines and regulations, including on investments abroad; and (iii) concurrent reforms in capital markets. Given the limited scale of the planned reform, the key challenge for India is to achieve sufficient critical mass early on. Options to address this challenge include granting permission for existing workers to switch to the new system or outsourcing all or part of the reserves of private sector provident funds to the new pension fund managers.

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I. INTRODUCTION

Several factors have given impetus to pension reform in India. Central government and state government pension liabilities have increased considerably over the past decade[2] 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) (defined contribution scheme) and the Employees' Pension Scheme (EPS) (defined benefit scheme).[3]

Faced with these challenges, the government launched on January 1, 2004 a New Pension System (NPS). The move shifted all new central government employees to a defined contribution plan from the current noncontributory defined benefit scheme, shifting the risk of retirement financing from the government to individuals. Once the law is approved, participants in the new scheme will have access to a range of investment products from selected private sector companies. The NPS would be open on a voluntary basis to nongovernment workers, including those in the unorganized private sector. An important element of the reform will be to set up a proper regulatory framework.

Key legislation, however, is still under discussion in Parliament. As an interim arrangement, contributions from new civil servants that have joined the scheme are being deducted and matched by government contributions. A rate of return of 8 percent is being credited on these contributions.

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, overly conservative investment practices, and restrictions on options for investments abroad hindered the ability of pension fund managers (PFMs) to achieve optimal portfolio diversification 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?

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[2] India, similar to most other countries in Asia, has a system of statutory retirement payments for government employees. Implicit pension debt is estimated at 25 percent of GDP by the World Bank, with a significantly higher relative figure for some states.

[3] See World Bank (2005) for a comprehensive overview of mandatory pension programs for private sector workers in India.

II. BENCHMARKING INDIA'S PENSION SYSTEM

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 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 to stimulate financial market development.

A. India's Pension Plan in International Perspective

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.

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 (see Appendix I for highlights of relevant international experience).

- The employee contribution rate of 10 percent (matched by an equal government contribution) is broadly within the international range.

- The targeted terminal replacement rate (50 percent of the final wage) is in line with international experience and with the standards recommended by the World Bank, and matches benefits under the existing system for government employees.

- Expected management costs of 0.5 percent of assets (Ministry of Finance, 2005) 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 (Faulkner-McDonagh, 2005) 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. Larger volumes and larger average accounts for these U.S. providers enable economies of scale and eliminate low balance fees.

- Participants are offered a menu of investment options, in line with best practice, and have the option of switching between funds and schemes.

- Every subscriber' individual pension account is portable across jobs.

- Voluntary participation over and above the mandated contribution rate is available to those participants that want additional coverage, providing a so-called third pillar.

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

- The NPS only provides the second and third pillars (Box 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 (in the case of Chile). India's organized private sector is also covered under a two-pillar system.

- Participation is mandatory only for new central government employees and new employees of the 19 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.

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

- First, 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 excessive investment restrictions (see Section III).

- 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 (except for voluntary participation in the third pillar).

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, for the self-employed. In other countries that implemented similar reforms, while participation of the self-employed has remained low (for example, see Faulkner-McDonagh, 2005, for Chile's experience), broad coverage was achieved by providing an option to switch to workers covered under the old system (either in the initial law or through subsequent amendments)

Box 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-pillar 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 IPA will be portable in case of change of employment. The subscriber cannot exit from the system except as specified by notification of the government. The current notification specifies two options: (1) if the subscriber chooses to exit at the normal retirement age (60 years), he/she shall use at least 40 percent of accumulated pension wealth to purchase a lifetime annuity from a life insurance company; (2) if the subscriber chooses to exit the system any time prior to retirement, the minimum conversion is 80 percent of the accumulated pension wealth.

- There is a two-tier structure for government employees. Tier-I will be the core level with the employee's 10 percent contribution matched by the government, and no withdrawals authorized until exit. Tier-II provides an option to contribute a further amount into a withdrawable account, which will not have any contribution by the government.

- There will be no minimum guaranteed pension (the so-called "first pillar").

The PFRDA shall regulate the NPS and other pension schemes under its purview. It comprises a Chairman and up to 5 members appointed by the government for a five-year term. It will register and regulate all intermediaries, including CRAs, PoPs, and PFMs. It will also be responsible for protecting the interests of subscribers and establishing a grievance mechanism. It will approve the schemes and norms (including investment guidelines) for management of pension assets and ensure standardization and dissemination of information about performance of funds and benchmarks.

