Pension Reform in Small Emerging Economies

Issues and Challenges

Kenroy Dowers
Stefano Fassina
Stefano Pettinato

Inter-American Development Bank

Washington, D. C.

Sustainable Development Department
Technical Papers Series

Cataloging-in-Publication provided by
Inter-American Development Bank
Felipe Herrera Library

Dowers, Kenroy.
Pension reform in small emerging economies : issues and challenges / Kenroy Dowers, Stefano Fassina, Stefano Pettinato.
.
p. cm. (Sustainable Development Dept. Technical papers series ; IFM-130)
Includes bibliographical references.

1. Pensions—Developing countries. 2. Old age pensions—Developing countries. 3. Social security—Developing countries. I. Fassina, Stefano. II. Pettinato, Stefano. III.Inter-American Development Bank. Sustainable Development Dept. Infrastructure and Financial Markets Division. IV. Title. V. Series.

331.252 D6847--dc21

Kenroy Dowers is a financial specialist and Stefano Pettinato is a consultant in the Infrastructure and Financial Markets Division of the Sustainable Development Department. Stefano Fassina is an economist in the Fiscal Affairs Department of the International Monetary Fund. The authors are grateful to Carol Graham, Estelle James, Olivia Mitchell, Stefan Queck, Kim Staking and Antonio Vives for their helpful comments and suggestions, and to Graciela Testa for her help in editing the document.

The opinions expressed in this paper are the responsibility of the authors and do not necessarily reflect the official position of the Inter-American Development Bank or the International Monetary Fund.

December 2001

This publication (Reference No. IFM-130) can be obtained from:

IFM Publications
Infrastructure and Financial Markets Division
Mail Stop W-0508
Inter-American Development Bank
1300 New York Avenue, N.W.
Washington, D.C. 20577

E-mail: sds/ifm@iadb.org
Fax: 202-623-2157
Web Site: *http:www.iadb.org/sds/ifm*

Foreword

During the last decade, a consensus has been reached about the need to devise solutions for the looming old-age crisis. This situation is driven by two sets of phenomena: on one side is the gradual decrease in the share of the working population, which is caused by a mix of declining fertility rates and increasing life expectancy; on the other, is the widespread mismanagement and/or structural weakness of existing pension systems. Both developing and emerging economies are paying increased attention to the type of pension reform that should be embraced.

While intensive research work has been directed at the reform issues for emerging economies, significantly less attention has been paid to the specific situation of *small* emerging economies. In this paper the authors examine the crucial issues that shape the types of pension fund reform and the fully funded elements that could be instituted in small emerging economies (SEEs).

This paper examines the issues in light of the constraints generated by the size and economic characteristics of many of these countries. In particular small developing states are likely to experience high international labor mobility and domestic informality. Their economic systems are often volatile, highly unequal, and based on a single-good export-oriented development model. Moreover, their financial markets tend to be small and poorly regulated, retarding the exploitation of economies of scale. Finally, political volatility and institutional weakness can promote corruption and bureaucratic inefficiencies. All these features limit the applicability and success of the pension reform alternatives that have been and are currently being proposed.

The paper includes an alternative model that would maximize the efficiency of a pension program based on fully funded principles, while reducing the costs that such a system would engender given the features of SEEs. In particular, the paper proposes the centralized collection of pension contributions, new investment management rules, the introduction of a specific regulatory framework, and the regional integration of institutions and arrangements critical to the management of the pension system.

The Inter-American Development Bank has worked on pension reform in several Latin American countries, including Argentina, Bolivia, Brazil, Honduras, El Salvador and Nicaragua. Programs have included technical assistance and sector loans. The model proposed in this paper is consistent with the IDB's strategy for this sector, and can promote economic development and help reduce poverty and inequality, within a stable macroeconomic framework and increasing private sector participation in the provision of goods and services. Furthermore, the long-term goals of these reforms, sought by the IDB and the Infrastructure and Financial Markets Division of the Sustainable Development Department, are the modernization of states, the advancement of structural reforms, and the strengthening of the countries' financial sectors and capital markets.

Pietro Masci
Chief
Infrastructure and Financial Markets Division

Contents

I. Introduction 1
    A Review of Alternatives for Social Security Reform

II. Characteristics of Small Emerging Economies and Implications for Pension Reform 7
    Demographic Characteristics
    Labor Market
    Structure of the Economy
    Financial Markets
    Political Economy

III. A Policy Approach for Pension Reform in Small Emerging Economies 15
    Centralized Collection
    New Investment Management
    New Regulatory Framework
    Regional System

IV. Lessons Learned and Conclusion 24

Bibliography 27

I. Introduction

By 2025, nearly 15 percent of the world population is expected to be over 60 years of age. With increasing life expectancy the population of developing countries is aging much faster than that of industrial countries. It is expected that in 2030, approximately 80 percent of the total elderly population will reside in developing countries. A more relevant measure of the sustainability of old-age support systems is the dependency ratio, which calculates the elderly (normally those above 65) as a percentage of the working age population (between 15 and 64 years old).

As indicated in Table 1, dependency ratios are likely to increase by more than 50 percent between 2000 and 2025 (with the exception of Africa and the transition economies of Central and Eastern Europe). While the transition economies and the OECD countries will maintain the highest levels of old-age dependency, the biggest increases will occur in the Arab states, Asia and the Pacific, and Latin American. The social burden from an increasing share of the non-working population is expected to generate substantial costs that, in turn, are likely to be reflected in government budgets.

In recent years particular attention has been given to the need to devise solutions to the old-age crisis. The main concerns pertain to the ability of existing social security systems to meet promised benefit levels. In addition to the described demographic trends, most pension systems around the world suffer from systemic flaws and inefficiencies at the management level. Overcommitment by the pension institutions, preferential treatment of some sectors of the population, and near-sightedness in the design of the parameters, are only some of the results of political instability, administrative corruption, and bureaucratic inefficiency. All these factors have weakened retirement arrangements and institutions in many countries, contributing to the old-age crisis.

Some manifestations and concerns that arise from the old-age crisis include:

- Increased deficits crowding out investment in education, health, and infrastructure;

Table 1. Old-age Dependency Ratios*
by World Region

	1975	2000	2025
Africa	6	6	7
Arab States	6	5	8
Asia and Pacific	7	9	14
Central and Eastern Europe and Central Asia	14	17	24
Latin America and the Caribbean	8	9	14
OECD high-income countries	17	21	32
World	**10**	**11**	**15**

* Population above 65 years of age as a percentage of those between 15 and 64.
Source: Gillion et al. (2000) based on United Nations data.

- Insufficient provision for old-age benefits that are not indexed;
- Perverse redistribution from younger to older generations and from low- to medium- and high-income workers;
- Hindered growth as systems mature and become a burden on government revenues;
- High payroll taxes that encourage evasion and informality;
- Reduced savings incentives; and
- Incentives for early exit from the labor market.

Typical policies aimed at correcting the existing problems tend to target either the system dependency ratio, or the replacement rate.[1] Raising the retirement age or the minimum number of years in the contributory period decreases the dependency ratio. Reducing the benefits (either by modifying the benefit formula or by loosening the indexing mechanisms) or increasing the contributory rate (i.e. the payroll tax) takes pressure off the replacement rate.

Countries have responded differently to this impending crisis depending on their circumstances. In Africa and most of Asia, informal structures have generally been in place to deal with old-age income insecurity.[2] These have partly compensated for the inefficiencies and the low coverage of public systems. With the goal of reducing liberal early retirement provisions and generous benefits, several Latin American countries have introduced fully funded, defined contribution programs that give contributors a choice among different privately managed funds.

Countries that belong to the Organization for Economic Cooperation and Development (OECD) appear to be moving toward a system that combines a mandatory publicly managed pension program with mandatory or voluntary fully funded, privately managed occupational pensions or saving plans that target the needs of middle- and higher-income groups (see Gillion et al., 2000).

Notwithstanding variations in the types of structures, most of the recent models for social security reform display elements of a multi-pillar structure. They combine a first layer of welfare benefits financed with public revenues with a second mandatory pay-as-you-go (PAYG) or fully funded layer. Sometimes there is also an optional third layer made up of privately managed individual accounts.

While the major pension reform alternatives in developing countries display these characteristics, little attention has been directed at the applicability of these models to solve the old-age crisis in small emerging economies (SEEs). A notable exception is a study by Glaessner and Valdés-Prieto (1998), that explicitly addresses the major issues of pension reform in small developing nations. They highlight the role of international trade in financial services (e.g. collection, processing, benefits payment) as a condition for successful pension reform in small developing countries.[3] While this point is well taken, we believe that more attention should be given to the initial financial shallowness that exists in these countries.

