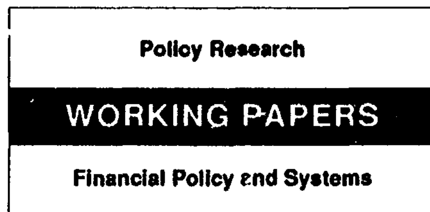
Public Disclosure Authorized

Public Disclosure Authorized

WPS 0858



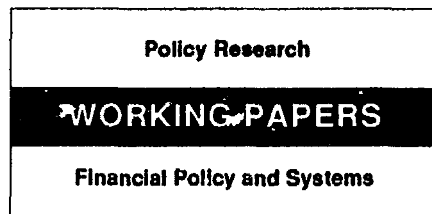
Country Economics Department
The World Bank
February 1992
WPS 858

Contractual Savings and Emerging Securities Markets

Dimitri Vittas

Contractual savings institutions — pension funds and life insurance companies — are growing in several developing countries. Their contribution in the 1980s to the impressive performance of emerging stock markets has been limited. But the increasing emphasis on financial liberalization and development of the private sector suggests that their role and impact will increase substantially.

Policy Research Working Papers disseminate the findings of work in progress and encourage the exchange of ideas among Bank staff and all others interested in development issues. These papers, distributed by the Research Advisory Staff, carry the names of the authors, reflect only their views, and should be used and cited accordingly. The findings, interpretations, and conclusions are the authors' own. They should not be attributed to the World Bank, its Board of Directors, its management, or any of its member countries.



WPS 858

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — was prepared for inclusion in a book on the world's emerging stock markets, edited by Antoine Van Agtmael. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37664 (20 pages). February 1992.

Contractual savings institutions — pension funds and life insurance companies — have long been important institutions in several developing countries. But, with notable exceptions, they have been weak and underdeveloped. Some of this is attributable to low levels of income in developing countries and some of it to the negative impact of repressive regulations and the existence of pay-as-you-go social security systems.

Vittas briefly reviews the size of contractual savings institutions in selected developed and developing countries and assesses their role in the development of the financial sector — especially in the development of securities markets. He stresses five points:

- The structure of a country's financial system depends greatly on the organization of the country's pension system.

- Contractual savings do not increase the rate of saving but shift the composition of total savings toward long-term financial assets.

- The role of contractual savings institutions in securities markets reflects historical traditions and differences in regulation. Despite their great potential, they are important players in the equity markets of only a few — mostly Anglo-American — countries. And they have played only a limited part in stimulating the growth of emerging securities markets, even in countries such as Chile, Korea, Malaysia, and Singapore, where contractual savings institutions have accumulated substantial long-term financial resources.

- Investment regulations must aim at ensuring the safety and profitability of contractual savings. Encouraging investment prudence and developing effective supervision should be basic objectives of public policy.

- Contractual savings institutions can have a great impact on securities markets. They can completely transform the functioning of securities markets, facilitate the privatization process, promote the dispersion of corporate ownership, and improve corporate efficiency.

Pension funds and life insurance companies are growing in several developing countries. Their contribution to the performance of emerging stock markets has been limited because investment regulations have favored government bonds. Their potential impact on equity markets has remained largely unrealized, but the growing emphasis on financial liberalization and development of the private sector suggest that their role and impact will increase substantially.

The Policy Research Working Paper Series disseminates the findings of work under way in the Bank. An objective of the series is to get these findings out quickly, even if presentations are less than fully polished. The findings, interpretations, and conclusions in these papers do not necessarily represent official Bank policy.

Produced by the Policy Research Dissemination Center

CONTRACTUAL SAVINGS AND EMERGING SECURITIES MARKETS

Dimitri Vittas

Table of Contents

I.	Introduction	1
II.	Organization of Pension Systems	3
III.	Impact on Saving and Promotion of Long-term Savings	5
IV.	Role in Securities Markets	9
V.	Regulatory Framework and Investment Rules	12
VI.	Impact on Emerging Securities Markets	16
VII.	Concluding Remarks	18
	References	20

This paper has been prepared for inclusion in a book on The World's Emerging Stock Markets, edited by Antoine Van Agtmael.