1/ The current notification specifies four types of schemes of various risk-return combinations, reflecting differing combinations of government securities, corporate bonds, and equity shares, including an option with 100 percent investments in government bonds.

and by keeping the old system's benefits less generous. Tax incentives also played a role in other countries, but India's fiscal situation constrains that option (see Appendix I). Currently, contributions to the NPS are tax exempt, while benefits are taxed. To promote a level playing field between different products, all private savings instruments should be subject to the same tax treatment.

In addition to portfolio diversification (see Section B), keeping costs low is crucial to ensure net returns that attract new subscribers and provide adequate replacement rates.[4] 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 (Table I.1). In Poland, total fees have also lowered net real returns in the first four years of the reform to an annual average of only 3 percent (Székely, 2005).

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 concern 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.

The fee structure can also encourage strong performance. An upfront fee structure (as in e.g., Chile) undermines PFMs' incentives to compete on the basis of returns and increases marketing costs, as providers focus 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).

[4] For a subscriber contributing 10 percent of salary for 40 years, assuming annual real wage growth of 2 percent, a net average real return on assets of 5 percent is necessary to achieve the 50 percent replacement rate targeted by the Indian reform (Shah, 1997).

B. Financial Implications

The ability of the NPS to generate adequate replacement rates depends on future returns on assets and portfolio composition. Illustrative calculations (see Ministry of Finance, 2005) are summarized in Table 1. In most cases, except for the portfolio of government bonds, the projected pension for civil servants is equal to or above 50 percent of the last wage (equivalent to the benefit provided by the existing system).

Table 1. Estimated Pensions and Replacement Rates under the NPS 1/

Simulation results 2/	Replacement rate (in percent)	Wealth at age 60 (in Indian rupees)
100 percent government securities	43–49	744,203–3,190,314
"Safe:" 60 percent government securities, 30 percent corporate bonds, 10 percent equities	49–56	855,458–3,625,766
"Balanced:" 40 percent government securities, 35 percent corporate bonds, 25 percent equities	54–63	953,560–4,006,269
"Growth:" 20 percent government securities, 30 percent corporate bonds, 50 percent equities	63–73	1,108,312–4,601,108

Source: Ministry of Finance (2005).

1/ Monthly contributions are assumed to be invested in an IPA for 35 years. The range of replacement rates is shown for 4 different seniority levels, and fees are assumed to be 50 bps on assets per year.
2/ Inflation-adjusted annual returns (in percent) assumed conservatively as follows: government bonds (1.5); corporate bonds (3); and equities (5).

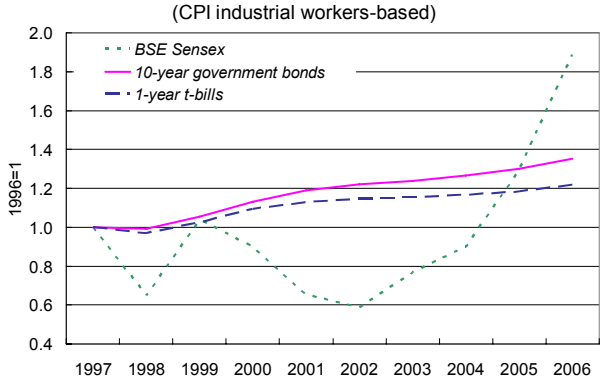
The calculations in Table 1 do not account for market volatility. However, risk is also an important determinant of investment outcomes, especially when equity investments are allowed. Table 2 shows average real returns and volatilities over the past decade in India for equities and bonds, and Figure 1 shows the corresponding cumulative returns on investment. While government bonds historically have had low volatility, equities show both higher returns and higher risk, making them better suited to investors with a long-term horizon.

Table 2. Annual Inflation-Adjusted Returns on Stocks and Government Bonds, 1995–2006

Asset	Arithmetic Average Return	Standard Deviation
	(In percent)	
Inflation-adjusted using CPI: industrial workers		
BSE Sensex	6.8	32.6
Long-term government bond	3.6	2.2
Short-term treasury bill	2.2	2.5
Memorandum items (1926–97):		
S&P 500	9.7	20.5
Long-term U.S. government bond	2.6	10.5
Short-term U.S. treasury bill	0.7	4.2

Sources: Datastream and staff calculations for India; and Zeldes (2001) for the United States.