[1] The system dependency ratio is the ratio between the number of pensioners in the system and the number of affiliates that contribute to it. The replacement rate is the ratio between the income after retirement (the pension benefit) and that before retiring (the reference or average salary).

[2] These are usually based on the support given to parents by their children. A broader definition includes family members and communities as the providers of security. World Bank (1994) offers a review of the traditional systems for income security across geographical regions.

[3] The authors identify small states as those with less than 1 million contributors to the pension system.

Small developing states are likely to experience high international labor mobility and domestic informality. Their economic systems are often volatile, highly unequal, and based on a single-good export-oriented development model. Moreover, their financial markets tend to be small and poorly regulated, retarding the exploitation of economies of scale. Finally, political volatility and institutional weakness can promote corruption and bureaucratic inefficiencies.[4]

The central thesis of this paper is that these idiosyncratic features of small emerging economies have a negative impact on the structure of an optimal pension policy. Furthermore, some of them represent obstacles to the introduction of funded pension systems, that have been and are currently being proposed (see World Bank, 1994; Orszag and Stiglitz, 1999).

Most, but not all, of the elements of the current pension reform agenda are applicable to small emerging economies. To illustrate this point we propose a new model that is based on the current approach but that at the same time tackles the issues unique to many small developing states.

In particular, to reduce market distortions and exploit as much as possible the limited economies of scale, we suggest the centralized collection of contributions and an initially limited pension fund market. Furthermore, new investment management rules are needed, along with the introduction of a specific regulatory framework. Finally, we propose the regional integration of many institutions and arrangements critical to the supervision and the management of the pension system.

[4] Diamond (1997) stresses the political risk associated with publicly managed PAYG pension plans.

The rest of this section reviews various pension reform alternatives. Section II of this report introduces the characteristics of SEEs and the potential problems these countries face when confronted with pension reform. In section III we posit specific recommendations on the policies that are advisable in SEEs, focusing on those aspects that represent a departure from the mainstream model of reform. Section IV identifies the lessons learned in some countries that have introduced privately managed pension arrangements. We draw some concluding remarks in section V.

A Review of Alternatives for Social Security Reform

Recent approaches to social security reform may be grouped into two camps, depending on the scope of reform, as well as its impact on the system. The first is *parametric* reform and the second is *comprehensive* reform.

Parametric reform involves changes in one or more underlying features of the current system, including the pension benefit formula, the retirement age, the benefit indexation mechanism, the minimum contributory period, or private fund management rules.

Comprehensive reforms involve significant structural modification of the retirement system. These may affect only part of the pension system, or its entirety. Such reforms typically require a massive political endeavor and call for particularly careful analysis and implementation.[5] This is required in most cases to mold the system to

[5] It should be noted that parametric reforms may precede or follow a structural reform. Before reforming the structure of a pension system, authorities may decide to adjust the parameters of the old system to smooth out the impact of dismantling it. Conversely, after a reform is implemented and a new system introduced various parametric adjustments may be necessary as part of a continuous fine-tuning process.

the changing characteristics of the demographic, economic, and financial environment where it operates.[6]

Countries that are reforming their pension systems—or that have done so in the past decade—ultimately choose between two broadly defined models of pension system: the OECD model and the Latin American model.[7]

The OECD model has a multi-pillar structure with a private and a public pillar. The former is a mandatory or quasi mandatory employer-sponsored funded pillar, which can be either defined benefit or defined contribution. By and large, the decision on how to invest the accumulated assets from workers' contributions is made by the employer or labor union for the entire company or industry. Pension systems based on the OECD model also have a public mandatory, universal, PAYG pillar. With a few exceptions, the public pillar is based on a defined-benefit (DB) principle.[8] The relevance of the public pillar in some of the countries that have adopted this model denotes how public old-age insurance arrangements are an integrated component of a broad system of social protection, together with social assistance, unemployment insurance, and the like. This approach gives priority to universal coverage, and the public nature of social security (Gillion et al., 2000).

Chile implemented a comprehensive reform of its pension system in 1981. Many countries in the region have since adopted elements of the Chilean model, establishing what can be referred to as the *Latin American model*.[9] A central characteristic of this model is the mandatory, privately managed, defined contribution (DC), fully funded system (see World Bank, 1994). In some cases, a PAYG mandatory pillar and a third voluntary pillar are left to coexist with the private one.

Some versions of this approach adopt individual savings accounts, managed by pension fund management companies. Workers have more voice in the choice of where their assets are invested, and to what degree of risk. The funded pillar works on a defined contribution basis, linking contributions made by the worker to the benefit received and entitling him or her to a lump sum or to an annuity at the end of the contributing period. Many countries adopting this model have done so by maintaining—or revitalizing—their old public PAYG pillar.

Elements of the Latin American model have also been introduced in some Eastern European transition economies (Hungary, Poland, Latvia, and Kazakhstan). In the past few years, several Central American coun-

[6] Various modifications have been introduced to the original Chilean system since its introduction in 1981. For details see Vittas and Iglesias (1998).

[7] What we define as the *Latin American model* is very close to the system suggested by the World Bank (1994) where the public pillar maintains the redistributive role through a tax-financed minimum pension guarantee program, and the main pillar is a mandatory privately managed one. Obviously, when adopted, both of these models need to be adjusted to fit a country's particular characteristics. For more details on this also see James (1998).

[8] This principle links the benefit to a prescribed formula, based on the contributor's *final pay* (i.e. the average salary during the last years as a contributor). The *weight* of the public unfunded pillar varies widely across OECD countries. While the United States, Great Britain, Switzerland, The Netherlands, and Australia have large privately funded systems (that have recently become mandatory in many countries), in most OECD countries the public Social Security system dominates old-age pension provisions. For the size of the private component see Table 2.

[9] For an extensive coverage of the history and the current status of the Chilean system see Vittas and Iglesias (1998). For a regional analysis of the (*second generation*) Latin American pension reform trends see Queisser (2000).

Table 2. Pension Spending and Liabilities in Latin America

	Public Pension Spending		Implicit Pension Debt (% GDP)[a]	Size of New Public Pillar[b]
	year	% GDP		
Mexico	1996	0.4	42	LO
Venezuela	1990	0.5	30	…
Trinindad & Tobago	1996	0.6	…	…
Honduras	1994	0.6	15[c]	…
Guatemala	1995	0.7	26[c]	…
Guyana	1996	0.9	…	…
Ecuador	1997	1.0	19[c]	…
Bahamas	1992	1.1	…	…
Colombia	1994	1.1	40	LO
Peru	1996	1.2	37	LO
El Salvador	1996	1.3	35	LO
Dominica	1996	1.4	…	…
Bolivia	1995	2.5	48	LO
Grenada	1990	2.6	…	…
Costa Rica	1996	3.8	94[c]	…
Barbados	1996	4.1	…	…
Nicaragua	1996	4.3	33[c]	LO
Panama	1996	4.3	145[c]	…
Brazil	1996	4.9	187	…
Chile	1993	5.8	100	LO
Argentina	1994	6.2	86	MED
Uruguay	1996	15.0	214	HI

a/ Calculated as the present value of accrued rights of pensioners and workers under the old system.
b/ For countries that have reformed their pension system:
LO: Minimum pension guarantee financed out of general revenues (exc. Bolivia and Peru)
MED: Flat public pillar and means testing (financed using tax revenue)
HI: large earnings related public pillar, financed with payroll tax
c/ IPD calculated using a different methodology (See ECLAC (1998)).
Sources: Palacios and Pallares-Miralles (2000), and James (1998).

tries have expressed their intentions to reform their pension systems following the direction chosen by their Southern neighbors. However, there are reasons to believe that the development stage and the absolute size of the economy may incorporate idiosyncratic factors that could make the mainstream Latin American pension reform model unsuitable for small emerging countries.

A good predictor for the direction that a country may follow when reforming its pension system is the size of the Implicit Pension Debt (IPD) accumulated (see James, 1998). This figure represents the liabilities that the public system has to repay to current and past contributors. Table 2 suggests that the larger the IPD (and, in parallel, public pension spending) the more likely it will be that reform leaves a substantial role to the

public pillar, making the transition to the new system more gradual.

In the next section, after examining the main characteristics of countries that are both small in size and poorer on average, we illustrate the way in which some of these factors may represent an obstacle to the implementation and operation of new pension systems.