I. Introduction

Contractual savings institutions, i.e. insurance companies and pension funds, have long been important institutions in several developed countries. However, with some notable exceptions, they have been weak and underdeveloped in most developing countries. To a large extent, this can be explained by the lower level of income of the latter. But to a significant degree, the weakness of contractual savings institutions can also be explained by the adverse impact of repressive regulations, the use of contractual savings for financing the budget at below market rates, and by the existence of pay-as-you-go social security systems that have undermined the potential role that life insurance companies and pension funds can play in different countries.

Contractual savings institutions involve long-term contracts that may span up to sixty years or more. For example, pension schemes may involve forty years of active participation as contributing workers and twenty years of passive participation as retired beneficiaries. Furthermore, term and endowment life insurance policies normally last for ten years, often for as long as thirty years, while whole life policies cover the remaining life of insured policyholders.

Because they cover such a long span and are often based on compulsory and/or poorly defined contracts, they raise many complex regulatory issues that parallel, but are more difficult to resolve than, those affecting commercial banks. These include issues of prudential regulation covering authorization criteria and solvency margins, product and price regulation, and investor protection. Governments have a crucial role to play in establishing a regulatory framework that promotes stability, efficiency and fairness and ensures that contractual savings institutions fulfill their contracts and deliver the promised benefits to their participants[1].

The purpose of this paper is not to address the numerous economic and regulatory issues raised by contractual savings institutions but rather to review briefly their size in selected developed and developing countries and assess their role in financial sector development and especially in the development of securities markets. The paper focusses on five points:

1. The organization of a country's pension system is a major determinant of the structure of the financial syster

2. Contractual savings do not increase the rate of saving but affect the composition of total savings in favor of long-term financial assets.

[1] The importance of these three objectives of financial regulation is discussed in Long and Vittas (1991).

3. The role of contractual savings institutions in securities markets reflects historical traditions and differences in regulation. Despite their great potential, they are important players in the equity markets of only a few, mostly Anglo-American countries. And they have played a very limited part in stimulating the growth of emerging securities markets, even in countries, such as Singapore, Malaysia, Korea and Chile, where contractual savings institutions have accumulated substantial long-term financial resources.

4. Investment regulations must aim at ensuring the safety and profitability of contractual savings. Encouraging investment prudence and developing effective supervision should be basic objectives of public policy.

5. Contractual savings institutions can have a large impact on securities markets. They have the potential to completely transform the functioning of securities markets, facilitate the privatization process, promote the dispersion of corporate ownership and enhance corporate efficiency.

II. Organization of Pension Systems

The organization of the pension system is nowadays a major determinant of the institutional structure of national financial systems. Traditional differences between bank-based and market-based systems have been eroded. Retained earnings have become the primary source of corporate finance in most developed countries, while a growing trend

towards universal banking and the internationalization of financial systems have reduced differences in practice.

In general, countries with unfunded pay-as-you-go social pension systems that pay generous benefits have underdeveloped contractual savings institutions, especially company-based pension funds. Germany, Austria, France, Italy, and several other Southern European countries belong to this group.

In contrast, other countries, where social pension systems (funded or unfunded) pay modest pensions have highly developed occupational pension schemes. These countries are characterized by the accumulation of large financial savings in the form of insurance and pension reserves. Most Anglo-American countries and a few continental European countries (Denmark, the Netherlands, Sweden and Switzerland) follow this pattern[2].

In the developing world, the organization of pension systems is also a major distinguishing feature of financial structure. The financial systems of most developing countries are still dominated by commercial banks, but countries with funded pension systems of one form or another, such as Singapore, Malaysia, Egypt, Cyprus, Chile and Zimbabwe, also have large contractual savings sectors. Other countries, such as Brazil, Indonesia, the Philippines, Jordan and Turkey have funded pension schemes, though their

[2] It is worth noting that, unlike the traditional distinction of banking systems, the dividing line between countries with developed and countries with underdeveloped contractual savings industries is no longer a simple one between continental European and Anglo-American countries.

size in relation to total financial assets is not very large. In contrast, most Latin American and Eastern European countries have pay-as-you-go pension systems that make no or little contribution to the accumulation of financial savings.

III. Impact on Saving and the Promotion of Long-Term Savings

There is a vast and inconclusive literature on the impact of funded and unfunded pension systems on the rate of national saving. Funded systems that are young and lack credibility may involve an increase in overall saving because they generate compulsory savings while consumers are less inclined to adjust their saving behavior with regard to their discretionary income. But as systems mature and gain in credibility, the greater efficiency of saving through contractual savings institutions may lead to changes in consumer behavior that may compensate, and even overcompensate, for the increased availability of future pension incomes[3]. Thus, contractual savings may have a positive impact on the rate of saving in the short run, but this is likely to prove transitory and over the long run their effect on overall saving may even be negative[4].