Figure 1. India: Cumulative Real Returns, 1995–2006
(CPI industrial workers-based)



III. Investment Policies and Returns on Pension Contributions

This section focuses on the extent to which regulatory limits, overly conservative investment practices, and restrictions on investment options abroad may have constrained the achievement of optimal risk-adjusted returns by PFMs in existing DC systems. Sub-optimal returns have implications for the privately-managed system's ability to attract participants, as argued in the previous section. Tight control on the type of investments that PFMs can hold can also undermine the expected positive impact of pension reform on private securities' demand (see Section IV).

A. Investment Limits

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. For example, there are typically significant restrictions on investment in riskier assets, like equity, and on foreign investments, although both types of restrictions have gradually been loosened over time in many countries (Table 3).

Table 3. Equity and Foreign Investment Restrictions for Pension Funds

	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 4/	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."

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). Most countries have also adopted 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.

B. Asset Allocation

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.

Indian pension funds have not participated in the corporate debt market, despite being allowed to do so.[5] In part, this could be due to underdeveloped and illiquid conditions of the

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

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 4). 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 4. 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*.

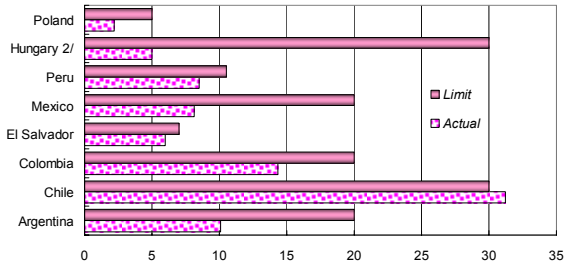
1/ Total may not add up due to rounding or to negligible value.
2/ 2002 data.
3/ 2003 data.
4/ "Corporate bonds" includes corporate and financial sector debt instruments.
5/ "CIS" stands for "collective investment scheme."
6/ The values registered on variable "Other Investments" include short term payable 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, transfered to social security, worth about EUR 1 billion.

C. Diversification Abroad

Emerging market pension fund portfolios are also biased toward domestic assets, with the notable exception of Chile (Figure 2).[6] Polish pension funds invest only about 2 percent of their assets in foreign securities, less than half the limit, perhaps because the foreign investment ceiling is too small to make it worthwhile for pension funds to develop the related capacity and expertise. In El Salvador, pension portfolios are also home-biased as investments in

Figure 2. Selected Countries: Pension Fund Foreign Asset Allocation, As of June 2006

(In percent of total assets) 1/



Source: FIAP; Chan-Lau (2004); Soueid (2005); Szekely (2005); and Samuel (2006).
1/ Actual allocation may exceed the limit in some cases due to investments in local foreign-currency denominated instruments being counted as foreign assets but not counted toward the limit.
2/ As of 2004.

[6] 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).

foreign securities, until recently, were limited to those that are traded on the local stock exchange (Samuel, 2006).[7]

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 (Walker and Lefort, 2002) and (ii) allowing them to invest in global mutual funds, thus providing a wealth of investment options and 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.

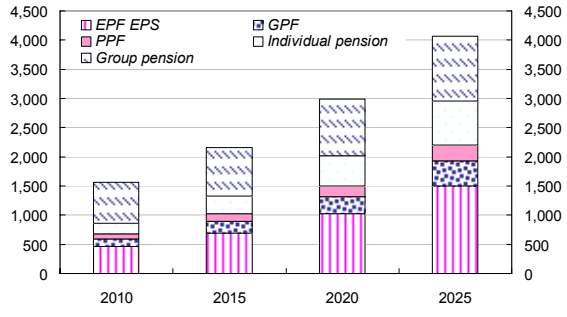
IV. Pension Funds and Capital Market Development

This section turns to the expected impact of pension reform on the development of capital markets, especially equity and corporate bond markets. 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 more qualitative effects, including better transparency and governance, improvement of market microstructure, and financial product innovation.

A. Financial Depth

India's pension sector is small relative to more advanced Asian economies and other emerging countries. While demographic trends and rising income should contribute to rising demand for retirement services in the next two decades (Figure 3), pension assets currently amount to only 5¾ percent of GDP, much below Hong Kong SAR, Singapore, or Chile (Figures 4 and 5).