II. Characteristics of Small Emerging Economies and Implications for Pension Reform

As discussed above, explanations for the old-age crisis are related to demographic factors as well as to the systemic imbalances of existing pension arrangements. In most of the developing world, these problems are even more urgent and require adjustments or drastic changes in pension systems. The crisis in emerging economies, however, is mainly a result of systemic problems, as the demographic strain (i.e. aging population and high dependency ratios) is not yet a major issue (see Table 1). In fact, the relatively young population of most developing countries may represent a window of opportunity for change, making the transition to more sustainable pension schemes less painful.[10]

Among developing countries, those that are smaller in terms of population—small emerging economies (SEEs)—share characteristics that can hinder the benefits commonly attributed to the type of pension system that is being advocated by many pundits.

For this purpose we define an economy as *small* if its population is under 8 million. At the same time, it is *emerging* if it is a lower-middle income economy in terms of GDP per capita (e.g. 1995 US$5,000). Figure 1 and Table 3 show that when using these thresholds, 13 Latin American countries qualify as SEEs: Belize, Bolivia, Dominica, El Salvador, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, St. Lucia, and St. Vincent and the Grenadines.[11]

In the past decade various initiatives have been launched to deal with issues concerning small states.[12] The Barbados Conference of 1994 highlighted the economic and ecological vulnerabilities of small island developing states (SIDS). The final report from the Conference was the *Barbados Programme of Action for the Sustainable Development of Small Island Developing States*, which sets forth specific policies, actions and measures to be taken at the national, regional and international levels in support of the sustainable development of SIDS.

Presently, the United Nations Department of Economic and Social Affairs is monitoring progress in the implementation of the Barbados Programme of Action in 41 SIDS. Furthermore, various empirical studies have been completed to analyze the idiosyncrasies of small and mainly *micro* states (population below 1 million).[13]

[10] The *window of opportunity* for reforming unfunded pension systems incurring in relatively low transition costs derives from the small size of the implicit debt. This may reflect the fact that there are fewer workers to compensate for past contributions. Factors that contribute to diminishing pension liabilities, thus the costs of reform, are: a high proportion of young and working-age population with respect to the more elderly workers or benefit recipients, who have contributed throughout their lifetime; limited coverage of the pension system; relative immaturity of the system. For more details on transition cost financing see Queisser (1998).

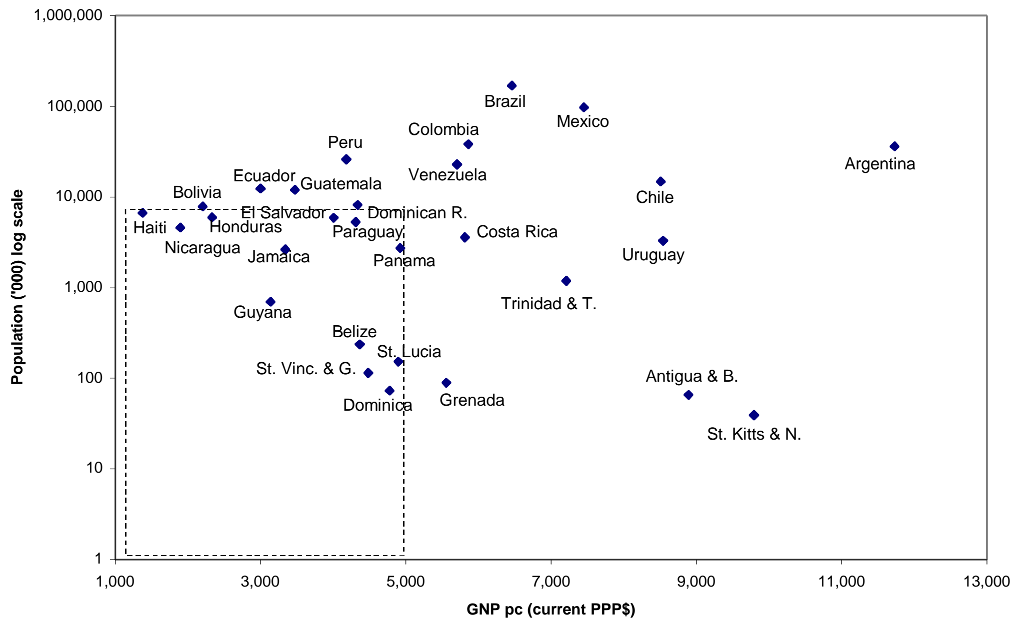
[11] Although countries like Trinidad and Tobago, the Bahamas, or Barbados are small in terms of population, they have to be excluded from our group of SEEs because their per capita GDP is above US$8,000.

[12] Major institutions involved in this effort are the World Bank, the United Nations, and the OECD.

[13] For a review see Easterly and Kray (2001).

Figure 1. Population and GNP per capita

Latin America and the Caribbean, 1998



The Commonwealth Secretariat/World Bank Joint Task Force on Small States notes that, besides being small and with low average income levels, key features of small states are:[14]

- *Remoteness and Isolation*. Many small emerging economies are islands, land-locked nations or are far from major markets, driving up transport costs.

- *Openness*. Small economies generally strive to have intense contacts with their neighbors and the rest of the world. One manifestation is substantial international labor mobility.

- *Susceptibility to Natural Disasters and Environmental Change*. Most small economies are located in areas that are frequently hit by natural disasters (e.g. hurricanes, droughts, and volcanic eruptions).

- *Limited Product Diversification*. Due to the limited size of their domestic markets, small emerging economies tend to limit export production to a few goods or services.

- *Poverty*. Typically, smaller emerging states tend to have particularly high poverty and inequality levels.

- *Limited Public and Private Sector Capacity*. While this is a problem common to most emerging economies, it appears to be more serious in smaller ones. Low human capital endowment and its uneven distribution are a critical factor.

[14] The characteristics listed in the report by the Commonwealth Secretariat/World Bank Joint Task Force on Small States (April, 2000) refer to countries with populations below 1.5 million. However, it is likely that most of these features still apply in countries that have slightly larger populations (e.g. 4 million).

Table 3. Small Emerging Economies in Latin America and the Caribbean (1998)

	1998 GNP pc (PPP)	Total Pop. ('000s)	SEE	GDS/GDP	Trade/GDP	Unempl.	Agriculture/ GDP
Antigua & Barbuda	8,890	65		24.1	157.7		4
Argentina	11,728	36,096		17.4	23.3	16.3	6
Barbados	11,200	272		16.8	130.4		
Belize	4,367	236	x	18.9	101.9	13.8	19
Bolivia	2,205	7,849	x	10.8	48.6	4.2	15
Brazil	6,460	169,306		18.6	17.5	6.9	8
Chile	8,507	14,789		25.2	56.4	5.4	7
Colombia	5,861	38,340		13.9	33.5	12.0	13
Costa Rica	5,812	3,583		26.8	99.8	6.0	15
Dominica	4,777	73	x	20.5	115.7		20
Dominican Republic	4,337	8,168		16.9	70.1	16.3	12
Ecuador	3,003	12,391		19.3	61.5	9.8	13
El Salvador	4,008	5,895	x	4.0	58.8	7.9	12
Grenada	5,557	90		17.1	99.3		8
Guatemala	3,474	11,988		7.7	45.5		23
Guyana	3,139	701	x	17.1	203.3		35
Haiti	1,379	6,683	x	-6.9	40.6		30
Honduras	2,338	5,965	x	23.4	97.9	3.8	20
Jamaica	3,344	2,624	x	18.4	111.7	16.0	8
Mexico	7,450	97,245		22.4	64.5	4.0	5
Nicaragua	1,896	4,600	x	1.1	110.5		34
Panama	4,925	2,731	x	23.5	76.9	14.3	8
Paraguay	4,312	5,296	x	16.6	94.4	8.2	25
Peru	4,180	26,049		19.5	28.7	7.4	7
St. Kitts & Nevis	9,790	39		19.6	128.5		5
St. Lucia	4,897	153	x	16.1	133.1	16.3	8
St. Vincent & Grenad.	4,484	114	x	10.7	121.5		11
Trinidad & Tobago	7,208	1,187		7.1	97.7	16.2	2
Uruguay	8,541	3,284		15.3	44.4		8
Venezuela	5,706	22,773		19.6	40.1		5
SEEs LAC Average	3,544	3,301		13.4	101.15	10.55	18.8
Other LAC Average	6,924	26,215		18.1	70.52	10.01	8.8

Note: GDS is Gross Domestic Savings.
Source: World Bank (2000).

Although many of these characteristics are shared by many larger developing countries, the frequency and incidence of these problems is likely to be higher when a country is small, poor, and open to external events.

The five critical areas where obstacles may arise are examined below: the country's demographic structure, its labor market, its economic structure, its financial system, and its political economy.