Internationally, there is little correlation between pension funding and saving ratios. Singapore and Switzerland, two countries with compulsory participation in funded systems, have very high saving rates, but the United States, the United Kingdom and

[3] For a discussion of alternative views on this issue and a review of the literature, see Aaron et al (1989).

[4] The long-term impact of a transitory increase in the rate of saving may of course be very large, depending on whether the funds are invested wisely and set in train a virtuous circle of high growth followed by high saving.

Sweden, all countries with large funded systems, have some of the lowest saving rates. Moreover, several countries with underdeveloped contractual savings sectors, such as Italy, Greece, Portugal as well as Japan (during the high growth era), Korea and China, have high saving ratios[5].

While the quantitative impact of contractual savings on aggregate saving is unclear, their qualitative impact on the composition of national savings is beyond dispute: contractual savings cause a shift in favor of long-term financial savings.

Data on the total assets of life insurance companies and pension funds in different countries show that in 1987 contractual savings institutions mobilized resources equal to 133% of GDP in Switzerland and 117% in the Netherlands. The corresponding ratios were 105% in the United Kingdom and 72% in the United States.

Among developing countries, contractual savings institutions in Singapore and Malaysia controlled resources equal to 78% and 48% of GDP in the same year. Other developing countries with relatively large contractual savings sectors include Egypt (45%), Cyprus (30%), Chile (30%), and Korea (18%). Zimbabwe, Botswana, Jordan, the Philippines, and to a lesser extent, India, Turkey, Indonesia and Brazil also have significant contractual savings sectors.

[5] A factor that affects saving behavior seems to be household access to credit facilities (Vittas, 1991).

The structure of the contractual savings sector differs considerably from country to country. In developed countries with large contractual savings industries, such as Switzerland, the Netherlands, the United Kingdom and the United States, the predominant type are occupationally based pension funds. In Germany and other European countries as well as Japan, where contractual savings institutions are relatively weak, the predominant type are life insurance companies.

There is also considerable variation in structure among developing countries. In Chile, the dominant role is played by the AFP[6] system based on personal pension plans, in Korea by the life insurance companies, in Egypt, the Philippines, Jordan and Turkey by the partially funded social security organizations, in Cyprus, Indonesia and Brazil by company pension funds and in Zimbabwe, Botswana and India by a combination of provident funds, company-based pension schemes and life insurance companies[7].

The creation of funded pension schemes can generate substantial long-term financial savings even in a relatively short period of time. In countries where labor incomes represent 50% of national income, a compulsory scheme covering 40% of the labor force and imposing a 10% contribution rate would accumulate annually funds equal to 2% of national income If the nominal rate of return on fund balances is equal to the nominal rate of growth of GNP, and since in the early years of operation pension benefits would be minimal, these pension schemes would accumulate resources equal to 10% of

---

[6] AFP stands for Administradoras de Fondos de Pensiones, the specialized pension fund management companies.

[7] See Vittas and Skully (1991) for a discussion of the operating characteristics and merits and demerits of different types of contractual savings institutions.

GNP over 5 years and 20% over 10 years. After the first 10 years, the pace of accumulation will be affected by the growing volume of benefit payments. On the other hand, expanded coverage and an increase in the share of labor income in total income will tend to accelerate the pace of accumulation.

The experience of Singapore, Malaysia and, more recently, Chile shows that once a credible and well run system is put in place, it can accumulate long-term resources at a very fast pace. In Singapore, the resources of the Central Provident Fund rose from 28% of GDP in 1976 to 73% in 1986, while in Malaysia they grew from 18% of GDP in 1980 to 41% in 1987 (Vittas and Skully 1991). In Chile, the system of personal pension plans that was introduced in 1981 expanded from a mere 1% of GDP in 1981 to 9% in 1985 and 26% in 1990 (Vittas and Iglesias 1991).