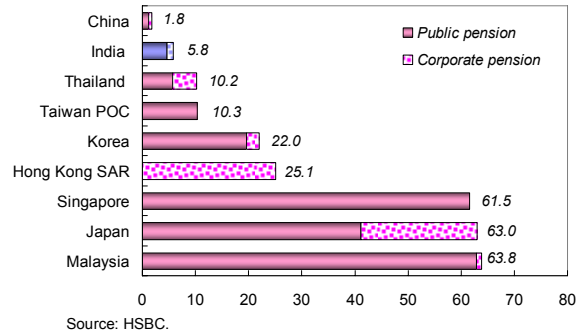
Figure 3. India: Retirement Market
(In billions of Indian rupees)



Source: OECD (2006).

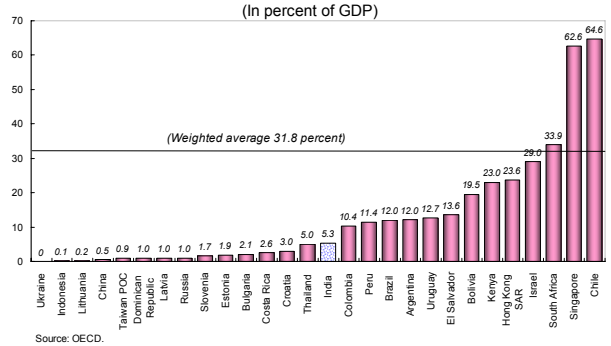
[7] A law passed in August 2006 allows 10 percent of pension portfolios to be invested abroad.

Figure 4. Asian Countries: Pension Assets Under Management, 2005
(In percent of GDP)



Source: HSBC.

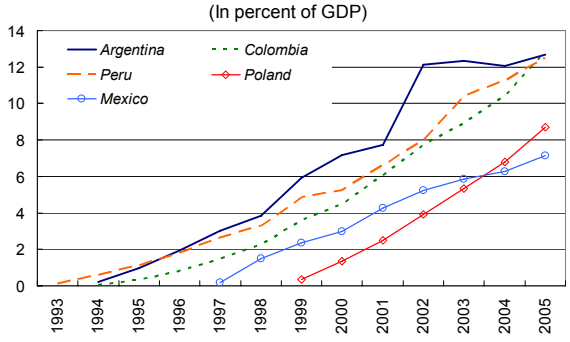
Figure 5. Pension Fund Assets in Selected Non-OECD Countries, 2004
(In percent of GDP)



Source: OECD.

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 ppts per year. While still below the U.S. level (95 percent of GDP), the size of Chile's pension sector is now similar to that of 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 ppts of GDP, in line with G-7 experience since 1980 (Roldos, 2004). Later reformers, including Mexico, Poland, and Hungary, have experienced similarly rapid growth (Figure 6).

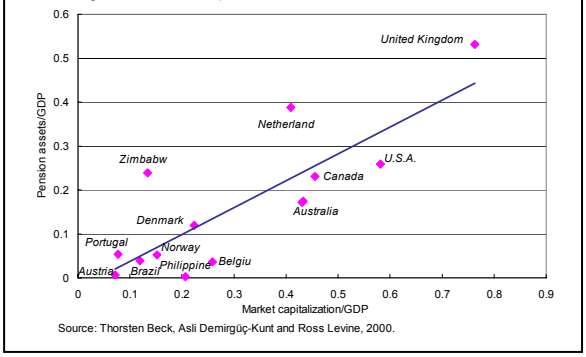
Figure 6. Selected Emerging Countries: Pension Assets
(In percent of GDP)



Sources: FIAP; IFS; WEO; and staff calculations.

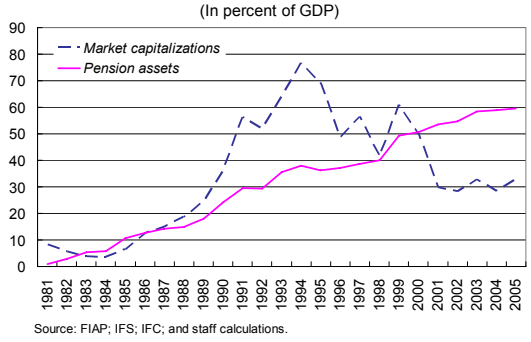
The buildup of institutional assets has contributed to financial deepening (Figure 7). In the G-7 countries, stock and bond market capitalization rose by more than 40 ppts of GDP and 20 ppts of GDP respectively between 1980 and 1998, led by a 20 ppts of GDP increase in pension AUM (Roldos, 2004). Since 1981, Chile's market capitalization rose by nearly 30 ppts of GDP on the back of surging pension assets (Figure 8).