Demographic Characteristics

In many developing countries, participation in pension systems is skewed toward the youngest sectors of the population. Several studies point out that this may represent a problem for pension coverage, especially in middle-income countries where poverty rates are higher among the young (James, 1997; Whitehouse, 2000).

In SEEs, a set of problems derive from the small size of the population in absolute

terms, and thus of the contributory base. Fewer contributors inevitably limit economies of scale that companies can otherwise benefit from in large markets, where substantial pools of affiliates exist.[15] The system may not be able to generate the necessary economies of scale that reduce administrative costs, which are usually considerably higher in a fully funded system than in a PAYG one (see Packard, 1999). There may be a mutually reinforcing vicious cycle between low participation rates and higher administrative costs.[16]

This occurrence can undermine the efficient functioning of private pension funds, and thus needs to be taken into account when designing pension systems in SEEs.

Labor Market

Owing to high rates of unemployment and underemployment, young and poor workers are often unable to make regular and consistent contributions required to accrue pension rights. In addition, they may be unable to contribute the minimum amount needed to obtain benefits in a defined-contribution system with individual accounts. This shies poorer workers away from participating to official pension plans.

In general, large pockets of labor informality are very common in developing countries. This, coupled with the limited absolute number of contributors noted above for SEEs, may hinder the achievement of a critical mass of contributors necessary for the system's sustainability.

Furthermore, during economic downturns, and/or expansions in larger neighboring countries, SEE workers may easily seek employment abroad.[17] This results in a decrease in the contributors-to-beneficiaries ratio (the system's dependency ratio) as migrants' remittances to the country of origin by-pass the pension system.

One advantage from a fully funded system based on individual accounts is the link it establishes between benefits and contributions. This may be an important incentive to join the system.[18] Finally, the coverage by current systems is largely skewed toward civil service and the military. New systems would need to consolidate and enlarge the contributory base through national participatory campaigns.

Structure of the Economy

The structure of the economy plays an important role in the assessment of the best pension reform. Many emerging economies have low savings rates, high inequality of income, and a high corporate tax rate. There are reasons to believe that in many SEEs these problems are even more serious and difficult to overcome.

Table 3 highlights some of the characteristics of SEEs in Latin American and the Caribbean, defined using a maximum population threshold of 8 million and a maximum

[15] This characteristic typically exists in insurance markets, where the company, by insuring many individuals can take advantage of the *law of large numbers*, where the probability of a substantial loss is minimal given the large number of "events."

[16] Fewer workers that regularly contribute to the system make it harder for the fund managers to lower costs by exploiting economies of scale, in turn, making the opportunity cost of joining the system very high for the poorer workers. See Packard (1999).

[17] Immigrant workers often belong to the most vigorous and hard working portions of the labor force.

[18] For a view that supports this effect, see Feldstein (1998). Orszag et al.(1999) add that the effect of individual accounts on participation rates is more complex, since often additional costs reduce or eliminate the incentive effect.

of $5,000 for GNP per capita (in PPP dollars). Thirteen countries fall under these thresholds. These countries have several characteristics in common that set them apart from the rest of the region.

On average, small emerging economies in the region display lower gross domestic saving (as a percentage of GDP), a ratio of trade flows (imports and exports) to gross domestic product that is 43 percent higher than that of the rest of the region, no large differences in terms of unemployment rate, and over twice as much economic reliance on the agricultural sector.

These characteristics are likely to discourage participation in additional savings mechanisms. Given that the national income is derived from a one major activity that is based on traditional agricultural or extractive industries, these countries suffer from the vagaries of external economic pressures.

Because contributors to the system belong, for the most part, to the same industry, the high correlation among contributors' wages—thus among their contributing power—can weaken the pension system during economic downturns.[19] Moreover, many of the macroeconomic fundamentals tend to be unstable: high fiscal deficit, soaring government debt, high interest rates (reflecting the country risk premium), double-digit inflation rates, and volatile exchange rates.

These factors may discourage the involvement of sound domestic and (especially) foreign asset management companies in the new system, and may reduce the returns yielded by pension funds once they are introduced.

Financial Markets

Critical to the efficiency of a privately managed pension fund pillar within a multi-pillar model—PAYG plus FF—is the existence of a financial market that permits reasonable returns on investments. In many SEEs, if there is a functioning financial market at all, it is usually embryonic, offering few investment opportunities and lacking an adequate legal and regulatory framework.[20]

In particular, small financial markets tend to present the following features (see Bossone and Honohan, 2001, for more details):

- *lumpy*, with frequent links between borrowers and lenders;
- *non-competitive*, due to polarized resources in a few large companies;
- *incomplete*, lacking ancillary financial services, securities markets, etc.; and
- *expensive*, requiring costly regulation and supervision.

Establishing funded pension arrangements is one of the policy options available to policymakers wishing to develop the contractual savings sector (pension funds and life insurance companies) and foster domestic capital markets (see Impavido, Musalem and Vittas, 2001).

[19] For example, if tourism—country X's main source of revenues—is weak, the country will experience macroeconomic difficulties, and the pension system will be negatively affected by the weakened contributory power of most of its participants. In a country with a more diversified productive structure, contributions from workers in stronger sectors can compensate for the temporary shortfall in the contributions of those in weaker sectors.

[20] A comprehensive discussion on the constraints from small financial systems have been discussed in a recent workshop held at the World Bank Private Sector

Table 4. Market Capitalization and Value Traded (1999)

Regional Averages

	Mcap (% GDP)	Valuetr (% GDP)
Central Europe, Central Asia	11.2	3.8
East Asia and Pacific	133.1	77.8
Latin America & the Caribbean	22.6	2.5
Middle East & North Africa	39.1	10.5
OECD (high-income countries)	114.7	81.4
South Asia	16.3	8.2
Sub-Saharan Africa	39.0	7.8

Latin America and the Caribbean

	Mcap (% GDP)	Valuetr (% GDP)
Argentina	29.6	2.7
Bolivia	1.4	0.0
Brazil	30.3	11.6
Chile	101.1	10.2
Colombia	13.4	0.8
Costa Rica	15.2	1.4
Dominican Republic	0.8	
Ecuador	2.2	0.1
El Salvador	17.2	0.4
Guatemala	1.2	0.0
Honduras	8.7	
Jamaica	36.7	0.6
Mexico	31.8	7.5
Panama	37.5	0.5
Paraguay	5.5	0.2
Peru	25.8	4.4
Trinidad and Tobago	63.6	1.4
Uruguay	0.8	0.0
Venezuela	7.3	0.8

Source: The World Bank (2001)

Table 4 shows two common indicators for capital market maturity.[21] The first column shows market capitalization (as a percentage of GDP, a proxy for overall stock market size). The capitalization of capital markets is often positively correlated with the ability to mobilize capital and diversify risk. The second column captures the value traded (as a percentage of GDP), or market liquidity. This number can be interpreted as the capacity to easily trade securities.

In developing regions both figures tend to be considerably below average as compared to the more developed areas of the world. Not surprisingly, SEEs have the shallowest markets in the region, especially in terms of asset liquidity. This suggests that introducing funded pension plans in these countries would require specific mechanisms to compensate for the limited size and lack of liquidity of such sectors. Another feature that stands out is the extraordinary degree of market depth achieved in Chile, where the levels of market capitalization are comparable to those in many OECD countries. The introduction of a mandatory funded pension

[21] Some of the countries in Table 3 were omitted from Table 4 due to lack of data.

plan is a likely contributor to financial maturity in this Latin American country.

While capital account constraints limit the possibility of securing larger returns and portfolio diversification from investment in securities traded in foreign markets, tight regulations and supervision may be beneficial in underdeveloped capital markets given the limited financial culture and the high-risk environment.[22] Low returns may also reduce the incentives to contribute to a pension fund given the higher returns available from alternative investments.

As a consequence investors often look overseas for alternative investment opportunities. Given a specified amount of diversification of the funds' portfolio, these factors could be beneficial with a privately managed mandatory program because the risk element would be spread among various assets, including those from overseas.

Political Economy

The political economy of many small emerging countries also influences the structure, commitment to, and implementation of reforms. Though many social security funds in small economies have acquired surpluses, a large contingent liability exists for the unfunded civil service element. Reform requires the government to recognize this liability in a transition to a funded system. This has proven to be a disincentive for implementing reform.[23]

The frequent use of social security funds to finance the government and state enterprises is mainly driven by politicians' short-run exigencies rather than long-run benefits. These produce inertia when the time to implement reform comes. Malfeasance resulting from a history of distortion and political involvement in the management of contributions and provision of benefits are difficult to overcome, even after introducing private fund managers. When the political and economic spheres are shared among few figures, as in many SEEs, these distortions are exacerbated.