The growth of contractual savings depends on three factors: the coverage of the sector; the level of annual contributions; and the rate of investment returns. In Singapore and Malaysia, the fast growth in the resources of contractual savings institutions was caused by an expansion in coverage, a rise in contribution rates and the growth in wages. In Singapore, the effective contribution rate amounts to 33% and in Malaysia to 18%. In Egypt, a country with a funded social security system and a favorable demographic structure, the effective contribution rate is 22%[8]. In Chile, a major factor in the rapid growth of the AFP system was the attainment of very high real rates of return, averaging

---

[8] The effective contribution rate takes account of the payments made by employers and the government. In Egypt the nominal contribution rate is 26% -10% by the employee, 15% by the employer and 1% by the government. Thus, contributions equal 26 out of a total payroll cost of 116 or slightly over 22%.

13% per year in the 1980s, while the contribution rate was only 10% (Vittas and Iglesias 1991).

In the United States, and especially in the United Kingdom, contractual savings experienced a large expansion in the 1980s in relation to GDP as a result of the large rise of stockmarket prices. In the United States, the assets of insurance companies and pension funds grew from 43% of GDP in 1970 to 49% in 1980 and 67% in 1988. In the United Kingdom, they rose from 45% in 1970 to 49% in 1980 and 120% in 1988. The much faster rise in the United Kingdom reflects the greater exposure of contractual savings to the equity market and the stronger performance of life insurance policies.

IV. Role in Securities Markets

The role of contractual savings institutions in the securities markets differs considerably from country to country, reflecting historical traditions and differences in regulation. In the United Kingdom, where fund managers have developed a so-called equity cult since the 1960s, mainly in response to the high rates of inflation, pension funds and life insurance companies accounted in 1988 for 55% of corporate equities. In contrast, in the United States they held only 26% of corporate equities. However, American long-term institutional investors also held 56% of corporate bonds.

The equity cult of UK fund managers is also reflected in the composition of their portfolios. Pension funds invested 67% of their assets in equities against 51% for life

insurance companies. In contrast in the United States, life insurance companies invested less than 10% of their assets in equities against over 44% for pension funds.

In European countries, contractual savings institutions follow the pattern of American life insurance companies and place the largest part of their funds in government, corporate and mortgage bonds and in long-term loans. This is true of insurance companies and pension funds in Switzerland, the Netherlands and Germany. It is partly the result of investment regulations and partly the result of a traditional emphasis on conservative investment policies.

A good example of this is provided by the Algemene Burgerlijk Pensioenfonds or ABP, the pension fund for employees of the Dutch public sector. This is one of the largest individual pension funds in the world with nearly US$80 billion under management. Until recently, ABP was not allowed to invest in overseas assets and its investments in domestic equities and property were limited to 20% of assets. However, 90% of ABP assets are invested in bonds, loans and mortgages, with only 5% in equities and another 5% in property. In 1988, ABF was allowed to invest up to 5% of its resources in foreign assets. Its management is seeking an increase in the overall limit on equity and property investments to 30%, even though it has a long way to go to reach the current limit of 20%.

In Sweden, both the National Pension Insurance Fund and life insurance companies were traditionally required to invest heavily in bonds issued by mortgage credit institutions. In recent years, following the financial deregulation of the mid-1980s, insurance

companies have been able to diversify into equities, but the public pension funds have been prevented from investing in equities because of concerns about the volatility of equity prices and about indirect public ownership of industrial companies.

In Singapore and Malaysia, the national provident funds invest over 90% of their funds in government securities that earn a slightly positive real rate of return. Despite the enforced captivity of the resources of the Central Provident Fund (CPF), the government of Singapore has refrained from investing all the funds in local development projects but has accumulated a substantial pool of foreign exchange reserves. In 1989, foreign exchange reserves exceeded the total balances of the CPF. The CPF effectively operates as a compulsory national unit trust, investing in foreign assets on behalf of Singaporean households.

In Malaysia and Egypt, the funds of contractual savings institutions have been used for development purposes. In Malaysia, the successful implementation of economic growth policies has ensured a modest real rate of return on the balances of the Employees Provident Fund, but in Egypt the resources of the social security system have been placed with the National Investment Bank, the investments of which have generally suffered from negative returns.

In Chile, the pension funds invest 80% of their resources in debt instruments, including state securities that account for 40% of total resources. Investments in corporate equities are only 20% of total assets, mainly because of the imposition of tight investment restrictions. Equity holdings accounted for 10% of total assets in 1989. The

large increase since then is due to the relaxation of investment rules in the late 1980s and the boom in stockmarket prices.