Figure 7. Market Capitalization and Pension Assets, 1980–95



Source: Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine, 2000.

Figure 8. Chile: Pension Assets and Market Capitalization, 1981–2005
(In percent of GDP)



Source: FIAP; IFS; IFC; and staff calculations.

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).

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 D).

B. Diversification of the Investor Base

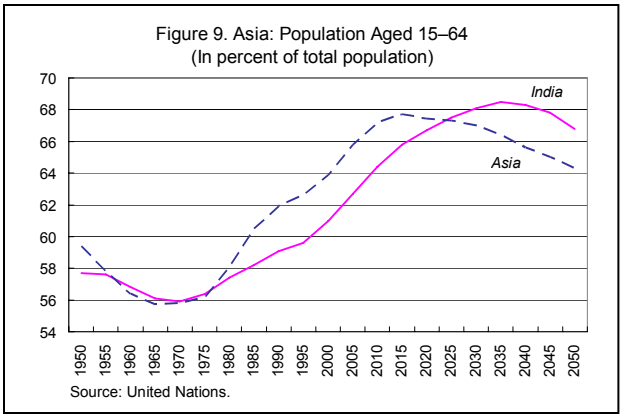
A large part of the Indian financial sector is still mainly involved in deposit and loan services. Pension sector reforms and accompanying introduction of new players, especially institutional investors, could help increase the relative importance of equity and corporate bond markets (see Roldos, 2004, for a review of empirical studies for mature markets).

A diversified investor base is especially critical for the development of the local corporate bond market as it helps ensure a stable demand for fixed-income securities. Broadening and deepening of the corporate bond market in turn would help enhance the supply of long-term funds. 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 (even 30 years for some issues). In Mexico in the last five years, the diversification of the investor base has been critical for the development of the corporate bond market, with institutional investors buying, holding, and trading the bulk of corporate bonds. Notably, pension funds held more than one third of all outstanding bonds as of end-2004 (Soueid, 2005).

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 reduced 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. More recent analysis by HSBC (2006) points to a strong correlation between price earning ratios and various measures of the importance of institutional savings in Asia.

C. Diversification of Asset Allocation

The proportion of Asian pension funds allocated to equity is significantly lower than in most other economies. However, young and growing populations in India and other Southeast Asian countries (Figure 9) suggest a case for a more aggressive asset allocation. In Korea, for example, the National Pension Fund is raising its stock allocation from 12 percent to 16.4 percent by 2007. Chinese pension funds were allowed to invest in overseas securities (both equity and fixed income) for the first time last year.



Pension funds can also generate growing demand for new instruments, including high yield bonds, mortgage-backed securities (MBS), and foreign exchange and interest rate derivatives. An increase in institutional investors' demand for lower rated corporate instruments however may require some relaxation of investment restrictions, accompanied by prudential standards of diligence and expertise and the development of a ratings industry. Measures considered in India include relaxing limits on institutional investments in corporate bonds and allowing investments based on the company rating rather than the category of issuers (Government of India, 2005). Similarly, an increase in demand for derivatives by PFMs would require some loosening of prudential regulations.

D. Increased Market Stability and Efficiency

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.[8] Walker and Lefort (2002) confirm this link empirically in the case of Chile and for a broader sample of 33 emerging economies.

[8] 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.

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.

However, the rapid growth of pension fund AUM may negatively affect local markets, when it outpaces the supply of private local securities. This effect 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 government securities and securities from a limited number of local companies, tends to magnify asset price swings and may make equity markets more prone to asset price bubbles. 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).

V. CONCLUSIONS

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 set India's plan apart from international common practice and 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.

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, and shifting all assets to private PFMs.[9] A less ambitious option could involve outsourcing of all or part of the management of accumulated reserves of partially funded schemes such as EPF to the private sector under competitive bidding procedures (Holzmann and others, 2000).

- Flexible investment regulations would ensure both faster growth of pension-led securities demand and optimal diversification of pension portfolios.

[9] At the same time, it should be recognized that given the large share of the informal sector in India, achieving full coverage will be difficult until these workers are brought in the more formal labor market.