An effective argument was posited in the past by Peter Diamond (1997), when he indicated that moving away from a public PAYG to a private FF system would reduce *political* risk related to episodes of mismanagement and corruption. A private FF system based on individual accounts would generate some degree of *investment* risk linked to financial performance and quality of regulatory structures. The ultimate challenge is to find out which risk is smaller and more manageable.[24]

Finally, given that the success of the a newly introduced pension system would largely depend upon the effective regulation and enforcement of market rules, the weak and inefficient law enforcement and judicial systems that characterize many SEEs represent serious constraints.

A separate issue that will only be mentioned here is the political economy of pension *reform*. Brooks and James (1999) examine various scenarios and reach mixed conclusions regarding the conditions for a favor-

[22] Vittas (1996) distinguishes between tight or *draconian* regulatory frameworks needed in developing countries when first introducing a funded system, and *relaxed* ones suitable where mature financial and capital markets already exist. Clearly, as the market *deepens* there should be a gradual relaxation of the rules.

[23] Some Central American countries have approached the issue of pension reform, and abandoned it—at least temporarily—also due to the large implicit pension debt. See Dowers et al. (2001).

[24] According to Diamond, the political risk is large and inevitable in public PAYG systems. Orszag et al. (1999) openly disagree with Diamond on this.

able political environment necessary for a shift from public PAYG to private FF. Given the characteristics highlighted above, we can conclude that some SEEs may have difficulty in reaching such consensus, unless multiple parties are involved in the process (i.e. employers organizations, civil society institutions, labor organizations and unions).

III. A Policy Approach for Pension Reform in Small Emerging Economies

Generally, a pension system can be analyzed by observing four major features: its institutional structure, its systemic mechanisms, its legal and political framework, and all other aspects. The first column in Box 1 describes the government-run system typical of many Latin American countries, observed from these four perspectives. The other two columns display the major characteristics of the Latin American second-generation reform model and the proposed model for small countries—the latter a variant of the former.

According to Glaessner and Valdés-Prieto (1998), among others, the systemic aspects of the second generation pension system are generally suitable for small emerging countries. A system based on individual accounts could enhance the savings of its affiliates and foster saving at the national level. Moreover, the incentive structure linked to a defined contribution system is likely to facilitate the flow of sporadic contributions from affiliates that are working abroad on a temporary basis.[25] However, important differences exist in the institutional, legal, political, and scale dimensions.

In line with the discussion above, some elements of the second generation Latin American pension model are not easily applicable to small emerging economies and would require modifications to be more directly relevant. In particular, we identify four main areas: approach to collection of contributions, investment management criteria, regulatory framework, and opportunity of integration at the regional level.

The *approach to collection* through centralized institutions, and limited bidding that would curtail fees and increase the scale in the provision of pension services.

Investment management centered on foreign portfolio diversification that also leaves space for infrastructure-based investment are critical.

The *regulatory framework* would be designed to maximize efficiency and to make up for the lack of expertise and financial market experience at the domestic level. This may be unified with pre-existing supervisory bodies to optimize use of limited human resources and expertise.

Regional integration of elements of the pension system in order to gain economies of scale from a centralized system. This would expand considerably the size of the market reducing the costs that derive from small contributory bases, small populations, volatility, and shallow financial markets.

Based on these four areas we construct the policy discussion over four principles: centralized collection, new investment management, new regulatory framework and regional system.

[25] It is worth noting that in SEEs, while the favorable demographic circumstances help to keep the old unfunded systems afloat, the projected structure of the population will represent a problem similar to that faced today by countries with older populations. This highlights the importance of acting now and changing the system for a more efficient one, at a lower cost given the window of opportunity (See note 11).

Box 1. Three Pension Models

Area	Traditional PAYG model	Second Generation LA model	SEE Proposed Model
Institutional	A government social security agency **manages** the system, and **collects** contributions from affiliates. The ministry in charge **regulates** the system. Some responsibilities may be decentralized to local authorities.	New private pension fund administrators (AFP) **collect** (through employers) and **manage** contributions. The independent Supervisory Authority **regulates** AFPs competitive market.	Initially the pension fund market is **managed** by two AFPs chosen through competitive bidding process, **supervised** by the Independent Supervisory Authority. Competition is enhanced later. **Collection** is centralized (tax premises).
Systemic	Entire public system is Unfunded PAYG, defined benefit formula, usually fragmented by occupational groups. Some partially funded voluntary founds may exist. Marginal parametric reforms may be introduced.	One pillar is Fully Funded, defined contribution, parallel or substitute of the public PAYG pillar. The government normally provides safety net through minimum pension plan. Complementary voluntary funded plans may be also established.	(See Second Generation in Latin America)
Legal / political	Introduced from the absence of a previous system, broad political consensus (no pensions to be paid at first). Employers finance the system by collecting payroll taxes from workers.	Difficulties to gather consensus due to costs of transition. Individual pension accounts for all employees are established. Controversies on rules on transfers between fund managers.	Concerted design and implementation involving business, public, and social actors. Individual pension accounts for all employees. AFPs portfolio diversification.
Other (Scope)	National	National	Regional coordination of systems; unique Supervisory Authority

Centralized Collection

Many countries in Latin America that have implemented the multi-pillar approach establish Pension Fund Administrators (AFP) that compete for the management of contributions from employees. In small countries, however, limited domestic investment opportunities curtail the efficiency gains derived from portfolio performance.

Alternatively, greater potential efficiency gains are possible when these two points are considered:

- Centralization of collection of pension assets, tied to another collection system such as taxes.
- Bidding or auction process for assigning licenses to private pension fund managers.

A system of *centralized collection* would generate considerable economies of scale by aggregating each individual worker's contributions into large lumps of assets, managed by those investors that are chosen from a bidding process. A central institution (e.g. a tax collection agency) would gather the contributions from employers, simplifying the entire process and reducing operational overlaps. In addition, there would be no particular need to develop marketing strategies aimed at attracting pension contributors to a particular AFP. This system would reduce the large administrative costs that AFPs have to face both in the start-up and

Table 5. Average AFP Administrative Fees in Latin America, 1999
Select Latin American countries

	year of reform	Net Fee*	Population (1998, '000s)
Chile	1981	1.84	14,789
Peru	1993	2.36	26,049
Colombia	1994	1.64	38,340
Argentina	1994	2.30	36,096
Uruguay	1996	2.06	3,284
Mexico	1997	1.92	97,245
Bolivia	1997	0.60	7,849
El Salvador	1998	2.13	5,895

* Old-age pension fee, as a percentage of wage
Sources: James et al. (2001), World Bank (2001).

the operational phases. Furthermore, the *centralization of collection* and investment management does not negate having multiple private portfolio managers.

Table 5 indicates that throughout the region, pension fund management companies charge an average old-age coverage commission of 1.85 percent of the affiliates' salary and this amount varies largely across systems. This charge is certainly felt more by poorer contributors, and may discourage them from contributing to the program. The table also indicates that Bolivia is the most cost efficient system.

The framework being proposed here would hinge on the investment of assets through the institutional market with constrained choice among investment companies. Selected money managers (both local and international) could be invited to submit bids to manage particular pension assets. The auction can either select a predetermined number of best performers, or any number of companies that perform above a certain minimum level. As mentioned, in this scenario the portfolio manager would not maintain an infrastructure for collecting funds from pension contributors. Under the proposed system, the portfolio manager would bid for a long-term concession (not less than 5 years) to manage either some or all pension assets.[26]

This system is particularly suitable in SEEs. In an alternative scenario of free entry and competition, the small size of these economies would probably leave space for the AFPs to increase their fees. Bolivia and Sweden have utilized this structure. They are good examples of limited competitive bidding with efficiency gains from centralized collection systems in terms of lower administrative costs and fees (See Box 2 on Bolivia).[27] A condition for the success of this method is the transparency of the entire process, avoiding political interference and collusion.

[26] This solution is also advocated for Central American countries by Cifuentes and Larraín (1999).
[27] James et al. (2001) advocate this system for countries with small financial sectors. They also indicate that the U.S. Federal Thrift Saving Plan as a successful example of centralized bidding and collection.

Box 2. Pension Reform in Bolivia

In 1996 the Bolivian government approved a reform of its pension system that was implemented in May of the following year. The system to be introduced was very similar to the Chilean one. The reform eliminated the old publicly managed pay-as-you-go pillar and introduced fully funded individual defined contribution accounts. All contributors to the old system—with no exceptions—were automatically transferred to the new one, while those already retired under the old system continued to receive their pensions from that system.