V. Regulatory Framework and Investment Rules

In countries where contractual savings institutions are underdeveloped and where there are no long-term financial assets in which people can save for retirement purposes, consumers accumulate wealth in real estate, precious metals and foreign assets that are likely to provide good hedges against inflation. The promotion of contractual savings creates an effective mechanism for channeling such savings through the local financial system to finance an expansion in the supplv of productive capital. Efficient contractual savings institutions can help enhance investment productivity, stem, and perhaps even reverse, capital flight, and lower the real rate of interest.

However, the ability of contractual savings institutions to transform the functioning of securities markets and enhance corporate efficiency depends on the orientation and effectiveness of the regulatory framework and especially the regulations that are imposed on their investment portfolios.

The main objective of investment regulations is to ensure that insurance companies and pension funds invest their assets prudently. The basic aim is to prevent undue

concentration of investment risks in particular types of securities, industrial sectors or individual companies. Investment regulations should place maximum limits on permissible holdings and should not make use of minimum req irements that aim to direct investments in particular securities or in favor of particular sectors.

It should be noted that detailed investment rules are not necessary for ensuring the safety of contractual savings. In the United Kingdom, life insurers and pension funds are not subject to detailed investment rules, but are expected to demonstrate that their assets, prudently valued, meet the requirements for technical reserves and solvency margins. This allows for greater freedom of investment and greater flexibility in matching a company's assets with its obligations arising from its particular business mix.

For company-based pension schemes, investment rules are required to ensure that pension reserves are segregated from other funds of the sponsoring company and are invested prudently. The latter implies a limit on the amount of pension reserves that can be invested in the securities and property of the sponsoring employer and the stipulation of diversification requirements similar to those applicable on the technical reserves of insurance companies.

If pension schemes are funded by the creation of book reserves, which are then available for self-financing by the sponsoring company, prudential controls should require that such funds be reinsured with acceptable reinsurers to increase the security of benefits. In Germany, companies have the option to establish insured funds, operate self-administered pension funds or create book reserves. If they choose the third option, they

are required to reinsure their pension liabilities with PSV, a pension insurance company, which takes over the pension liabilities of insolvent firms and is funded by annual assessments on participating employers.

In Chile, the AFP system is subject to draconian investment rules. These have been motivated by the shallowness and lack of credibility of the domestic financial markets. Investment rules aim to limit the exposure of both individual pension funds and the whole of the pension funds sector. They are expressed in different but complementary ways: as a fraction of the securities of each issuing company; as a fraction of the resources of each pension plan; as a fraction of the securities of each issuing company in total company securities; and as a fraction of the resources of each plan in the total of all personal pension plans[9].

The applied investment rules have caused some distortions in the market. For instance, large pension funds have produced lower returns in recent years because they have been unable to invest the same proportion of their funds in corporate equities with good prospects as smaller pension funds. For the larger pension funds the binding limit is the fraction of the securities of each issuing company whereas for smaller funds it is the fraction of their own resources[10].

---

[9] The investment rules applied on Chilean pension funds are reviewed in Vittas and Iglesias (1991).

[10] Available data show that in 1990 Provida and Santa Maria, the two largest AFPs, achieved real rates of return of 13.3% and 14.6% respectively against 18.7% for Planvital and 18.2% for Cuprum (Habitat, 1991, p. 121).

For pension fund managers in developed countries, who are generally free to set their own investment guidelines, the application of so many investment limits would appear excessively bureaucratic and inefficient. Limits that are based on the share of an individual pension fund in the total value of all pension funds or in the share of liabilities of an issuer in the total liabilities of all issuers of the same class of instruments may be onerous in practice and difficult both to comply with and to verify. Furthermore, there is a risk that imposing excessively strict investment limits may undermine the concept of private management and may in effect represent a government direction of funds through the back door.

However, in the context of the experience of developing countries, the absence of strong and transparent capital markets, the compulsory nature of the pension system and the lack of familiarity of pension members with capital market investments, the detailed investment rules appear justified, provided they are revised in a flexible and timely manner to take account of the growing maturity of the system. An approach of gradual liberalization would give the opportunity to pension fund managers to develop their skills as professional investment managers and would also allow the capital markets to modernize. Revisions in the investment rules have been effected at regular intervals in Chile, while it was clearly fortunate that AFPs were not allowed to invest in corporate equities during the 1982-84 financial crisis.