- Improvements in capital market regulations, laws, and infrastructure are necessary to foster the development of local securities markets. When such concurrent reforms are delayed, fast growth in pension AUM can generate imbalances between demand and supply of local securities and magnify asset price volatility.

- In particular, debt management agencies and regulators can support the provision of new instruments for retirement savings by ensuring liquid government bonds (that serve and 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. While immediate liberalization of foreign investment restrictions may not be viable, over time it should be considered as the efficiency and effectiveness of PFMs improves (Srinivas, Whitehouse, and Yermo, 2000).

APPENDIX I: INTERNATIONAL EXPERIENCE WITH PRIVATELY MANAGED PENSION PLANS

Coverage

Chile's system achieved fast coverage, with 40 percent of the labor force and nearly half of employees covered within five years of implementation (Faulkner-McDonagh, 2005). Participation was initially mandatory only for new entrants to the work force, but the government also offered strong incentives to switch to other workers, including tax deductibility of contributions to the new system, not increasing the generosity of benefits of the old system, and lowering contribution rates dramatically.

In El Salvador, participation in the new system introduced in 1998 was mandatory for workers under 36 years old and new entrants to the labor force, while women 50 and over and men 55 and over had to remain in the old system. Others had the option to switch. El Salvador provided strong incentives to switch, including income tax deductibility. The majority of participants in the old system who had a choice did transfer to the new system, and coverage reached about a quarter of the economically active population after one year (Samuel, 2006).

Fees

Chile's management costs initially totaled up to 4 percent of wages (almost double their current levels). This in part reflected high fixed start up costs, e.g., computerization to manage millions of individual accounts and marketing campaigns to entice contributors to switch to the new system.

El Salvador's pension law initially limited pension fund fees to 3½ percent of wages, but this was lowered to 3 percent in 2001, and further reduced to 2¾ percent in 2005 (Samuel, 2006). The law also sets out the services for which private administrators (AFPs) can charge—including administration of individual accounts, inactive accounts, and programmed withdrawals. At the outset, fees were set competitively to attract participants. However, in recent years, the regulated maximum has been binding.

Replacement Rates

In Chile, according to recent estimates, the average worker's pension income would replace 50–60 percent of the final salary over the medium term (2030–40). However, over the longer term, the average replacement rate would substantially decline to just over 40 percent. These replacement rates are significantly lower than the 80 percent level promised at the time of the reform (Faulkner-MacDonagh, 2005).

Table I.1. Selected Countries: Main Features of Privately-Managed Pension Systems

	Argentina	Chile	Mexico	Peru	Hungary	Poland	India	United Kingdom
Year of implementation of individual account reforms	1994	1981	1992	1993	1998	1999	2005	1988
Mandatory (M) or voluntary (V) for new entrants to workforce?	M	M	M	M	M	M	M 4/	V
Number of participants								
Million	4.9	3.8	36.2	3.9	2.4	13.1	0.3	...
Percent of the potential contributor base	...	58.0	...	...	...	70.0	...	...
Contribution rate (percent of gross wage) 1/	7.0	12.3	6.5	10.9	8.0	7.3	10.0	2.5–5.25
Of which: PFM's fee	1.12	0.99	1.47	1.99	0.97	1.6	...	...
Investment performance								
Average real rate of return on assets (2001–05) 2/	-7.1	7.0	6.3	15.1	...	9.8	...	...
Average annual real rate of return (net of fees) 3/	...	5.0	...	...	3.9	…	...	...
Projected replacement ratio by 2030–40 (percent)								
Men	60	50–60	45	45	...	...	43–95	48
Women (where different)	...	...	30	30	...	...	...	...

Sources: Faulkner-MacDonagh (2005); Impavido and Rocha (2006); Federacion Internacional de Administradoras de Pensiones; CONSAR; OECD; IMF and GAO.

1/ To the privately-managed mandatory pension funds. For Argentina, the legally set contribution rate is 9 percent, but was modified by the government in 2002 using temporary emergency powers.
2/ Adjusted for inflation in U.S. dollar of each year. 2000–04 average for Poland. 2005–03 average for Peru.
3/ 2001–05 average for Chile. 1999–03 average for Poland. 1998–2005 average for Hungary.
4/ Mandatory only for central government employees recruited after January 1, 2004, and new employees of 19 state governments that have joined.

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