The new system was based on individual capitalization accounts managed by pension fund administrators. Originally, to avoid the high marketing costs and commissions experienced in other countries, only two pension fund managers were allowed to control the market, sharing affiliates in the four major cities. Only in 2002 will the market be open to new entrants.

The unique feature of the Bolivian pension reform program was its link to the privatization of state-owned enterprises. The overall reform is known as the *Capitalización*. Half of the capital of the six largest state-owned enterprises was reassigned to private investors. The rest went from the government directly to the newly established pension system. The shares—the Collective Capitalization Fund—are managed by the new pension funds, that also manage flows from new contributions. The dividends from this Fund are used to finance the *Bonosol* program. This plan guarantees a universal old age income support equivalent to about 26 percent of the national average income to all Bolivians 65 and older. The annuity generated by this system substitutes the typical public structure that provides minimum pension guarantees. The two pension fund managers are Spanish-led consortia.

New Investment Management

Listed below are four crucial measures to be considered when introducing funded pension systems in SEEs,

- Adoption of modern portfolio investment management techniques.
- Focus on diversification of portfolios to include foreign assets.
- Compatibility with and support for capital market development strategies.
- Exploration of virtual links between pension fund portfolios and infrastructure finance.

Investment strategy issues cannot be addressed without considering which modern portfolio management techniques are appropriate for small economies with constrained capital and limited investment opportunities. As observed when defining the structure of the economy of SEEs, capital account inflexibility is one of the factors that keeps small emerging economies from allowing pension asset managers to have a higher ratio of international investment in their portfolios. However, modern investment management techniques, such as asset or stock index swaps, inflation index bonds and securitization, can provide alternative investment strategies for countries with capital constraints.[28]

After reaching a minimum critical size, the financial system can facilitate the survival of pension fund managers by providing them with long term capital investment opportunities. At the same time, pension funds could prove to be crucial clearinghouses for the flow of domestic and foreign investment,

[28] The shift toward funded pension systems encourages greater domestic partaking in external bond issues through active participation of banks and pension funds. Argentina, Lebanon and Kazakhstan are major examples. See Chapter III in Mathieson and Schinasi (2000).

allowing the development of capital markets. Tax incentives for the generation of equity may have a role as a means for fostering the growth of a competitive capital market. Dual income tax systems that levy lower taxes on profits gained using resources collected through the issuing of securities should be considered.

Pension Fund Investment in Infrastructure Development

It is worth noting the potential virtuous links between investment in infrastructure projects and pension funds (see Vives, 1999). In particular the former can be greatly beneficial for the development of the latter. This topic is even more relevant when dealing with small emerging economies that lack the capital and financial assets needed for the development of infrastructure investment.

As discussed, when introducing a system based on pre-funded pension plans in an economy with embryonic financial markets, investment regulations are likely to be strictly focused on *safe* assets. In these early stages, infrastructure projects are typically excluded from the investment options available by law for pension funds. Behind these provisions are the higher risk and degree of uncertainty characteristic of such projects, coupled with the lower liquidity of their assets. However, after the system reaches a minimum depth, investing in infrastructure assets can prove to be a favorable alternative to other investments (see Vives, 1999).

Pension fund investment in infrastructure may also be strictly supply-driven. In other words, instead of waiting for regulations to change, pension funds may be enticed to invest in infrastructure projects without particular changes in the investment rules (long run). Instead, new and specially designed infrastructure finance instruments could provide more liquidity and lower risk.[29]

The benefits to pension funds from investing in infrastructure result from: a) higher than average returns compared to pension fund portfolios; b) increased diversification with respect to the portfolios of competing pension funds; and c) indirect benefits from the impact of infrastructure finance on the economy as a whole (i.e. job creation and economic growth). These investments have two serious disadvantages. First, the higher returns are achieved in the long run (while pension funds generally operate in long-term investment, competition increases the need for shorter-term operations). Second, the higher risk may lead affiliates to switch to other pension fund managers. Coupling infrastructure finance with the described centralized collection and bidding would reduce these drawbacks.

New Regulatory Framework

A key characteristic of recent approaches to pension reform is the enhancement of the regulatory framework. This analysis focuses on the structure of the supervisory body, and on the degree of regulatory constraints imposed by such entity.

Regulatory Structure

In most instances pension reform implies the creation of an independent pension supervisory authority (PSA) that oversees pension fund companies and employers and sets criteria for participation, contribution levels, conflicts of interests, rules concerning in-

[29] For example, investment in many carefully selected projects, with some form of credit enhancement (e.g. multilateral participation, credit guarantees) over several sectors, covering more than one country, mostly in the operational stage of the project. See Vives (1999).

vestments, switching across funds, funds' corporate governance, and related matters.

For many countries, social security reform is only one element of a broader development strategy, which occurs alongside the evolution of the capital market and the modernization of the insurance and banking sectors. Though these countries lack the institutional and technical capacity, they are often tempted to develop independent and decentralized entities for regulating the different segments of the financial market.

There are two problems with this approach. First, the countries are typically strapped for resources and thus cannot staff the independent supervisory entities with knowledgeable and well-trained individuals who have the adequate resources. The second problem pertains to the lack of a consolidated regulatory framework to mirror the conglomeration that exists in the financial sector. Generally, the primary players in the financial sector are not divided by segment, and a few companies dominate the financial market. A centralized and consolidated structure provides regulators with a holistic view of the activities of these financial conglomerates.

Finally, there are concerns about the political instability and bureaucratic murkiness that exist in some SEEs.[30] These may hamper the creation and effective operation of an autonomous, transparent, and efficient regulatory body. It is thus of paramount importance that appropriate mechanisms are introduced in order for the regulatory body to operate autonomously and transparently.
Among the numerous alternatives for the structure of the PSA we favor an integrated approach, in line with Demaestri and Guerrero (2001).[31] According to this arrangement, the supervision and the regulation of the pension funds, insurance, and financial markets is assigned to a single supervisory authority (see Vittas, 1996; and Shah, 1996). This approach is desirable particularly in small developing countries due to the economies of scale and scope generated by the single authority, the avoidance of overlapping operations and activities, and the optimal use of the limited human capital and financial expertise available in these countries.

Regulatory Criteria

Key issues that arise when designing regulatory investment criteria for a fully funded privately managed pension system or pillar are both prudential and direct. *Prudential* requirements are financial solvency, avoidance of conflicts of interest, custodial safeguards for managed assets, information disclosure, fiduciary responsibility, account keeping, net asset value calculations, and so forth. The *direct* regulatory elements are more specific to a particular system (see Shah, 1996). The major one is the exclusion of certain classes of financial assets (typically equities) when the system is still immature. This restriction should be limited to the initial period, and only where financial markets are substantially shallow (see Vittas, 1998).

The main reasons for excluding equities from pension fund investments are illiquidity problems, disclosure and corporate governance standards, and accounting practices. Since the government mandates contributors to *save* for their retirement, it is important that the resources are deposited in a safe in-

[30] This applies easily also to medium-sized emerging economies.

[31] Demaestri and Guerrero (2001) discuss the pros and cons of the specialized and integrated approaches to financial and regulatory supervision.

vestment. In order to guarantee this *safety*, at least until the rules of the game are sufficiently transparent, the government has the responsibility to set the rules for selecting the best and most sophisticated investment managers. The pension supervisory authority covers this function.

Some analysts suggest that the ideal approach to regulation for a small country with an underdeveloped financial system is a *draconian* one, where strict regulations apply to the management of pension funds and of financial assets in general.[32] This regulatory approach is justified when participation in the system is mandatory, and when affiliates and fund managers have limited experience and are unfamiliar with the new rules. Typically, under a framework of very strict supervision, investment by pension funds in overseas assets is limited to a very small percentage of the fund's overall portfolio. As the financial system matures, these restrictions are gradually relaxed.[33]

A dissenting view focuses on the large country risk that is generated when all (or most) assets are invested domestically. International diversification of pension fund assets is advisable since it reduces the dependence of pension funds (and, ultimately, pensioners' assets) on a single capital market. This approach has been adopted in the recent reform enacted in Nicaragua, where AFPs are allowed to invest a maximum of 30 percent of their assets internationally (see Mitchell, 1997).[34] Economies that are already highly dollarized may benefit more from a system that allows for overseas investment options in dollar-denominated assets.[35]

Finally, the global diversification of pension fund investments promotes the integration of stock markets. This beneficial outcome is likely to outweigh the disadvantages that come from the loss of savings to finance local investment (see Reisen and Williamson, 1997). This conclusion comes from the assumption (backed by empirical evidence) that once the country reaches the point of appearing sufficiently reassuring to foreign investors the net savings effect may be favorable to the country.