A further issue that is difficult to resolve in developing countries regards the authorization of investments in overseas assets. A notable feature of UK regulatory practice is that, following the abolition of exchange controls in 1979, institutional

investors enjoy complete freedom to invest in foreign assets. Insurance companies and pension funds in most other developed countries, including Canada, Germany and the Netherlands, are still subject to restrictive regulations on their foreign investments.

For developing countries, allowing institutional investors to invest freely overseas would allow a diversification of country risk but it would also institutionalize capital flight. Furthermore, it would deprive the local markets of the beneficial effects of the increased availability of long-term funds[11]. The Chilean experience suggests that institutional investors can be an effective force in stimulating innovation, improving efficiency and inducing desirable fiscal, legal and regulatory changes.

VI. Impact on Emerging Securities Markets

A traditional argument against fully funded social security systems and private pension funds has been the concern that in the absence of active securities markets, accumulated funds might be used as captive sources for funding government deficits. Without active and efficient financial markets, private pension funds would be unable to invest wisely and safely their accumulated funds even if they were not used as captive sources of government funding.

[11] Available data show that UK pension funds invest 18% of their funds in overseas securities against 16% for Japanese contractual savings institutions and less than 5% for American pension funds. However, for smaller countries complete freedom may result in much higher proportions of total funds invested in overseas assets.

This argument was probably valid in the 1960s and 1970s when few developing countries had well organized securities markets. But in the 1980s the large growth of the so-called emerging securities markets underscores the potential for developing more efficient contractual savings institutions[12]. Moreover, this argument overlooks the dynamic interaction that would evolve between growing pension funds and emerging financial markets and thus underestimates the contribution that contractual savings institutions can make to the development of financial markets.

Nevertheless, it is fair to say that very few, if any, emerging securities markets owe their impressive performance in the 1980s to the presence or impact of contractual savings institutions. In most developing countries where such institutions have accumulated substantial long-term resources, their investments have been mostly channelled towards fixed interest instruments. Even in Chile, the pension funds have accounted for a small fraction of corporate equities. Of all the markets that are included in the IFC database of emerging securities markets, only those in Brazil, Indonesia and Zimbabwe have probably benefitted from the presence of contractual savings institutions as equity investors.

But there can be little doubt that as investment rules are relaxed, contractual savings institutions will be allowed to become important players in the securities markets of a large number of countries. By providing an effective demand for marketable securities and a mechanism for professional fund management, they will encourage the further

---

[12] The phenomenal growth of emerging securities markets in the 1980s is reviewed in IFC (1991).

development of markets and will stimulate financial innovation and efficiency. Institutional investors will exert pressures for better accounting and auditing standards as well as for more meaningful and timely disclosure of information to investors. They will also encourage improved broking and trading arrangements and will help establish more efficient and reliable clearing and settlement facilities. In sum, institutional investors will stimulate the modernization of securities markets.

Contractual savings institutions can also play an important part in facilitating the privatization programs of many countries. In Chile, the pension funds participated successfully in the privatization of state-owned companies. In fact, their equities in privatized companies still represented 95% of their total equity portfolios in 1990. Funded pension systems can play a crucial part in the development of the private sector in Eastern European countries.

Contractual savings institutions can also promote a greater dispersion of corporate ownership and contribute to the so-called democratization of capital. However, the use of pension funds as instruments of ownership dispersion may be frustrated by the unwillingness of closely-held companies to suffer a dilution of control. In Chile, the results of investment rules that have allowed greater equity holdings in companies with less concentrated ownership have been rather poor.

Contractual savings institutions may stimulate greater corporate efficiency by monitoring the performance of the companies in which they invest and exerting some control over the behavior of corporate management. This will depend on their developing

the necessary mechanisms for collecting information about corporate performance and the necessary expertise for analyzing the prospects of individual companies and sectors.

VII. Concluding Remarks

Contractual savings institutions are growing in several developing countries. Their potential impact on the development of securities markets is still largely unrealized, although the implications of financial liberalization and the increasing emphasis on private sector development suggest that their role and impact will increase substantially in the future.

Well regulated contractual savings institutions, essentially pension funds and life insurance companies, are likely to play a crucial part in mobilizing long-term financial resources, developing equity and all types of bond markets (government, corporate and mortgage bonds), and filling the gap in the supply of term finance that exists in most developing countries. They can play an important part in facilitating the privatization of state-owned companies and in promoting greater dispersion of corporate ownership.