Regional System

Small emerging economies should consider adopting a regional system where a centralized regulatory or administrative mechanism would reduce costs through economies of scale, which are typically very low in SEEs.[36] In this structure each country should adopt its own pension parameters to fit its fiscal and demographic realities. Each country could also design and manage its own tax collection system. The structure of the national pension systems would be common across countries and coordinated by an *ad hoc* regional body.

Member countries could come together to form a regional network to solicit international bidders for the management of a com-

[32] For a comprehensive analysis see Vittas (1996). A view more in favor of relaxed regulation of private pension funds can be found in Shah (1996) and Glaessner and Valdés-Prieto (1998).
[33] For a recent debate over the merits of restrictions in pension funds investments in equities and foreign securities see a favorable argument by Srinivas and Yermo (1999), and one against such restrictions by Valdés-Prieto (1999).
[34] Driessen and Laeven (2001) provide empirical proof of the benefits of international portfolio diversification in SEEs.
[35] This applies to most Central American and Caribbean countries, where deposits and other financial and retail transactions occur in US dollars.
[36] Cifuentes and Larraín (1998) propose a regional regulatory base for Central American countries.

bined portfolio. Individuals in each country would incur the same administrative fee.

As described in the previous section, a few pension fund managers would be selected through an intra-regional or international bidding process. The companies that collect contributions in the regional system would be able to do so in any country in the region, generating the benefits from economies of scale that are impossible to realize in a single country. As in the Bolivian case (see Box 2), after a few years a new bidding process could take place, open to more competitors.

The supra-structure supervisory entity would provide regional oversight to promote efficiency and independence, and reduce the political interference in pension regulation

Box 3. Implications of a Regional Pension Structure

Issue	Advantages	Disadvantages
Market Size	Economies of scale are exploited due to the larger market size (both in the supply and in the demand for contributions) compensating for the small size of SEEs.	Possible cross-border heterogeneity of the regional pension fund market increases information asymmetries and transaction costs.
Regulation	A unique regional entity would be convenient in terms of lower administrative costs and fewer overlaps in the tasks.	Operational difficulties given possible political instability within member countries.
Diversification	A regional system allows for the pension funds' diversified portfolio, facilitating intra-regional asset allocations through parallel arrangements in the capital and financial sector.	Assets diversified *within* the region may cause symmetrical exposure to international financial crises. Diversification should involve non-member countries as well.
Human Capital	The scarce domestic human capital resources necessary for coordinating and regulating the systems are pooled into one entity, increasing efficiency.	Risk of losing sight of domestic idiosyncrasies.
Coverage	Given the high intra-regional labor mobility, a commonly coordinated system facilitates provision and enforcement of cross-border pension rights and is an incentive for uninterrupted affiliation.	Lack of national identification with system. Prevented if only coordination and supervision are regionalized, maintaining pension provision at the domestic level.

that is typical in politically volatile SEEs. Likely results are enhanced efficiency, quality of supervision, and stability of the regulatory institution. Regional cooperation among small neighboring countries should be considered on both the demand side (contributors) and the supply side (pension funds and supervisory agency).

In formulating the regional oversight entity, it would be necessary to create a centralized commission to develop policy and a framework for the operations of the regional pension regulator. The commission could be made up of representatives from the central banks and governments of each participating country, and coordinated by some international agency or organization.

In many cases, it may be politically difficult to introduced or guarantee a regional agreement in the medium and long term. However, there are reasons to expect that harmonization in other sectors (i.e. trade, drug enforcement), which is already being pursued by groups of countries, could provide an appropriate platform for the creation of the regional pension architecture.

Clearly, if the countries involved in a regional pension initiative already share membership in multilateral bodies and present low cross-border transaction costs (e.g. dollarized economies) the model being proposed has a much higher probability of success.

Hinging on existing regional agreements may also be a way to select groups of countries that have demonstrated a willingness to engage in regional accords.

Moreover, this would help to single out countries that have demonstrated political tolerance within and across their borders, thus increasing the likelihood of a successful accord on pension harmonization. The participation of international organizations and multilateral bodies in the establishment of such regional constituencies could foster cooperation and mutual guarantees.

Box 3 presents a summary of the major issues to be considered in the introduction of regional elements in pension systems, along with some of the implications.

IV. Lessons Learned and Conclusion

A few conclusions can be drawn from some cases and can be extended to countries that are considering reforming their pension system. Recent pension reform in Nicaragua centered on the PAYG pillar (to be phased out) and introduced a fully funded pillar with privately managed individual savings accounts (for details see Box 4).

One of the most significant tests for the applicability of a pure Chilean-type pension model in a small emerging economy is the case of El Salvador. In 1996, the congress enacted a comprehensive reform of the public PAYG system, phasing it out in favor of a private fully funded system. Only one year later, El Salvador experienced a severe financial crisis ignited by allegations of fraud surrounding the formation of the new system.

Due to the loss of confidence by international investors, this episode delayed the introduction of the system. Today, the Salvadoran pension system appears in better shape than it was at the time of its introduction, although the bad start may have taken a toll. The Salvadoran example illustrates the importance of the prerequisites of transparency and financial stability for the sound and successful introduction of a privately managed funded pension plan.

The Bolivian pension reform of 1997 was mentioned throughout our analysis as an example of successful pension policy innovation, where some aspects of the orthodox Chilean model where maintained, while new ones where introduced in line with the needs of the country. In particular, among the latter, the new competition rules for the pension fund management companies have proven effective in containing fees and generating benefits from scale economies, hard to obtain in a small economy such as Bolivia.

Box 4. Pension Reform in Nicaragua

In March of 2001 the Nicaraguan parliament approved a comprehensive reform of the country's pension system that entailed the introduction of a new fully funded and privately managed system on top of the defined-benefit pay-as-you-go existing program, that will eventually be phased out. The reform is largely driven by concerns regarding the current and projected sustainability of the public system, financed largely by government debt and subsidies. Low and unequal coverage considerations also affected the decision.

Workers who are less than 43 years of age have to join the new system, while those older will remain in the current system. The public pillar will go through some parametric changes (e.g. retirement age, pension minimum period, and prerequisites for minimum pension guaranteed).

As in the general Latin American model, the private pillar will be financed through employees' contributions, deposited in specialized pension fund management companies (AFP). A pension supervisory agency will be established in order to monitor the AFP's profitability, check their portfolio composition and that they meet the minimum standards set by the system.

As is the case for reform processes in other areas, consultations with other sectors of society when designing a pension system may facilitate the transition to a new one. Labor unions, particularly powerful in some countries, ought to be included in the decision-making process, as Uruguay and Venezuela did before introducing new pension systems (see Box 5 on Uruguay). It may not be coincidental that these two pension systems are probably the ones that have departed the most from the pure Chilean model.

This paper is an attempt to draw attention to the particular characteristics of small emerging economies, and how these imply a revised approach to pension reform. While the old age crisis may be an issue in the future, small emerging economies present a set of constraints generated by their size and economic situation. Thus far, these countries have not been treated separately in the discussion on pension reform.

As a general conclusion, the challenge faced by policymakers when introducing private pension funds in SEEs derives largely from weak contributory bases (due to limited size, poverty, and informality) and from the shallow financial markets.

We argue that small emerging economies have a limited ability to reap the intended gains of recent alternatives for social secu-

Box 5. Pension Reform in Uruguay

A new multi-pillar pension system was introduced in Uruguay in 1996. Like the one introduced two years earlier in neighboring Argentina, the Uruguayan pension system is a combination of a publicly managed pay-as-you-go pillar and a private fully funded one. A full transition to a privately managed funded system was also considered as an option, but labor groups opposed such changes.

The second pillar is modeled after the Chilean pension fund pillar of 1981. Contributions to the first pillar are mandatory for all workers. However, the rules for joining the second pillar vary. At the time of the reform only workers below 40 years of age had to join the new system. Moreover, the second pillar is mandatory for all workers whose earnings are above a threshold of 5,000 pesos (approximately $850), periodically adjusted for inflation, and optional for everyone else. More specifically:

- Workers that earn less than the threshold can choose to join the new system. If they do, their contribution will be equally split between the two pillars.
- Workers who earn more than the threshold contribute to the first pillar on the first 5,000 pesos of their earnings while the rest is used towards the private pillar.

As in the Argentine system, contributions to the private pillar come exclusively form employees, while contributions from both employees and employers finance the first pillar.