Their success will depend on the existence of a robust and effective regulatory framework that emphasizes stability, efficiency and fairness and does not use such institutions as tax collectors and captive sources of government funding.

REFERENCES

Aaron, Henry J., Barry P. Bosworth and Gary Burtless (1989): Can America Afford to Grow Old? - Paying for Social Security, The Brookings Institution, Washington D.C.

Habitat (1991): Diez Anos del Sistema de AFP, Habitat, Santiago.

IFC (1991): Emerging Stock Markets Factbook, International Finance Corporation, 1991.

Long, Millard and Dimitri Vittas (1991): Financial Regulation - Changing the Rules of the Game, World Bank, PRE Working Papers, WPS 803, November.

Vittas, Dimitri (1990): Economic and Regulatory Issues of Contractual Savings Institutions, World Bank, CECFP, mimeo, October.

Vittas, Dimitri and Augusto Iglesias (1991): The Rationale and Performance of Personal Pension Plans in Chile, World Bank, CECFP, mimeo, September.

Vittas, Dimitri and Michael Skully (1991): Overview of Contractual Savings Institutions, World Bank, PRE Working Papers, WPS 605, March.

Policy Research Working Paper Series

	Title	Author	Date	Contact for paper
WPS 842	Capital Flows to South Asia and ASEAN Countries: Trends, Determinants, and Policy Implications	Ishrat Husain Kwang W. Jun	January 1992	S. King-Watson 31047
WPS843	How Financial Markets Affect Long-Run Growth: A Cross-Country Study	Ejaz Ghani	January 1992	A. Nokhostin 34150
WPS844	Heterogeneity, Distribution, and Cooperation in Common Property Resource Management	Ravi Kanbur	January 1992	WDR Office 31393
WPS845	Inflation Stabilization in Turkey: An Application of the RMSM-X Model	Luc Everaert	January 1992	B. Mondestin 36071
WPS846	Incorporating Cost and Cost-Effectiveness Analysis into the Development of Safe Motherhood Programs	Larry Forgy Diana M. Measham Anne G. Tinker	January 1992	O. Nadora 31091
WPS847	Coping with the Legacies of Subsidized Mortgage Credit in Hungary	Silvia B. Sagari Loic Chiquier	January 1992	M. Guirbo 35015
WPS848	How EC 1992 and Reforms of the Common Agricultural Policy Would Affect Developing Countries' Grain Trade	Merlinda D. Ingco Donald O. Mitchell	February 1992	P. Kokila 33716
WPS849	Financial Structures and Economic Development	Ross Levine	February 1992	W. Pitayatonakarn 37666
WPS850	Fiscal Adjustment and the Real Exchange Rate: The Case of Bangladesh	Kazi M. Matin	February 1992	D. Ballantyne 38004
WPS851	Sources of World Bank Estimates of Current Mortality Rates	Eduard Bos My T. Vu Patience W. Stephens	February 1992	O. Nadora 31091
WPS852	How Health Insurance Affects the Delivery of Health Care in Developing Countries	Joseph Kutzin Howard Barnum	February 1992	O. Nadora 31091
WPS853	Policy Uncertainty, Information Asymmetries, and Financial Intermediation	Gerard Caprio	February 1992	W. Pitayatonakarn 37664
WPS854	Is There a Case for an Optimal Export Tax on Perennial Crops?	Takamasa Akiyama	February 1992	G. Ilogon 33732
WPS855	Sovereign Debt: A Primer	Jonathan Eaton	February 1992	S. King-Watson 31047

Policy Research Working Paper Series

	Title	Author	Date	Contact for paper
WPS856	Latin American Women's Earnings and Participation in the Labor Force	George Psacharopoulos Zafiris Tzannatos	February 1992	L. Longo 39244
WPS857	The Life Insurance Industry in the United States: An Analysis of Economic and Regulatory Issues	Kenneth M. Wright	February 1992	W. Pitayatonakarn 37664
WPS858	Contractual Savings and Emerging Securities Markets	Dimitri Vittas	February 1992	W. Pitayatonakarn 37664
WPS859	Macroeconomic Management and the Black Market for Foreign Exchange in Sudan	Ibrahim A. Elbadawi	February 1992	V. Barthelmes 39175
WPS860	The Restrictiveness of the Multi-Fibre Arrangement on Eastern European Trade	Refik Erzan Christopher Holmes	February 1992	G. Ilogon 33732