The structural and operational characteristics of the newly established pension funds in the second pillar follow closely the Chilean model. One important difference is the supervisory body. Private pension fund management companies are licensed and supervised by the Central Bank of Uruguay (as opposed to an *ad hoc* independent supervisory agency). Affiliates are allowed to switch funds twice a year, making the system more competitive.

rity reform. In particular, policymakers should consider the following principles:

Principle 1: Centralized Collection. A new approach to collection and investment management through centralized institutions, and limited bidding. This would reduce fees and increase scale economies.

Principle 2: Assets Diversification. A set of criteria that allow pension fund managers to allocate their portfolio using foreign assets through modern portfolio investment management techniques and portfolio diversification, in part hinging on infrastructure finance.

Principle 3: Integral Regulation. A regulatory structure based on a pension supervisory authority unified with pre-existing supervisory bodies to optimize use of limited human resources and expertise.

Principle 4: Regional Integration. Focus on a regional superstructure where elements of the pension systems of several countries are integrated, easing controls, harmonizing collection and supervision, increasing efficiency, and facilitating the cross-border provision of services for affiliates, as well as the portability of acquired rights.

Small emerging countries usually have young pension systems, with relatively few commitments and young populations. If the existing pension system is not sustainable in the long term, the opportunity to switch to a new, more efficient and sustainable pension structure should be seized now, without waiting for the hard times to come. Unfortunately, the apparent lack of urgency reduces the political leverage of reformers.

Transition costs linked to pension reforms in SEEs deserve closer examination as most of these countries may be able to realize certain advantages if they reform sooner rather than later, because the implicit pension debt is relatively low and the burden of reforming the system is still contained.

Given the relevance of the topic, more research should be done on specific instances of pension reform in small emerging countries, their successes, and the lessons to be learned.

Bibliography

Bossone, Biagio, Patrick Honohan, and Millard Long. 2001. Policy for Small Financial Systems. Financial Sector Discussion Paper No. 6. The World Bank.

Brooks, Sarah and Estelle James. 1999. The Political Economy of Structural Pension Reform. World Bank Research Conference on Old Age Security. Washington, D.C.

Cifuentes, Rodrigo, and Felipe Larraín. 1999. Pension Reform in Central America: A Proposal. Development Discussion Paper No. 676. HIID. February.

Corsetti, Giancarlo, and Klaus Schmidt-Hebbel. 1997. Pension Reform and Growth. In Valdes-Prieto. (1997). *The Economics of Pensions.* Cambridge: Cambridge University Press.

Demaestri, Edgardo, and Federico Guerrero. 2001. The Rationale for Integrating Financial Regulation and Supervision in Latin America and The Caribbean. Mimeo. IDB.

Diamond, Peter. 1997. Insulation of Pensions From Political Risk. In Valdés-Prieto, Salvador (ed.). Op. cit.

Dowers, Kenroy, Stefano Fassina, and Stefano Pettinato. 2001. Pension Systems in Guatemala, Guyana, and Honduras: Evolution, Status, and Possibilities for Reform. Inter-American Development Bank. Mimeo.

Driessen, Joost, and Luc Laeven. 2001. The Value of International Portfolio Diversification Across the World. Paper presented at the workshop "Small Financial Systems: Many Small Problems or a BIG One?" The World Bank. Washington, DC. October 10.

Easterly, William, and Aart Kray. Small States, Small Problems? Paper presented at the workshop "Small Financial Systems: Many Small Problems or a BIG One?" The World Bank. Washington, DC. October 10.

ECLAC. 1998. *El Pacto Fiscal.* Santiago, Chile: United Nations.

Feldstein, Martin. 1998. Introduction. In Martin Feldstein (ed.) *Privatizing Social Security*. Chicago: University of Chicago Press.

Gillion, Colin, John Turner, Clive Bailey, and Dennis Latulippe. 2000. *Social Security Pensions: Development and Reform.* Geneva: International Labour Office.

Glaessner, Thomas C. and Salvador Valdés-Prieto. 1998. Pension Reform in Small Developing Countries. World Bank Policy Research Working Papers #1983. Washington, D.C.

Impavido, Gregorio, Alberto R. Musalem, and Fimitri Vittas. 2001. Contractual Saving in Countries with Small Financial Systems. Paper presented at the workshop "Small Financial Systems: Many Small Problems or a BIG One?" The World Bank. Washington, DC. October 10

James, Estelle. 1997. Public Pension Plans in International Perspective: Problems, Reforms, and Research Issues. In Valdés-Prieto. 1997. Op. Cit.

James, Estelle. 1998. New Models for Old-Age Security: Experience, Evidence, and Unanswered Questions. *World Bank Research Observer* (August 13).

James, Estelle. 1999. Reforming Social Security Around the World: Common Solutions, Contrasting Solutions. Presented at the Swiss Statistical Bureau Conference on Social Security. (November).

James, Estelle, James Smalhout, and Dimitri Vittas. 2001. Administrative Costs and the Organization of Individual Account Systems: A Comparative Perspective. In Robert Holzman and Joe Stiglitz, eds. 2001. *New Ideas About Old Age Security*. Washington, D.C.: The World Bank.

Mathieson, Donald J., and Garry J. Schinasi. 2000. International Capital Markets: Developments, Prospects, and Key Policy Issues. *World Economic and Financial Surveys*. Washington, D.C.: International Monetary Fund. (September).

Mitchell, Olivia S. 1997. Building an Environment for Pension Reform in Developing Countries. Human Development Network. Social Protection Group. The World Bank. Washington, D.C.

Orszag, Michael J. Peter R. Orszag, Dennis J. Snower and Joseph E. Stiglitz. 1999. The Impact of Individual Accounts: Piecemeal vs. Comprehensive Approaches. Presented at the Annual Bank Conference on Development Economics. The World Bank. Washington, D.C. 29 April.

Orszag, Michael J., and Joseph Stiglitz. 1999. Rethinking Pension Reform: Ten Myths About Social Security Systems. Presented at the conference on *New Ideas About Old Age Security*. The World Bank, Washington, D.C. September 14-15.

Packard, Truman G. 1999. Extending Coverage of Multi-Pillar Pensions Systems: Hypotheses and Implications. Background paper from the WBI/HIID Workshop on Pension Systems in Crisis: Challenges and Options for Reform. Washington, D.C. June 14-25.

Palacios, Robert, and Montserrat Pallarés-Miralles. 2000. International Patterns of Pension Provision. *Social Protection Discussion Paper* No. 9. (April).

Queisser, Monika. 2000. *The Second-Generation Pension Reforms in Latin America*. Development Centre Studies. Paris: OECD.

Reisen, Helmut, and John Williamson. 1997. Pension Funds, Capital Controls, and Macroeconomic Stability. In Valdés-Prieto. 1997. Op. cit.

Shah, Hemant. 1996. Towards Better Regulation of Private Pension Funds. Paper prepared for the EDI conference on *Pension Systems: From Crisis to Reform.* November 21-22. Washington, D.C.

Srinivas, P.S. and Juan Yermo. 1999. Do Investment Regulations Compromise Investment Fund Performance? Evidence from Latin America. *Revista de Análisis Económico* 14(1): 67-120.

Valdés-Prieto, Salvador (ed.). 1997. *The Economics of Pensions.* Cambridge: Cambridge University Press.

Valdés-Prieto, Salvador. 1999. Reply to Srinivas and Yermo (1999). *Revista de Análisis Económico.*

Vittas, Dimitri. 1996. Regulatory Controversies of Private Pension Funds. Paper prepared for the EDI conference on *Pension Systems: From Crisis to Reform.* November 21-22. Washington, D.C.

Vittas, Dimitri. 1998. Regulatory Controversies of Private Pension Funds. Policy Research Working Paper No. 1893. The World Bank. Washington, D.C.

Vittas, Dimitri, and Augusto Iglesias. 1998. The Rationale and Performance of Personal Pension Plans in Chile. Country Economics Department, World Bank.

Vives, Antonio. 1999. Pension Funds in Infrastructure Project Finance: Regulations and Instrument Design. Sustainable Development Department Technical Papers Series (No. IFM-119). Infrastructure and Financial Markets. Inter-American Development Bank. Washington, D.C.

Von Gersdorff, Herman. 1997. Pension Reform in Bolivia: Innovative Solutions to Common Problems. World Bank Policy Research Working Paper # 1832. The World Bank. Washington, D.C.

Whitehouse, Edward. 2000. How Poor Are the Old? A Survey of Evidence from 44 Countries. Pension Reform Primer Series. The World Bank. Washington, D.C.

World Bank. 1994. *Averting the Old Age Crisis*. Washington, D.C.: Oxford University Press.

World Bank. 2001. *World Development Report.* Washington, D.C.: Oxford University Press.